

## EXTRAPOSITION : A NEW PERSPECTIVE\*

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1. Introduction

The ultimate aim of this working paper is to determine the implications of Extra/Intraposition<sup>1)</sup> phenomena<sup>2)</sup> in Afrikaans for the Revised Extended Standard Theory (REST). In order to achieve this aim, an attempt is made to construct a descriptively adequate grammar of the phenomena in question within the framework of the REST. The version of the REST referred to here is outlined in Chomsky and Lasnik (1977), Chomsky (unpublished) and Chomsky (1978). Sinclair (1978) provides a systematic exposition of this theory.

The paper is restricted to a type of Extra/Intraposition which may be referred to as Complement Extra/Intraposition. Complement Extra/Intraposition relates a sentence with a complement in subject position to a corresponding sentence with dit (= 'it') in that position and the complement in sentence final position. The following is an example of such a sentence pair in Afrikaans:<sup>3)</sup>

- (1) (a) Dat die meer 'n monster huisves maak my bly.  
       'that the lake a monster houses makes me glad'  
       (b) Dit maak my bly dat die meer 'n monster huisves.  
       'it makes me glad that the lake a monster houses'

Similar sentence pairs with the complement of the first member in object and prepositional object position are also analysed. The data from Afrikaans are limited to sentences with complements that have either dat (= 'that') or (vir) om te (= '(for) to') as complementizer.

2. The Generalizations for Afrikaans

An analysis of the relevant Afrikaans data<sup>4)</sup> reveals eight generalizations

that must be expressed by a descriptively adequate grammar of the Complement Extra/Intrapolition phenomena in Afrikaans.<sup>5)</sup> These generalizations are formulated below, each one accompanied by relevant examples.

#### GENERALIZATION I

A subject complement may occur in the Complement-Verb sequence of constituents as well as in the Pro-Verb-Complement sequence of constituents in a sentence.<sup>6)</sup>

The sentence pair (1)(a) and (b) above illustrates such a distribution.

#### GENERALIZATION II

An object complement may occur in the Verb-Complement sequence as well as in the Verb-Pro-Complement sequence of constituents in a sentence.

The sentence pair (2)(a) and (b) illustrates such a distribution:

- (2) (a) Sanlam ontken dat die man ontslaan is.  
'Sanlam denies that the man dismissed is'  
(b) Sanlam ontken dit dat die man ontslaan is.  
'Sanlam denies it that the man dismissed is'

#### GENERALIZATION III

- A. Subject complements with a dat (= 'that') complementizer followed by an intransitive verb may occur only in the Pro-Verb-Complement sequence of constituents in a sentence, whereas  
B. subject complements with a (vir) om te (= '(for) to') complementizer followed by an intransitive verb may occur in neither the Complement-Verb nor the Pro-Verb-Complement sequence unless, for A as well as B, the intransitive verb in the Complement-Verb sequence is not in the sentence final position, in which case this sequence as well as the Pro-Verb-Complement sequence is acceptable.

Sentence pairs (3)-(6) illustrate such a distribution:

- (3) (a) \*Dat die universiteit se hysers breek, gebeur.  
'that the university's lifts break happens'
- (b) Dit gebeur dat die universiteit se hysers breek.  
'it happens that the university's lifts break'
- (4) (a) \*Vir Jan om saam te kom lyk.  
'for John along to come appears'
- (b) \*Dit lyk vir Jan om saam te kom.  
'it appears for John along to come'
- (5) (a) Dat die universiteit se hysers breek gebeur dikwels.  
'that the university's lifts break happens often'
- (b) Dit gebeur dikwels dat die universiteit se hysers breek.  
'it happens often that the university's lifts break'
- (6) (a) Vir Jan om saam te kom lyk moontlik.  
'for John along to come appears possible'
- (b) Dit lyk moontlik vir Jan om saam te kom.  
'it appears possible for John along to come'

## GENERALIZATION IV

Subject complements to bisentential verbs<sup>7)</sup> may occur only in the Complement-Verb sequence of constituents unless the bisentential verb does not have a sentential object but a non-sentential one, in which case the Pro-verb-Complement sequence is also acceptable.

Sentence pairs (7) and (8) illustrate such a distribution:

- (7) (a) Dat Hans wil omdraai bewys dat Sarel nie 'n bangbroek  
'that Hans wants to turn back proves that Sarel not a coward  
is nie.  
is not'
- (b) \*Dit bewys dat Sarel nie 'n bangbroek is nie dat  
'it proves that Sarel not a coward is not that  
Hans wil omdraai.  
Hans wants to turn back'

- (8) (a) Dat Hans wil omdraai bewys iets.  
'that Hans wants to turn back proves something'
- (b) Dit bewys iets dat Hans wil omdraai'  
'it proves something that Hans wants to turn back'

## GENERALIZATION V

Subject complements of embedded sentences may occur only in the Pro-Verb-Complement sequence of constituents unless the subject complement is embedded in a complement sentence with a complementizer which differs from the complementizer of the subject complement, in which case the Complement-Verb sequence is less unacceptable than when the complementizers are identical, and unless the subject complement is embedded in a complement sentence with a complementizer identical to the complementizer of the subject complement, in which case the Complement-Verb sequence is less unacceptable than when the subject complement is embedded in a relative sentence.<sup>8)</sup>

Sentence pairs (9)-(11) illustrate such a distribution:

- (9) (a) ?\*Dat dat hy kan kom haar bly maak is goed.  
'that that he can come her glad makes is good'
- (b) Dat dit haar bly maak dat hy kan kom is goed.  
'that it her glad makes that he can come is good'
- (10) (a) ? Dat om die gras te laat groei die terrein sal verfraai,  
'that the grass to let grow the site will beautify  
lyk na 'n goeie verskoning.  
looks like a good excuse'
- (b) Dat dit die terrein sal verfraai om die gras te laat groei  
'that it the site will beautify the grass to let grow  
lyk na 'n goeie verskoning.  
looks like a good excuse'
- (11) (a) \*Die bokser vir wie dat hy uitgeslaan sal word bekommer,  
'the boxer for who that he out knocked will be worries  
staan in die hoek.  
stands in the corner'

- (b) Die bokser vir wie dit bekommer dat hy uitgeslaan sal word,  
 'the boxer for who it worries that he out knocked will be  
 staan in die hoek.  
 stands in the corner'

## GENERALIZATION VI

Object complements to Think-type<sup>9)</sup> verbs may occur only in the Verb-Complement sequence of constituents.

The sentence pair (12)(a) and (b) illustrates such a distribution:

- (12) (a) Jan sal toesien dat jy 'n drankie kry.  
 'John will see to that you a drink get'  
 (b) \*Jan sal dit toesien dat jy 'n drankie kry.  
 'John will it see to that you a drink get'

## GENERALIZATION VII

Object complements to Like-type<sup>10)</sup> verbs may occur only in the Verb-Propositional Complement sequence of constituents.

The sentence pair (13)(a) and (b) illustrates such a distribution:

- (13) (a) \*Jan berou dat hy nie betyds 'n kaartjie vir die  
 'John regrets that he not in time a ticket for the  
wedstryd gekoop het nie.  
 match bought not'  
 (b) Jan berou dit dat hy nie betryds 'n kaartjie vir die  
 'John regrets it that he not in time a ticket for the  
wedstryd gekoop het nie.  
 match bought not'

## GENERALIZATION VIII

A prepositional object complement may occur only in the Verb-Pro-Prep-Complement sequence of constituents.<sup>11)</sup>

The sentences (14)(a)-(c) illustrate such a distribution:

- (14) (a) \*Die minister beywer hom vir dat pensioene meer  
'the minister campaigns for that pensions more  
oordraagbaar gemaak word.  
transferable made be'
- (b) \*Die minister beywer hom vir dit dat pensioene  
'the minister campaigns for it that pensions  
meer oordraagbaar gemaak word.  
more transferable made be'
- (c) Die minister beywer hom daarvoor dat pensioene meer  
'the minister campaigns it for that pensions more  
oordraagbaar gemaak word.  
transferable made be'

The interesting question for the analysis to be given of the Extra/Intraposition phenomena in Afrikaans is whether Extra/Intraposition is a core grammar process or a marginal grammar process. If it should be a marginal grammar process, the lack of detail available on marginal grammar will have as result that very little can be said about Extra/Intraposition in Afrikaans at this stage. Chomsky and Lasnik (1977:430) state, however, that "We believe, ..., that the theory of core grammar covers quite an extensive range, including many of the well-studied constructions of recent linguistic work." I attempt here to determine whether Extra/Intraposition can be regarded as a core grammar process and whether Generalizations I-VIII can be adequately expressed by a theory of core grammar. Each generalization is considered in turn.

### 3. A Core Grammar Extra/Intraposition Analysis for Afrikaans

#### 3.1 Preliminaries

Two issues must be clarified before embarking on the Extra/Intraposition analysis for Afrikaans.

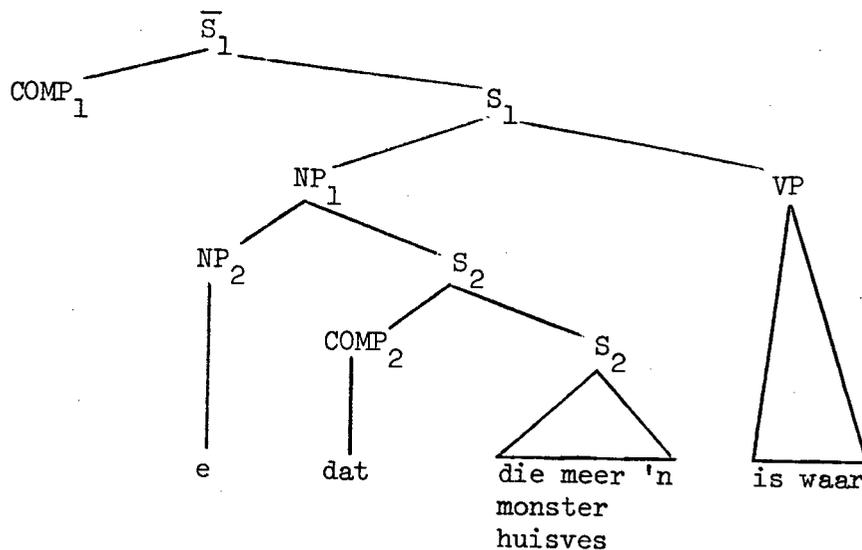
The NP-status of complement sentences is a crucial issue in all previous attempts to express generalizations analogous to I-VIII in grammars for English and Dutch.<sup>12)</sup> I assume therefore that this issue is important also for Afrikaans. As yet no research has been done for Afrikaans on this topic. Therefore both possibilities, NP-status as well as non-NP-status, must be considered when attempting to express Generalizations I-VIII within the framework of the REST. Even for English and Dutch this issue has remained largely unresolved.

Another topic on which no significant research has as yet been done for Afrikaans is the issue as to whether Afrikaans has an SVO or an SOV order in underlying structure. If Afrikaans is similar to English in this respect, then Afrikaans is an SVO language. But the structure of Afrikaans is similar to that of Dutch in many respects, and it has been argued extensively in, among others, Koster (1975), Neyt-Kappen (1976) and De Haan (1978) that Dutch is verb final in underlying structure. I will assume for the purposes of this paper that Afrikaans is verb final. A rule of Verb Placement applies, where necessary, to move the final verb, possibly to VP initial position, in the derivation of surface structures. Where the verb second possibility crucially affects the argument, this will be noted.

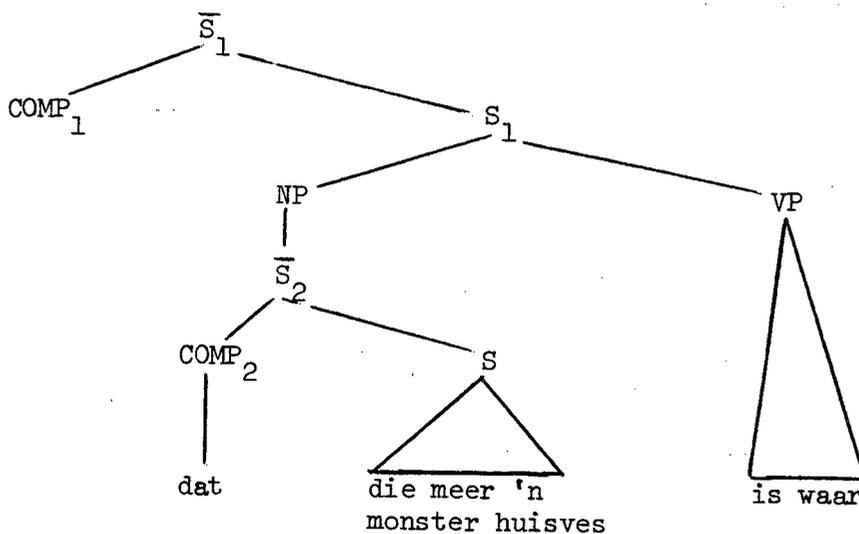
#### 3.2 Generalization I

The first step in expressing Generalization I is to determine the base status and position of the subject complement in sentences such as (1)(a) and (b). At least five structures can be proposed as possible base structures for (1)(a) and (b):<sup>13)</sup>

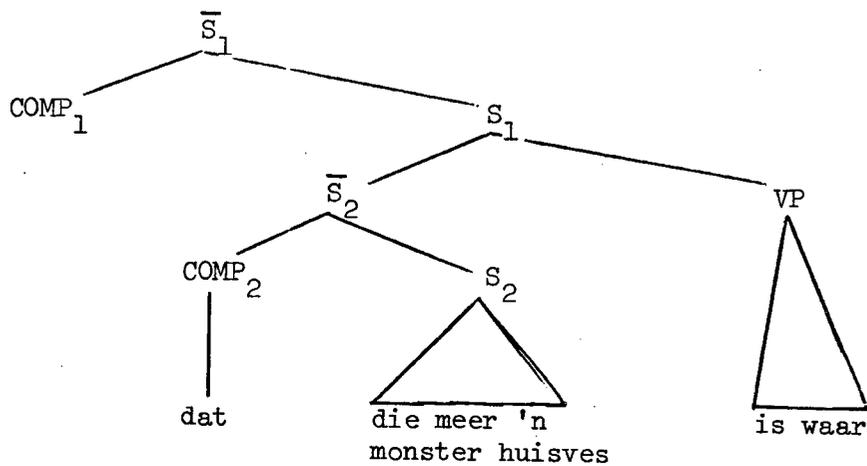
(15)



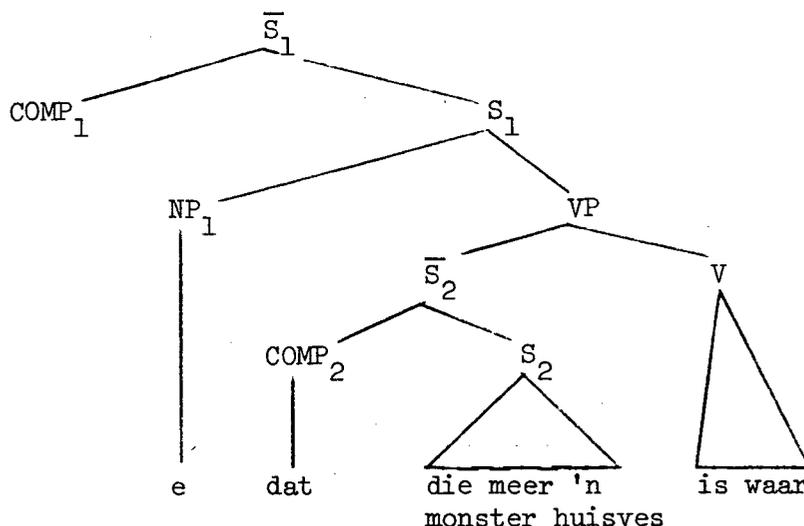
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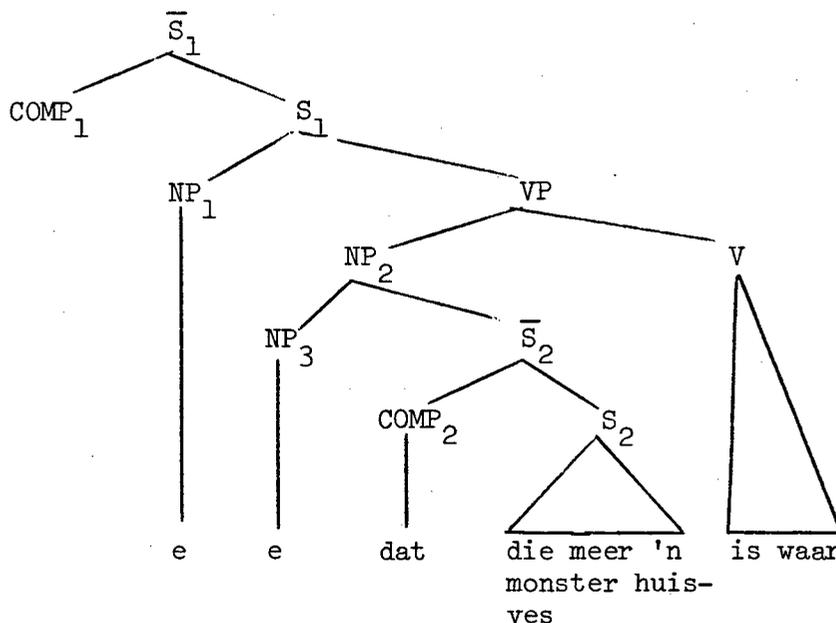
(17)



(18)



(19)



In (15), (16) and (19) the subject complement has been assigned NP-status, but not in (17) and (18). Note that the pronominal element dit associated with the subject complement in (1)(b) has not been base generated in one of the above structures. This point will be taken up later. In (15) and (19) the NP which will dominate dit, NP<sub>2</sub> and NP<sub>3</sub> respectively, has been expanded into the identity element e by the base convention formulated as follows by Chomsky (unpublished p.4):

(20) If the category  $\mathcal{C}$  is not expanded in a derivation, then apply the rule (2), where e is the identity element:

$$(2) \mathcal{C} \rightarrow [\mathcal{C} \ e].$$

The insufficient research into the syntax of Afrikaans at this stage makes it very difficult to present substantive evidence for a choice between structures (15)-(19). Structure (16) is unacceptable within the framework of a theory which incorporates the  $\bar{X}$  Convention because the NP has no head noun. At this stage this formal criterion will have to suffice to exclude (16) from the list of possible base structures for (1)(a) and (b). Structure (17) can only be generated if the base rule  $S \longrightarrow \bar{S} VP$  is available. Whether such a PS rule is part of the grammar for Afrikaans is a matter for further research. For the present, structure (17) is excluded from the list of possible base structures for (1)(a) and (b) on the basis of the two questionable assumptions that (i) the structure of Afrikaans is so similar to the structure of English that they share more or less the same base rules; (ii) Chomsky and Lasnik (1977:435 fn. 2) and Chomsky (unpublished p. 12) provide the only base rule allowed for the rewriting of S in English:  $S \longrightarrow NP Tense VP$ . These two assumptions lead to the equally questionable conclusion that Afrikaans does not have a base rule  $S \longrightarrow \bar{S} VP$  and that structure (17) can therefore not be generated. We are left with (15), (18) and (19) as possible base structures for (1)(a) and (b).<sup>14)</sup>

To derive the surface structure of (1)(b) from base structure (15), a rule is needed to move the subject complement to the right of the base position: an Extraposition rule. With either (18) or (19) as base structure, the surface structure of (1)(a) must be derived by a rule which will move the subject complement to the left of the base position: an Intraposition rule. Chomsky and Lasnik (1977), Chomsky (unpublished) and Chomsky (1978) provide numerous surface structures in the derivation of which movement to the left has taken place, but only one example could be found of a surface structure in the derivation of which movement to the right had taken place. Chomsky and Lasnik (1977:451) provide this example:

- (21) a book t arrived  $\left[ \bar{S} \text{ that } \left[ \text{NP } e \right] \text{ may interest you} \right]$  (t the trace of  $\bar{S}$  )

According to Chomsky and Lasnik (1977:451), they "... assume  $\bar{S}$  to be

extraposed ..." but they do not explicitly formulate the relevant rule as Move  $\bar{S}$ . Because this is the only example of a rightward movement rule presented in the literature on core grammar, there is a possibility that the rule is not regarded as a rule of the core grammar. However, Chomsky and Lasnik (1977:450) appear to treat the rule as belonging to the core. They present (21) as analogous to (22) in the derivation of which WH-Movement (explicitly presented as a rule in the core grammar) has applied:

(22) Who do you think [that [[<sub>NP</sub> e] saw Bill ]]

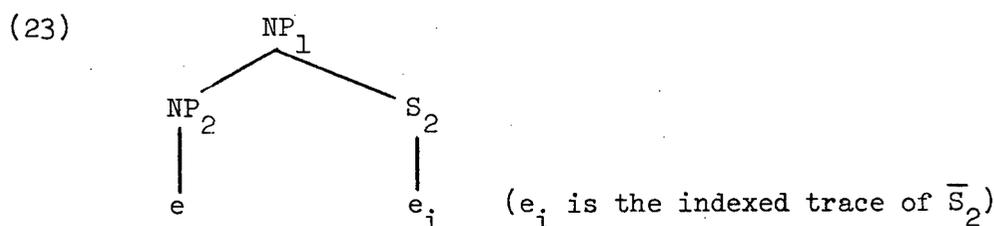
Furthermore, Chomsky and Lasnik (1977:451) revise one of their filters in the core grammar so as not to block surface structure (21). We will accept, therefore, that we have a precedent for movement to the right within the framework of core grammar.

Chomsky (unpublished p. 4) limits the rules of the core grammar to local rules and rules of the type "Move  $\alpha$ ". Neither the Extraposition nor the Intraposition rule can be a local rule. In (15) the constituents concerned are both phrase nodes i.e. either  $\bar{S}$  or NP, and VP whereas for (18) and (19) the rule is not strictly local. Therefore the Extraposition as well as the Intraposition rule is of the type "Move  $\alpha$ ". With either (15) or (19) as base structure this rule may be either Move  $\bar{S}$  or Move NP. With (18) as base structure this rule can only be Move  $\bar{S}$ . These rules are subject to trace theory. The relation between a moved complement and its trace is the relation between antecedent and bound anaphor. Therefore the conditions on anaphora are valid also for the traces of moved complements. According to Chomsky (unpublished p. 6) all instances of the rule "Move  $\alpha$ ", apart from NP-movement, are adjunctions. NP-movement carries out a substitution operation. On the strength of this remark I will assume here that Move  $\bar{S}$  carries out an adjunction and not a substitution operation. Although this is not explicitly stated anywhere to my knowledge, it appears to be accepted that "adjunction" refers to Chomsky adjunction.<sup>15)</sup> Therefore, in the absence of any explicit theory of adjunctions, I take adjunction to be an elementary transformational process by which a node N in a tree structure is

Chomsky adjoined to the left or right of another node G. I will assume, furthermore, that Move NP carries out a substitution and not an adjunction operation.

If (15) is taken to be the base structure of (1)(a) and (b) then, to derive the surface structure of (1)(a),  $[\text{NP}_2 \text{ e}]$  which is not indexed must be deleted. Such a free variable may not appear in logical form. As a device to delete such an empty NP, Chomsky and Lasnik (1977:453) propose that if a language permits Subject Deletion, this deletion rule will delete subjects of the form  $[\text{NP} \text{ e}]$ . It falls outside the scope of this study to determine whether Afrikaans permits Subject Deletion or not. It should be noted in this respect, however, that in (15)  $[\text{NP}_2 \text{ e}]$  is only part of the subject-NP,  $\text{NP}_1$ . If (15) is to be the base structure, this fact must be taken into account in the formulation of a deletion rule which must also delete empty NP's.<sup>16)</sup> Chomsky (unpublished p. 7) on the other hand, proposes a convention in the phonetic interpretive component to delete empty NP's. This convention states that  $[\alpha \text{ e}]$  is automatically deleted unless  $\alpha$  is indexed. Unfortunately the form, function and status of such a convention in the grammar is so vaguely defined that its empirical nature must be viewed with suspicion.

If the rule Move  $\bar{S}$  is applied to (15) to derive (1)(b),  $\bar{S}_2$  will be moved and the following structure, into which dit must be inserted, will be left behind:



It has not been proposed to generate dit in the base because of the convincing arguments that have been presented<sup>17)</sup> against the base generation of an analogous it for English. Chomsky and Lasnik (1977:449) formulate for English an "obligatory lexical insertion rule" which inserts it:

(24) Insert it in the position of NP in:

$$\text{NP } V^* \text{ (A) (PP) } \left[ \bar{S} \left\{ \begin{array}{l} \text{for} \\ \text{that} \\ + \text{WH} \end{array} \right\} S \right] \text{ (V* = be, seem, ...)}$$

It is possible to formulate a similar "lexical insertion rule" for Afrikaans to insert dit into a structure such as (23):

(25) Insert dit in the position of NP in:

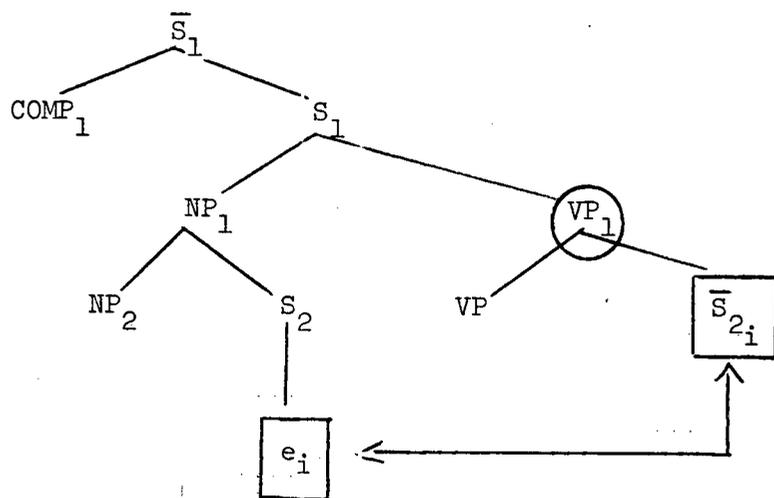
$$\text{NP } e_i \text{ ... } \left[ \bar{S}_i \left\{ \begin{array}{l} \text{om te} \\ \text{dat} \\ + \text{WH} \end{array} \right\} S \right]$$

Rule (25) would have to apply at a level of structure after the movement rule has applied. This requirement presents no serious problems. Chomsky and Lasnik (1977:432 fn. 18) state: "In fact, there is little reason to suppose that lexical items are inserted in base structures, in this theory. ... everything we say can be translated into an alternative theory in which lexical insertion takes place in surface structure and only abstract features are generated in the base (which is now limited to the categorial component) in positions to be filled by lexical items." Apart from a rule such as (25) there does not appear to be an alternative mechanism available to insert dit. Dit cannot be transformationally inserted because transformations only carry out movement, substitution and adjunction operations.

With (15) as base structure, Move  $\bar{S}$  can derive the surface structure of (1)(b) by moving  $\bar{S}_2$  to the right of the VP. In this position  $\bar{S}_2$  must now be adjoined to the right of one of three nodes: VP,  $S_1$  or  $\bar{S}_1$ . According to Chomsky (unpublished p. 6) all adjunctions are subject to a landing-site theory which will ensure that a moved category is adjoined in the correct position in a structure. It is therefore unnecessary to specify in an individual transformation exactly where the moved category  $\alpha$  must be adjoined in the derived structure. A device provided by such a theory will presumably determine for (15) whether  $\bar{S}_2$  should be adjoined to VP,  $S_1$  or  $\bar{S}_1$ . It is possible however, that this device is not necessary here. If we assume that certain conditions formulated for

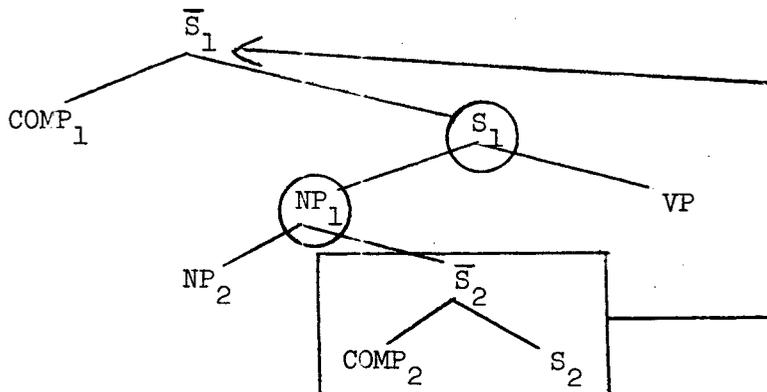
English, such as the Subjacency Condition<sup>18)</sup> and the C-Command Condition<sup>19)</sup> are valid also for Afrikaans, then these conditions possibly determine to which one of the three nodes, VP, S<sub>1</sub> or  $\bar{S}_1$ ,  $\bar{S}_2$  is adjoined. If  $\bar{S}_2$  is Chomsky-adjoined, as we are assuming, to the right of the VP<sup>20)</sup>, the resulting structure will be logically deviate in terms of the C-Command Condition. As is clear from the following structure derived from (15), the trace e<sub>i</sub> of  $\bar{S}_2$  is not dominated by the first branching category VP<sub>1</sub> that dominates the moved  $\bar{S}_2$  in derived structure if  $\bar{S}_2$  is adjoined to VP<sub>1</sub>:

(26)



Therefore  $\bar{S}_2$  does not c-command its trace. Consequently, the C-Command Condition excludes the rule which should coindex  $\bar{S}_2$  with its trace. The structure derived by adjoining  $\bar{S}_2$  to the right of  $\bar{S}_1$ <sup>21)</sup> is a structure in the derivation of which the Subjacency Condition has possibly been violated. If S can be shown to be a binding category for Afrikaans,  $\bar{S}_2$  must be moved over two binding categories to be adjoined to the right of  $\bar{S}_1$ :

(27)

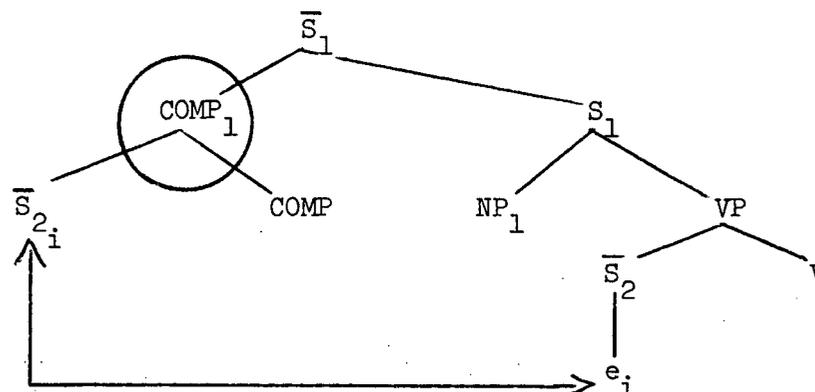


Such a movement is not allowed in terms of the Subjacency Condition. The crucial question, which is left unanswered, is whether S is a binding category for Afrikaans. Such a possibility is considered here because the structure of English and Afrikaans is similar in many respects and Chomsky (unpublished p. 6) notes that there is evidence that S is a binding category for English. Adjunction to the right of  $S_1$  appears to be the only one that does not result in a structure which deviates in terms of the Subjacency or C-Command Conditions.

Up to now the possibilities for moving  $\bar{S}_2$  to the left of the base position by means of Move  $\bar{S}$  have not been considered. The lack of insight into S-movement in general in Afrikaans hampers the investigation here. It is possible that there might be a process in Afrikaans which requires such a movement of  $\bar{S}_2$ . It may be noted, however, that the Chomsky-adjunction of  $\bar{S}_2$  to either the left or the right of  $COMP_1$  or  $NP_2$  will again result in a structure which is logically deviate in terms of the C-Command Condition. Should Move  $\bar{S}$  adjoin  $\bar{S}_2$  to the left of either  $S_1$  or  $NP_1$ , Rule (25) will no longer insert dit into  $[NP\ e]$  and should such an adjunction be necessary in another process of Afrikaans, a way will have to be found to prevent this NP from appearing in logical form. Otherwise the structure will be filtered out as logically deviate.

With (18) or (19) as the base structure of (1)(a) and (b), Move  $\bar{S}$  can derive the surface structure of (1)(a) by moving  $\bar{S}_2$  to the left of the VP. In this position  $\bar{S}_2$  must now be adjoined to the left of  $S_1$  or  $\bar{S}_1$ , or to either the left or right of  $NP_1$  or  $COMP_1$ . As regards adjunction of  $\bar{S}_2$  to  $NP_1$  or  $COMP$ , both such Chomsky-adjunctions, for (18) as well as (19), would result in structures that are logically deviate in terms of the C-Command Condition. In the derived structures the trace of  $\bar{S}_2$ ,  $e_1$ , would not be dominated by the first branching category which dominates the moved  $\bar{S}_2$ .  $\bar{S}_2$  would not c-command its trace and the C-Command Condition would exclude the rule which must coindex  $\bar{S}_2$  with its trace. This is illustrated here for left adjunction to  $COMP$  in (18):

(28)



Because of the NP-status of  $\bar{S}_2$  in (19), as in (15) the structure derived by adjoining  $\bar{S}_2$  to the left of  $\bar{S}_1$ ,<sup>22)</sup> is a structure in the derivation of which the Subjacency Condition has possibly been violated. --- depending, as in (15) upon whether S is a binding category for Afrikaans or not. In (19) therefore, only adjunction to the left of  $S_1$  appears to result in a structure which is not deviate in terms of some condition in the grammar. In (18) however,  $\bar{S}_2$  can be adjoined to either  $\bar{S}_1$  or  $S_1$  and a device, possibly provided by "landing site" theory is needed to determine adjunction to the correct node.

If Move  $\bar{S}$  has moved  $\bar{S}_2$  to the left in (18) or (19) then, in order to derive the surface structure of (1)(a),  $[\text{NP}_1 \text{ e}]$  in (18) must be deleted and  $[\text{NP}_1 \text{ e}]$  as well as  $[\text{NP}_3 \text{ e}]$  in (19) must be deleted.

An empty NP is not allowed in logical form. Two devices which could delete such an NP, a deletion rule and a convention in the phonetic interpretive component, have been outlined. Note for Subject Deletion that  $[\text{NP}_1 \text{ e}]$  in (18) as well as (19) is the subject of  $S_1$ , but that  $[\text{NP}_3 \text{ e}]$  in (19) is part of the object-NP,  $\text{NP}_2$ . This means that if (19) is the base structure of (1)(a) and (b) and Subject Deletion is the device chosen to delete empty NP's then either Subject Deletion must be complicated to delete  $[\text{NP}_3 \text{ e}]$  or a second deletion device for empty NP's must be incorporated in the grammar.<sup>23)</sup> Otherwise the structure containing the empty  $[\text{NP}_3 \text{ e}]$  is logically deviate.

If (18) is taken to be the base structure of (1)(a) and (b) then, to derive the surface structure of (1)(b), dit must be inserted into  $[\text{NP}_1 \text{ e}]$  by a device such as lexical insertion rule (25), which will have to be re-

formulated because (18) contains no trace. Verb Placement will place the verb correctly. The same can be said for (19) as base structure, except that to derive the surface structure of (1)(b), the empty  $NP_3$  must again be deleted. The analysis with (19) as base structure and Move  $\bar{S}$  as transformational rule appears to have more problematic aspects than analyses with (15) or (18) as base structure.

Up to now the possibilities for moving  $\bar{S}_2$  to the right in (18) and (19) have not been considered. Note that, after Verb Placement has applied, such a movement would be vacuous. It is not clear whether there might be a process in Afrikaans which would require adjunction to the right of  $S_1$  or  $\bar{S}_1$ . If movement to the right is not required, then it will have to be specified in the grammar that Move  $\bar{S}$  carries out movement to the left only.

Consider structures (15) and (19) again. We postulated for Afrikaans the rule Move  $\bar{S}$  to move the complement to the desired position. It would also be possible to move the complement to the desired position by postulating the rule Move NP for Afrikaans. As explained earlier, Move NP is assumed to carry out a substitution and not an adjunction operation. As such it is subject to the Condition on Substitution Rules which states (in Chomsky and Lasnik (1977:449)) that only the position  $[\alpha \ e]$  may be filled by a rule which moves  $\alpha$  and no other position. It appears from Chomsky (unpublished p. 5) that within the theory of core grammar at least a subclass of the cases accounted for by the Structure-Preserving Constraint (SPC) follows from features of logical form. It is not clear what the position is for the other cases accounted for by the SPC. Chomsky, however, does not appear to reject this constraint. We assume that Move NP is subject to the SPC. A well-motivated set of base rules for Afrikaans is crucial to a discussion of such a structure-preserving rule. Because such a set is not available, the following discussion is highly tentative.

With (15) as base structure of (1)(a) and (b), the rule Move NP has available at least one empty NP position into which  $NP_1^{24}$  can be moved. This is the object-NP, generated to the left of the V by the rule for rewriting VP. The object-NP, however, will be empty only if the sentence has no object, as in the case of (1)(a) and (b), whereas Extraposition

occurs even if a sentence does have an object-NP. Therefore, to derive the surface structure of (1)(b) by means of Move NP, another empty NP must be available into which NP<sub>1</sub> can be moved. It is possible that a base rule such as VP — NP<sub>1</sub> NP<sub>2</sub> V for Afrikaans could generate such an empty NP, but such a base rule will first have to be independently motivated. A further device, such as the deletion rule or device in the phonetic interpretive component mentioned above, will be needed to delete [ NP<sub>2</sub> e ] in the derivation of (1)(a) as well as of (1)(b). The insertion of dit in the derivation of (1)(b) presents a serious problem to the present analysis. If NP<sub>1</sub> is moved by Move NP, the following structure is left behind for NP<sub>1</sub>:

(29)

$$\begin{array}{c} \text{NP}_1 \\ | \\ e_i \end{array} \quad (e_i \text{ is the indexed trace of NP}_1)$$

It is clear from (29) that the trace of NP<sub>1</sub> fills the structure into which dit must be inserted. It is not clear how this problem should be solved. Therefore the analysis with (15) as base structure and Move NP as transformational rule is rejected in favour of one of the other possible analyses.

With (19) as base structure of (1)(a) and (b), the rule Move NP can derive the surface structure of (1)(a) by moving NP<sub>2</sub> into the empty NP<sub>1</sub> position.<sup>25)</sup> The empty NP<sub>3</sub> must then be deleted. Possible devices for doing this have been discussed above. (1)(b) can be derived by inserting dit into [ NP<sub>1</sub> e ] and deleting [ NP<sub>3</sub> e ], exactly as for the analysis with Move S as transformational rule. For this analysis the question can be asked why [ NP<sub>3</sub> e ] is generated in the base only to be deleted in the derivation of (1)(a) as well as (1)(b). The same question was asked for the analysis with (19) as base structure and Move S as transformational rule and can also be asked for the analysis with (15) as base structure and Move NP as transformational rule.

The very tentative conclusion can be reached that three of the above analyses for expressing Generalization I appear to be less problematic than

the others:

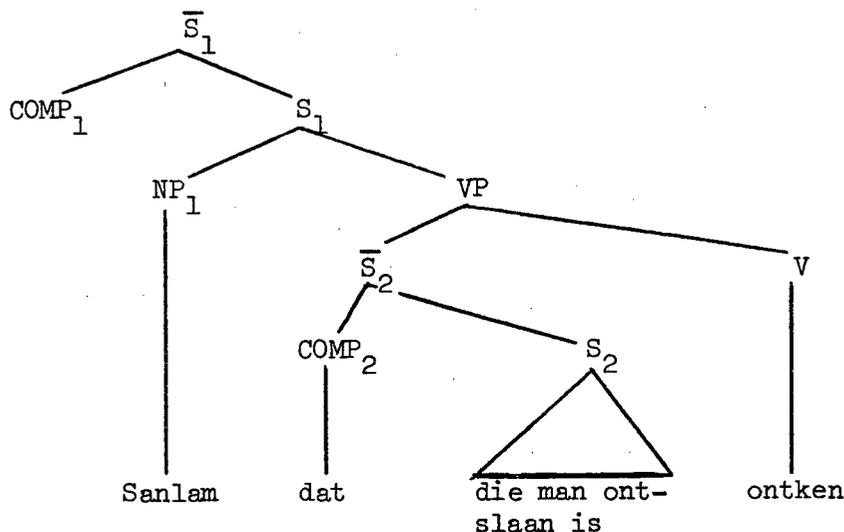
- (i) Base structure (15) and Move  $\bar{S}$
- (ii) Base structure (18) and Move  $\bar{S}$
- (iii) Base structure (19) and Move NP.

### 3.3 Generalization II

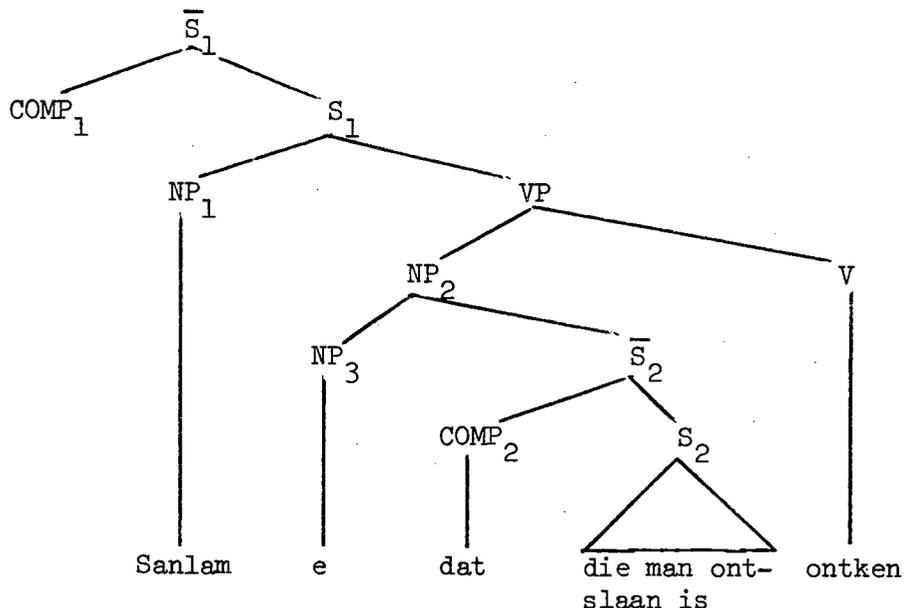
Whereas Generalization I concerns the distribution of subject complements, Generalization II concerns the distribution of object complements. There are important similarities between Generalizations I and II. Subject complements can occur in subject position as well as in sentence final position with a dit in subject position. Object complements can occur in object position without a dit as well as directly preceded by dit — the object complement being in sentence final position in both cases. It is clear that a linguistically significant generalization would be captured if Generalizations I and II could be expressed in terms of the same analysis.

The first step in expressing Generalization II is to determine the base status of the object complement in sentences such as (2)(a) and (b). At least two structures can be proposed as possible base structures for (2)(a) and (b):

(30)

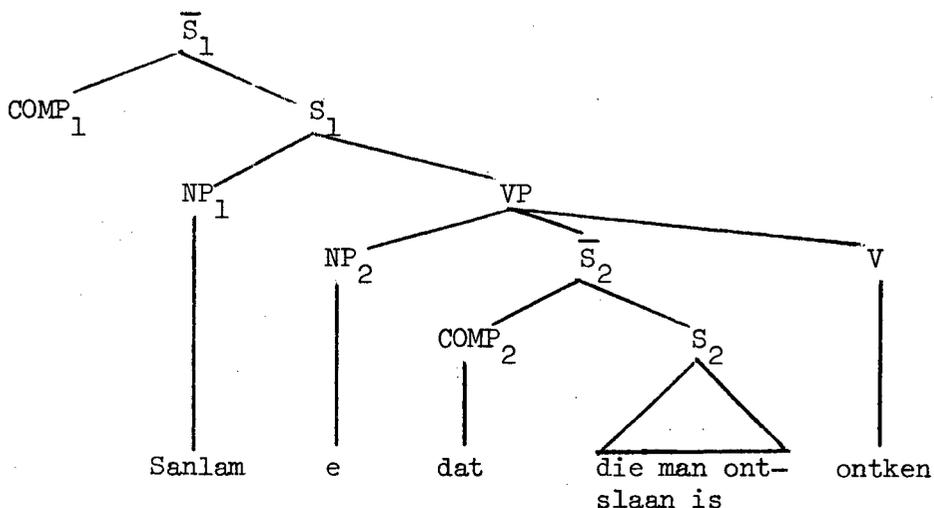


(31)



With (30) as base structure the surface structure of (2)(a) will be derived by applying Verb Placement. No other device is necessary. To derive the surface structure of (2)(b), dit must be inserted in (30). The problem is that (30) contains no empty NP into which dit can be inserted by, for example, lexical insertion rule (25) formulated above for structures with subject complements. This problem could be solved if the VP of (30) is changed as in (32):

(32)



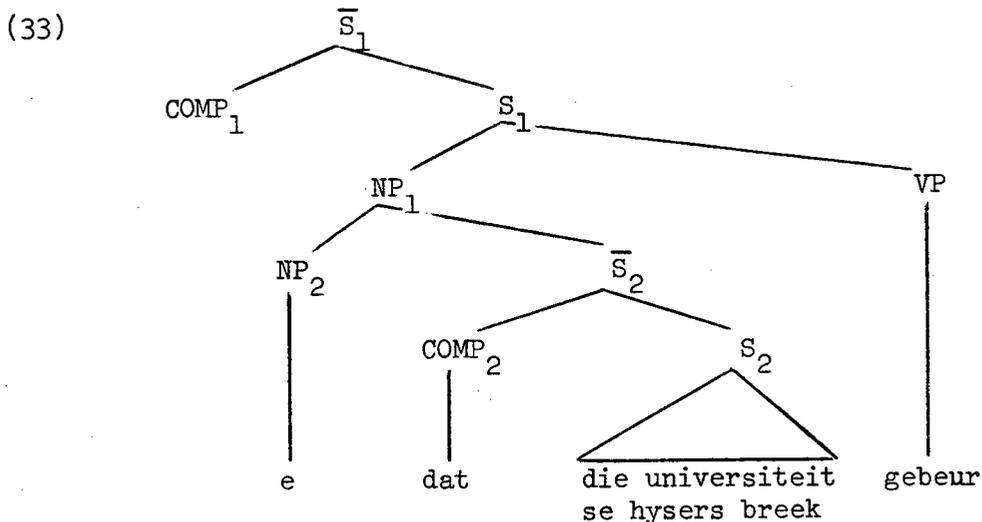
The rule to insert dit into (32) will have to insert dit in a position directly preceding a complement sentence. The only analysis for expres-

sing Generalization I that required dit-insertion in such a position was the analysis in terms of structure (18) and the rule Move  $\bar{S}$ . The problem is that Move  $\bar{S}$  applied to (18) must move  $\bar{S}_2$  to the left, whereas Move  $\bar{S}$  applied to (32) would derive the surface structure of (2)(a) only if  $\bar{S}_2$  were moved to the right. The only acceptable analysis of Generalization I that involved movement of  $\bar{S}_2$  to the right was the analysis in terms of base structure (15) and Move  $\bar{S}$ . Applied to (32), Move  $\bar{S}$  will move  $\bar{S}_2$  to the right so that an indexed trace is left behind in the original position of  $\bar{S}_2$ . Lexical insertion rule (25) will then insert dit into  $NP_2$  because  $NP_2$  is followed by the trace of  $\bar{S}_2$  which has been moved to the right. The moved  $\bar{S}_2$  can be adjoined to either  $S_1$  or  $\bar{S}_1$  — a device provided by "landing site" theory will have to determine which. Adjunction to V would result in a structure filtered out by the C-Command Condition, exactly as explained for adjunction of  $\bar{S}_2$  to the VP in (26). As regards movement of  $\bar{S}_2$  to the left in structure (32), it is not clear whether a process in Afrikaans would require such a movement. It is clear, however, that adjunction of  $\bar{S}_2$  to either  $NP_1$  or COMP would result in a structure which violates the C-Command Condition in the same way as explained for adjunction of  $\bar{S}_2$  to COMP in (28). With (32) as base structure, the surface structure of (2)(b) must be derived by deleting the empty  $NP_2$ . Up to this point the analysis for expressing Generalization II in terms of structure (32) and Move  $\bar{S}$  has been similar to the analysis for expressing Generalization I in terms of structure (15) and Move  $\bar{S}$ . There are three differences, however. The empty NP to be deleted in the derivation of (1)(a) is only part of a subject, whereas the empty NP to be deleted in the derivation of (2)(a) is an object NP. Furthermore, the subject complement in (15) has NP-status whereas the object complement in (32) does not.  $\bar{S}_2$  moved to the right in (32) can be adjoined to  $\bar{S}_1$  as well as to  $S_1$  whereas in (15) adjunction to  $\bar{S}_1$  possibly results in a structure in the derivation of which the Subjacency Condition has been violated. These differences between the analyses for Generalizations I and II can be eliminated by accepting (31) as the base structure of (2) (a) and (b). With (31) as base structure, the object complement is assigned NP-status, the empty NP to be deleted in the derivation of (2)(a) is only part of an object-NP and adjunction to  $\bar{S}_1$ , as for (15), possibly results in a structure in the derivation of which the Subjacency Condition has been violated. The acceptance of (31) as base structure does not change the analysis of (2)(a) and (b) in any other way.

It appears that if a linguistically significant generalization is to be expressed by the analyses for Generalizations I and II, Generalizations I and II should be expressed in terms of base structures such as (15) and (31) respectively and the rule Move  $\bar{S}$ .

### 3.4 Generalization III

If the categorial structure of sentences with an intransitive verb does not differ essentially from the categorial structure assigned to sentences with a transitive verb, the deep structure of (3)(a) and (b) can be reconstructed as follows:



Structure (33) is analogous to structure (15). To derive the surface structure of (3)(b) and not of (3)(a), the optional rule Move  $\bar{S}$  must either be forced to apply obligatorily to (33) or the structure derived if Move  $\bar{S}$  has not applied must be unacceptable in some way. More than one device is available in terms of which this can be achieved.

If the  $[_{NP_2} e]$  in (33) is not deleted, this structure is logically deviate. It might be possible to formulate the rule or convention for the deletion of empty NP's in such a way that an empty NP in a structure with an intransitive verb cannot be deleted. Unfortunately, sentences such as (5)(a) and (b) pose an insoluble problem to this proposal because

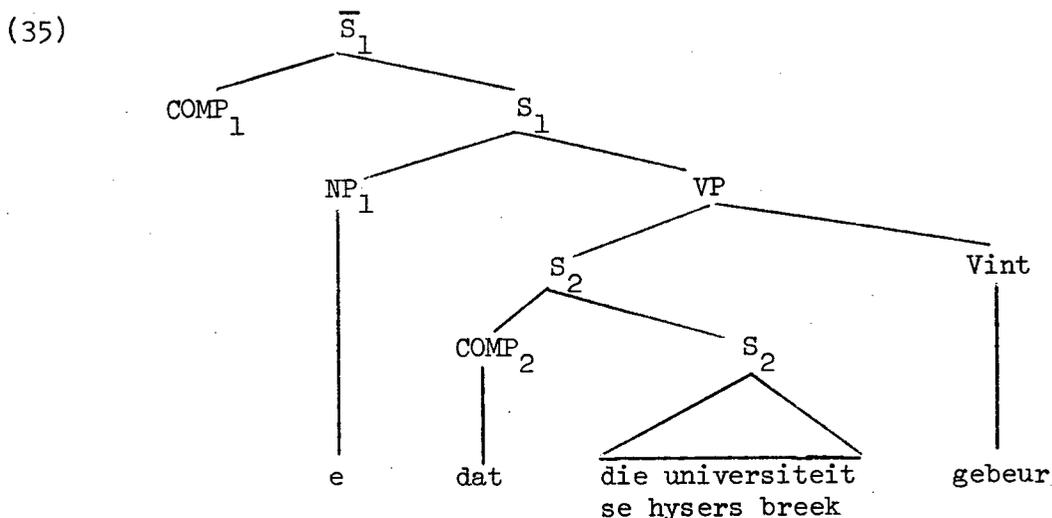
as soon as the intransitive verb is followed by an element such as an adverb,  $[NP_2 \underline{e}]$  should be allowed to delete.

Structure (33) could possibly be filtered out by a filter formulated as follows:

(34) \*  $[\bar{S} \text{ Vint}]$  unless Vint is followed by other constituents.

The problem with (34) is that it will not filter out structure (33). According to Chomsky and Lasnik (1977:448), filters have the general form \*  $[\alpha \theta_1, \dots, \theta_n]$  unless C, where  $\alpha$  is either a category or is left unspecified. This means that the constituents concerned must all be daughters to the same category node, whether this node is specified or left unspecified. In (33)  $\bar{S}_2$  and Vint are not daughter adjoined to the same category node. To formulate a filter that will filter out (33) the formal power of filters in general must be expanded.

One further possible way of expressing Generalization II within the framework of core grammar would be to assign to sentences such as (3)(a) and (b) a categorial structure essentially different from the categorial structure assigned to (1)(a) and (b). Sentences with an intransitive verb could be assigned a categorial structure as in (35):



(3)(b) can now be derived from structure (35) by moving  $\bar{S}_2$  to the right and adjoining it to  $S_1$ . Lexical insertion rule (25) will then insert dit into  $[\text{NP}_1 \text{ e}]$ . If  $\bar{S}_2$  is not moved, dit will not be inserted into  $[\text{NP}_1 \text{ e}]$  because the empty NP is not followed by an indexed trace.

The rule or convention for the deletion of empty NP's must now be formulated in such a manner that  $[\text{NP}_1 \text{ e}]$  will not be deleted in structure (35), not even if  $\bar{S}_2$  is moved to the left, in which case dit will not be inserted because (25) requires that an  $\bar{S}$  coindexed to the trace following dit must occur to the right of the dit. Therefore, if Move  $\bar{S}$  is not applied to (35) or if the  $\bar{S}$  is moved to the left, the resulting structure will contain an empty NP and will consequently be logically deviate. The problem with such a proposal is that it is presupposed that intransitive verbs are marked in some non-ad hoc manner for structures such as (35). Furthermore, sentences such as (5)(a) present this proposal with an insoluble problem. In terms of this proposal a grammatical sentence such as (5)(a) cannot be derived.

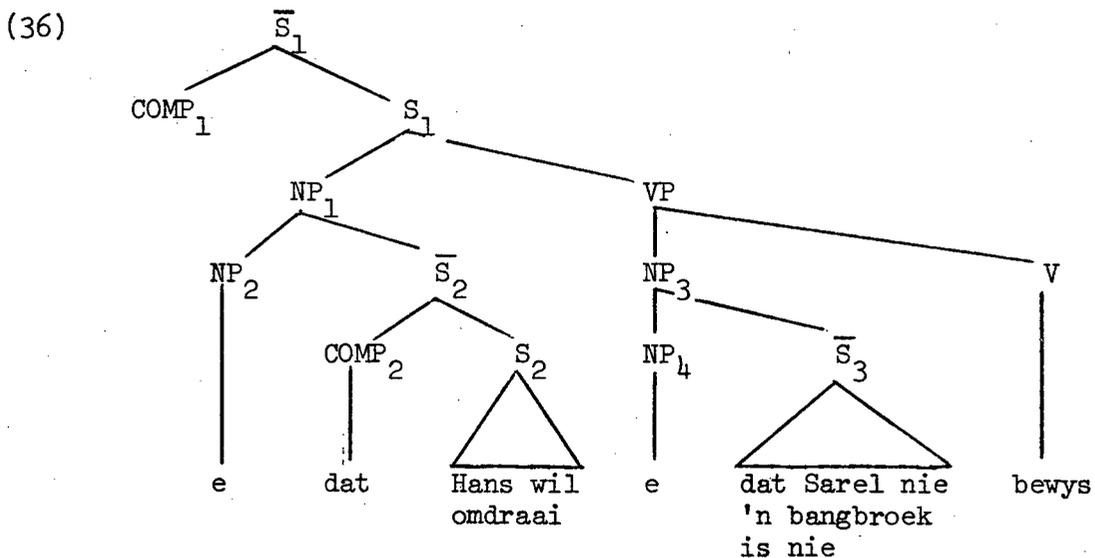
Finally, it would be possible to express Generalization III in terms of strict subcategorization features, but then only if lexical insertion does not take place at the level of base structure. Verbs such as gebeur in (3) and lyk in (4) could be strictly subcategorized so that they cannot be filled into a VP followed by no other constituent. In a deep structure such as (33) the verb will always be in sentence final position. But should an adverb, for example, precede gebeur in (33), then after Verb Placement has applied, the verb will be followed by the adverb. If Move  $\bar{S}$  has applied, the verb will be followed by  $\bar{S}$ . If lexical insertion now takes place after the application of Verb Placement and Move  $\bar{S}$  has applied, then gebeur or lyk will be inserted and (3)(b), (5)(a) and (b) and (6)(a) and (b) will be derived. If the rule Move  $\bar{S}$  has not applied and there is no adverb in the sentence then gebeur or lyk cannot be inserted and (3)(a) and (4)(a) cannot be derived. lyk will have to be further subcategorized so that it cannot be filled into a structure where it is followed by  $\bar{S}$  in order to account for the unacceptability of (4)(b).

Expressing Generalization III is problematic in a number of ways. It is possible that the problematic phenomena here belong to a wider class of phenomena in which the sentence final position poses problems for processes

that do not involve Extraposition in any way.

### 3.5 Generalization IV

If a sentence with a subject complement is assigned a base structure such as (15) and a sentence with an object complement is assigned a base structure such as (31), then a sentence such as (7)(a) with a subject as well as an object complement will be assigned a base structure such as (36):



If the optional rule Move  $\bar{S}$  is not applied to (36), then the device which deletes the empty NP in (15) and (31) will delete  $[NP_2 e]$  and  $[NP_4 e]$  in (36) and sentence (7)(a) will be derived by the application of Verb Placement. If Move  $\bar{S}$  is applied to (36), this rule will move  $\bar{S}_2$  as well as  $\bar{S}_3$  to the right in which case both are adjoined to the right of  $S_1$ . The resulting structure can be represented as in (37):

(37) dit t dit t bewys  $\bar{S}_3 \bar{S}_2$ .<sup>26)</sup>

(37) is not the structure of (7)(b). Under the present analysis (7)(b) will not be generated. A way will have to be found, however, to prevent (37) from being generated as a grammatical structure. One way to prevent

such a structure from being generated would be to prevent two  $\bar{S}$ 's from being adjoined to one S node by some kind of condition or restriction. Another way would be to filter out (37) by a filter such as (38):

(38) \* [  $\bar{S}$   $\bar{S}$  ]

This filter "involves properties of the COMP system", mentioned by Chomsky and Lasnik (1977: 489) to be one of the features of a filter, in the sense that each  $\bar{S}$  is introduced by a complementizer. Filter (38) will have to be independently justified for Afrikaans.

Some grammarians working within the framework of the Extended Standard Theory regarded an English sentence analogous to (7)(b) as unacceptable but not ungrammatical.<sup>27)</sup> The unacceptability of such a sentence was then attributed to performance factors. This is borne out within the framework of core grammar by accounting for the unacceptability of a sentence such as (7)(b) in terms of a filter. Chomsky and Lasnik (1977: 425) state: "... the idea that syntactic rules may serve the function of facilitating perceptual strategies has been advanced in recent work in psycholinguistics ... it has been suggested that the point of contact may be, in part, at the level of surface filters ...".

Sentence (8)(b) is acceptable because its surface structure does not contain two adjacent  $\bar{S}_2$ 's to be filtered out by Filter (38).

### 3.6 Generalization V

The discussion of how Generalization V should be expressed within the framework of core grammar will be divided into two parts. First the subject complements of relative sentences will be considered and then the subject complements of complement sentences. This division is made for two reasons:

- (i) Chomsky and Lasnik (1977:435) present a filter relevant only to subject complements of relative sentences, and
- (ii) both the unless-conditions to Generalization V concern subject complements of complement sentences only.

3.6.1 Subject Complements of Relative Sentences

Chomsky and Lasnik (1977:434) present two strings that are relevant to the present discussion:

- (39) the man [ that I saw ] --- is here  
 (40) the man [ <sub>COMP</sub> who that ] I saw is here

String (39) is analysed as being derived from the underlying string (40) by a rule of free deletion in COMP. String (40) again, is analysed as having been derived by the rule of WH-Movement which moved the WH-phrase into the COMP position. The complete derivation can be represented as follows:

- (41) the man [that I saw who] is here  
 WH-Movement  
 (42) the man [who that I saw t] is here  
 Free Deletion in Comp  
 (43) the man [that I saw t] is here  
or  
 (44) the man [who I saw t] is here

Free Deletion in COMP is optional, but Filter (45) filters out (42) if Free Deletion is not applied:

- (45) \* [ <sub>COMP</sub> WH-phrase complementizer ]

Chomsky and Lasnik (1977:446) later reformulated (45) as (46):

- (46) \* [ <sub>COMP</sub> WH-phrase *f* ], *f* ≠ e

An analogous analysis may be adopted for Afrikaans, except that in Afrikaans wat/vir wie (= 'who'/'whom') cannot be deleted. Consequently dat (= 'that') will be deleted. Consider the Afrikaans derivation (47)-(50), equivalent to (41)-(44) above:

- (47) die man [dat ek gesien het wat] is hier  
WH-Movement
- (48) die man [wat dat ek gesien het t] is hier  
Free Deletion in COMP
- (49) die man [wat ek gesien het t] is hier
- (50) \*die man [dat ek gesien het t] is hier

Filter (46) will filter out (48).

It has been noted that wat/vir wie cannot be deleted. Therefore not only is (50) ungrammatical, but also (51) of which the English equivalent (53) is grammatical:

- (51) \*die man [ek gesien het t] is hier
- (52) the man I saw is here

Let us return now to sentence (11)(a). The sentence is similar to the one for which a derivation is given in (47)-(50) except that the subject of the relative clause in (11)(a) is a complement sentence:

- |      |   |
|------|---|
| (53) | die   man   wat   ek   gesien het   is hier                         |
| (54) | die   bokser   vir wie   dat hy uit-   bekommer   staan in die hoek |
|      | geslaan sal   |
|      | word  |

Sentence (11)(a) should therefore be derived in the same manner as (53)

was derived in (47)-(50):

- (55) die bokser [dat<sub>1</sub> [dat<sub>2</sub> hy uitgeslaan sal word] bekommer vir wie] staan in die hoek  
WH-Movement
- (56) die bokser [vir wie<sub>i</sub> dat<sub>1</sub> [dat<sub>2</sub> hy uitgeslaan sal word] bekommer t<sub>i</sub>] staan in die hoek  
Free Deletion in COMP
- (57) \*die bokser [vir wie<sub>i</sub> [dat hy uitgeslaan sal word] bekommer t<sub>i</sub>] staan in die hoek

The string (56) is filtered out by Filter (46). The question as to how the rule of Free Deletion in COMP is prevented from deleting vir wie in an Afrikaans string such as (56) is not relevant to the present discussion. The main question here is why (57) is still unacceptable. String (57) will not be filtered out by Filter (46) because the two adjacent constituents vir wie<sub>i</sub> and dat are not in the same COMP. At this stage it seems as if the problem can be solved by removing the requirement on Filter (45) that the two constituents concerned should be in the same complementizer:

- (58) \* [WH-phrase complementizer]

Filter (58) would filter out the string (57). Filter (58) would also explain why a sentence such as (11)(b) is acceptable: in this sentence there is no sequence of a WH-phrase directly followed by a complementizer. The problem with a filter such as (58) is that it requires the expansion of the formal power of filters in general in exactly the manner explained for Filter (34). The test implications of Filter (58) are that no sentence which contains an adjacent WH-phrase and complementizer will ever be acceptable. This is a point for further study.

### 3.6.2 Subject Complements of Complement Sentences

The first important decision in connection with sentences such as (9)(a) and (10)(a) is whether they are unacceptable because they are ungrammatical or whether their unacceptability can be attributed to performance factors. In the latter case the part of Generalization V which concerns sentences such as these need not be expressed in the core grammar. Botha (1978:219-223) outlines a strategy to be followed in determining whether intuitive linguistic judgments such as those expressed with respect to (9) and (10) are genuine or not.<sup>28)</sup> The first step entails an attempt to give a grammatical explanation for the unacceptability of sentences (9)(a) and (10)(a). If this explanation should require an extension of the formal power of the general linguistic theory or if it should give only a description and not a genuine explanation of the problematic phenomena, then a next step is taken. The next step involves searching for an extra-linguistic explanation for the problematic phenomena. Such an extra-linguistic explanation must then be critically evaluated. This strategy is followed here.

The filter would be the device in the core grammar in terms of which to account for the unacceptability of (9)(a) and (10)(a). Filters cannot, however, differentiate between degrees of unacceptability. In terms of a filter, (9)(a) and (10)(a) will either be blocked or not. It is possible to formulate a filter to block both or to block only one of the two. A filter to block only sentences such as (9)(a) would be formulated to filter out two identical adjacent complementizers. At a first glance the filter \* [for - for] postulated by Chomsky and Lasnik (1977:481) appears to be the type of filter needed for Afrikaans, although this filter concerns a verbal particle and a complementizer, not two complementizers. The problem is that a filter \* [dat - dat] will not filter out, as it should, a sentence with the sequence (vir) om .. te (vir) om .. te. Formulating a filter that will only filter out two identical adjacent complementizers is problematic. Alternatively, a filter can be formulated to simply filter out two adjacent complementizers:

(59) \* [COMP COMP]

This filter is intended to filter out (9)(a) as well as (10)(a). It is interesting to note that this filter will, correctly, filter out the sentence (11)(a) too, if the WH-phrase moved into COMP is regarded as a COMP, as in Bresnan (1970:300). The problem is that to filter out (9)(a), (10)(a) and also (11)(a), Filter (59) requires exactly the same expansion of the formal power of filters as explained for Filter (34).

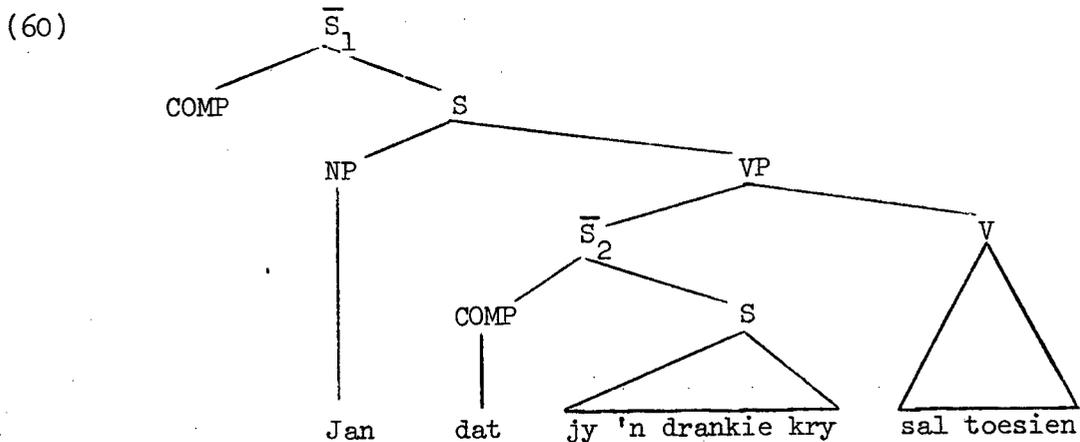
Many of the grammarians working on the Extraposition problem for English, Dutch and German within theoretical frameworks other than the REST, have argued that the unacceptability of sentences analogous to (9)(a) and (10)(a) should be attributed to extra-grammatical factors.<sup>29)</sup> The extra-grammatical factor appears to be perceptual. Aitchison (1976:194) is referring to the work of Chomsky and Miller (1963) when she states in connection with speech perception: "It is difficult to process a sentence which contains the same word twice, or more than one instance of the same type of structure, especially if the similar constructions are one inside the other". Sentence (10)(a) has one complement sentence embedded in another complement sentence, already difficult to process. Sentence (9)(a) not only has one complement sentence embedded in another, but also the same word dat twice --- which would explain why (9)(a) is judged to be less acceptable than (10)(a). In the (b) sentences, which are acceptable, these perceptually difficult constructions are not found. There appears to be perceptual reasons for the unacceptability of sentences such as (9)(a) and (10)(a). There are grounds, therefore, for regarding such sentences as grammatical and accounting for them as such in the grammar. Before this can be done, however, independent justification must be found for the perceptual factor involved.

### 3.7 Generalization VI

In effect, Generalization VI entails that if a sentence contains a Think-type verb, the rule Move  $\bar{S}$  must be prevented from applying so that the context for dit-insertion is not created. This could be done in different ways.

The first possibility would be to assign to sentences such as (12)(a) and (b) a structure into which dit can never be inserted. De Haan (1974),

working within the framework of the Extended Standard Theory, accounts for the distribution of subject complements that never take a pronominal element and others that do in terms of a distinction between VP- and NP-complements. Adapted for object complements, such a proposal would assign VP-complements to Think-type verbs:



Move S-bar applied to (60) will move  $\bar{S}_2$  exactly as it does when applied to (31) in which an NP-complement is assigned to the verb. A trace is left behind in the base position of  $\bar{S}_2$  but there is no empty NP into which dit can be inserted by Rule (25), except perhaps if the object-NP is generated as an empty NP. To exclude the possibility of dit being inserted into the empty object-NP, Rule (25) can be reformulated as follows:

(61) Insert dit in the position of NP in

$$[ \text{NP NP } e_i ] \dots [ \bar{S}_i \left\{ \begin{array}{l} \text{om te} \\ \text{dat} \\ + \text{WH} \end{array} \right\} S ]$$

Therefore, even if Move S-bar is applied to (60), dit will not be inserted and (12)(b) cannot be derived.

A second possible way of expressing Generalization VI would be to mark Think-type verbs with a feature such as  $[+T]$  and to reformulate Rule (25) so that dit is never inserted after such a verb. Chomsky and Lasnik

(1977:486) place such a feature, F, on verbs and adjectives that permit the structure resulting from deletion of that. It should be noted, however, that they are highly unsatisfied with such an ad hoc feature and try to eliminate the necessity for it. The undesirability of placing such an ad hoc feature on certain verbs and the difficulty with reformulating (25) in the manner desired makes this alternative unattractive.

A third possible way of expressing Generalization VI would be to formulate a filter such as the following:

$$(62) \quad * \left[ \begin{array}{c} \text{Verb} \\ \left[ + T \right] \end{array} \text{ dit COMP} \right]$$

This proposal again requires placing a feature such as  $[+ T]$  on certain verbs. Filter (62) does "involve" properties of COMP but dit rather than COMP is the crucial constituent in this configuration. Furthermore, a filter such as (62) requires an expansion of the formal power of filters in general in exactly the manner explained for Filter (34).

Of the three proposals, the first appears to be the most promising at present.

### 3.8 Generalization VII

At this stage the only possible way of expressing Generalization VII appears to be by means of a filter. To formulate this filter, Like-type verbs must be characterized by a feature which we may refer to as  $[+ L]$ . The filter can now be characterized as follows:

$$(63) \quad * \left[ \begin{array}{c} \text{Verb} \\ \left[ + L \right] \end{array} \text{ COMP} \right]$$

As a filter, (63) is as unacceptable as (62) and for the same reasons.

There is one further possibility which will not be considered in any detail. Chomsky and Lasnik (1977:449), it has been noted, formulate an obligatory lexical insertion rule to insert it. They state that, alternatively, they could reconstrue this rule as a surface filter, marking specific constructions as ungrammatical unless the NP subject is it. If such a filter should be formulated for object-NP's as well, Generalization VII could be expressed by placing an "exception feature" on Like-type verbs, excluding sentences with such verbs from such a filter. Chomsky and Lasnik (1977:480), however, regard placing such a feature on a verb to be "... an unwelcome step". Bresnan (1977:265-267) also presents criticism of such "exception features".

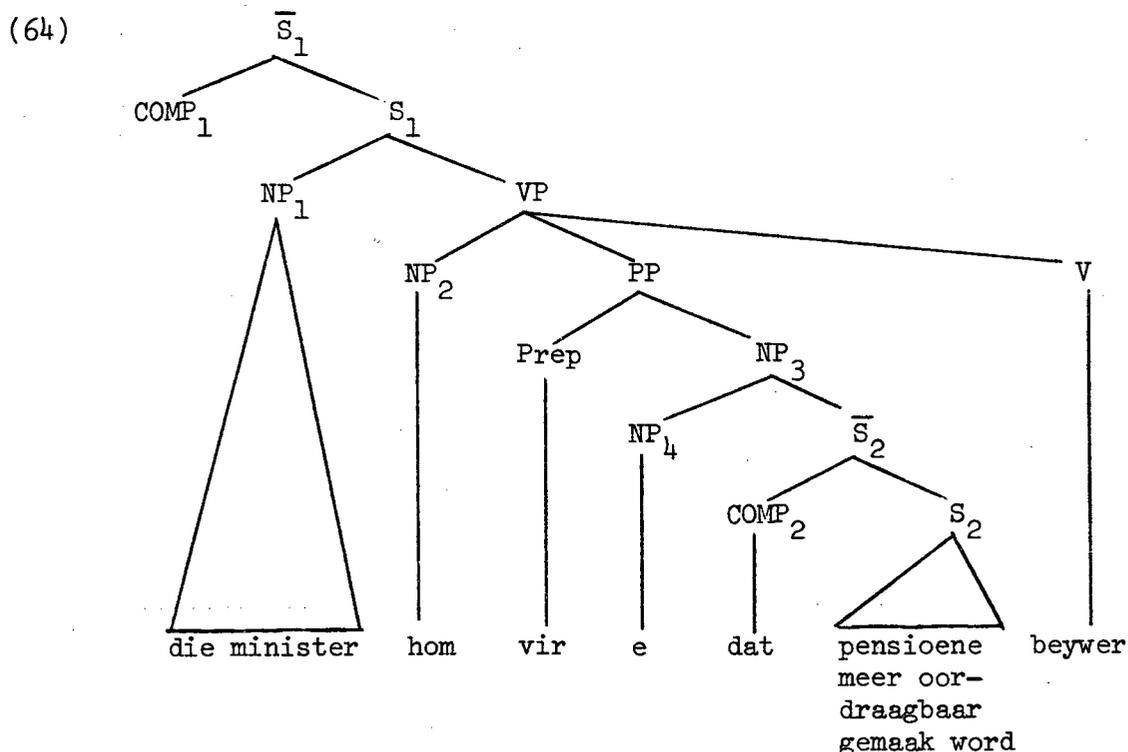
Explaining why a sentence such as (13)(a) is unacceptable remains problematic.

### 3.9 Generalization VIII

It was argued in §3.3 that a linguistically significant generalization is captured if Generalizations I and II are expressed in terms of the same analysis. Generalizations I and II concern the distribution of subject and object complements respectively. An even wider generalization will be expressed if Generalization VIII, which concerns the distribution of prepositional object complements, too can be expressed in terms of the same analysis.

We will assume for the purposes of this paper that sentences such as (14)(b) and (c) are related in terms of a rule of Pro Shift, which changes the Prep-Pro sequence in (14)(b) to the Pro-Prep sequence in (14)(c), and a phonological rule which changes dit vir into daarvoor. For ease of exposition we will therefore regard (14)(b) as grammatical.

Following the approach in terms of which we assign NP-status to subject and object complements in the present Extraposition analysis being developed for Afrikaans, prepositional object complements are also assigned NP-status. The base structure for (14)(a) and (b) can then be reconstructed as follows:



The rule Move  $\bar{S}$ , applied to a base structure such as (64), must move  $\bar{S}_2$  to the right in which position  $\bar{S}_2$  must then be adjoined to one of the nodes V, VP,  $S_1$  or  $\bar{S}_1$ , exactly as when Move  $\bar{S}$  is applied to (31). A trace is left behind in the original position of  $\bar{S}_2$  and Rule (25) will insert dit into the empty  $NP_4$ . In this way (14)(b) is derived, to which Pro Shift and the phonological rule will apply to derive (14)(c).

A problem arises only if Move  $\bar{S}$  is not applied to a structure such as (64). The device which deletes the empty NP's in the derivation of (1)(a) and (2)(a) will delete  $[NP_4 \ e]$  in (64) and the unacceptable sentence (14)(a) is derived. Unacceptable sentences such as (14)(a) can be filtered out by a filter such as (65):

(65) \*  $[ \text{Prep COMP} ]$

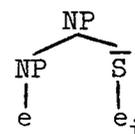
Filter (65) will have some plausibility only if independent motivation for its existence in Afrikaans can be presented. Again it is a filter that requires an expansion of the formal power of filters in general, exactly as explained for Filter (34).

4. Conclusions

The discussion up to this point appears to lead to the conclusion that an Extraposition analysis is the least unacceptable analysis that can be given of the Extraposition phenomena in Afrikaans if a transformation in the core grammar is postulated. In this analysis complement sentences have NP-status in the base. The head NP of the complement is empty. A transformational rule Move  $\bar{S}$  can move the complement sentence in such a base structure to the right. Three further devices are needed to express Generalizations I and II:

(i) a device in terms of which  $[ \text{NP } e ]$  before a complement sentence can be deleted;

(ii) a device which must insert dit into the structure



after Move  $\bar{S}$  has applied;

(iii) a device, possibly provided by "landing site" theory, which must specify that  $\bar{S}$  is moved to the right and also to which node  $\bar{S}_2$  is adjoined.

To express Generalizations III-VIII a system of filters, strict subcategorization features and special base structures were outlined.

Many aspects of the Extraposition analysis outlined above are highly speculative and problematic. Several factors contribute to the problematic and speculative nature of this analysis:

(i) Important subparts of the REST have not yet been developed. The absence of detail on the marginal grammar in the REST, for example, makes it impossible to determine whether certain aspects of the Extraposition phenomena in Afrikaans should not be accounted for outside the core. The lack of a well-developed theory of adjunctions influences all the analyses outlined above. It was simply assumed that all adjunctions are Chomsky-adjunctions, that a specific node can be adjoined to any other node except the one that immediately dominates it and that all movement rules except Move NP carry out an adjunction and not a substitution operation. Because so little information is avail-

able on the content of the "landing site" theory, it could only be referred to as a possible source for a device that will specify that  $\bar{S}$  adjunction is to the right and that will ensure adjunction to the correct node. Little more could be done than to stipulate that a convention in the phonetic interpretive component to delete an  $[NP\ e]$  and a lexical insertion rule to insert dit are devices possibly incorporated in the grammar for Afrikaans. Too little is known about the form and content allowed for such conventions and insertion rules in the REST to have given more detail.

- (ii) The status of other subparts of the REST is obscure. It is not clear, for example, whether the SPC is accepted as a constraint on movement rules in the core grammar and in what form it is accepted. Therefore it could not be finally decided what effect, if any, the SPC has on movement rules such as Move  $\bar{S}$ . The status of the Condition on Substitution Rules, formulated above, is also obscure. It was simply assumed that this condition, in conjunction with the SPC, makes all substitution rules structure-preserving.
- (iii) Certain devices in the REST had to be adapted. For example, most of the filters proposed do not have the standard format of filters. The constituents affected by these filters need not be dominated by the same category. It was also found that lexical insertion must take place at a level of structure at least after the Extraposition rule has applied.
- (iv) It was simply assumed that certain conditions such as the C-Command Condition are not only correct but can also be adapted for Afrikaans in exactly the form proposed for English. Seen the modifications to these principles in the last few years, these assumptions in a strong form are unlikely to be correct.
- (v) Very little research has been done on Afrikaans syntax. This led to many proposals for English being taken over for Afrikaans in a more or less unchanged form by using an argument of analogy. For example, no information is available on the base rules for

Afrikaans. The lack of insight into S-movement in general, apart from Extraposition, is particularly trying since it cannot be decided whether a rule Move  $\bar{S}$  should be incorporated in the core grammar for Afrikaans and what restrictions should be placed on such a rule and the structures derived by such a rule. Because it is not known whether Afrikaans has a transformation such as Subject Deletion, this possibility for deleting  $[_{NP} e]$  could only be noted.

- (vi) No independent motivation was presented for many of the devices proposed above. All the filters, for example, should be independently motivated.
- (vii) A number of proposals remain no more than suggestions. The suggestion that Generalization III links up with a much wider phenomenon concerning sentence final position, for example, must be examined in much greater detail.

The seven factors listed above are the main reasons for the problematic and speculative nature of the Extraposition analysis for Afrikaans developed within the framework of the REST above. It follows that any conclusion on the REST reached on the basis of such an analysis will have a very tentative nature. The above list isolates seven problem areas which must form the domain for further study of Extraposition phenomena not only in Afrikaans but also in languages such as English, Dutch and German.

## FOOTNOTES

\*This working paper is based on a chapter of an M.A.-thesis which was presented at the University of Stellenbosch in March 1979, under the supervision of Prof. R.P. Botha.

1. I use this combined term because use of either Extraposition or Intraposition would imply a choice of a specific analysis which is not intended at this stage.
2. The distinction between a rule and a phenomenon drawn by De Haan et al. (1974:29) is upheld in this paper. In terms of this distinction, the term Extra/Intraposition phenomena designates a collection of relevant intuitive judgements of fluent speakers. The term Extra/Intraposition rule, on the other hand, designates a subpart of a grammar which explains the diverse phenomena.
3. Analogous sentence pairs are found in English, Dutch and German, among others.
4. Cf. Maartens (1979:184 ff.) for such an analysis.
5. The generalizations for English, Dutch and German are very similar. The differences for Afrikaans will be indicated.
6. There is an unless-condition to this generalization which states that if the verb belongs to a limited class of is (= 'be') + X verbs, the Complement-Verb sequence is unacceptable. Apart from being severely limited, this class of examples appears to be idiomatic. Such examples are paid no further attention.
7. "Bisentential verb" is a term used by Ross (1975:549) and De Haan (1974:163) to designate a verb which can simultaneously have a complement sentence as subject and as either direct or prepositional object.

8. This second unless-condition expresses a distribution not found in the other languages.
9. I use this term to refer to a group of verbs in Afrikaans, the object complements to which show the distribution noted in Generalization VI.
10. I use this term to refer to a group of verbs in Afrikaans, the object complements to which show the distribution noted in Generalization VII. Some verbs in Afrikaans belong to the class of Like-type verbs whereas their English counterparts belong to the class of Think-type verbs and vice versa.
11. There is no counterpart to Generalization VIII in English. There is a counterpart in German.
12. Cf. Maartens (1979:256 ff.) for an outline of the various viewpoints on this issue.
13. The subscripts in Arabic numerals in these and all further tree diagrams serve only one purpose: to facilitate reference to specific nodes.
14. Note that as yet no evidence has been presented for the existence in Afrikaans of any one of the base rules that generate (15), (18) or (19). This is a matter for further research.
15. Chomsky (unpublished p.6) provides an example of an adjunction operation and in this example Chomsky adjunction is used:

$$\left[ \bar{S} \left[ \text{COMP} \pm \text{WH} \right] \left[ S \dots \left[ \alpha \text{ wh-phrase} \right] \dots \right] \right]$$

Move WH

$$\left[ \bar{S} \left[ \text{COMP} \left[ \alpha_i \text{ wh-phrase} \right] \left[ \text{COMP} \pm \text{WH} \right] \left[ S \dots \left[ \alpha_i e \right] \dots \right] \right] \right]$$

16. The main problem here would be that deletion rules are subject to the A-over-A Condition. Chomsky (1973:235) formulates this condi-

tion as follows:

"If a transformation applies to a structure of the form

$$[ \alpha \dots [ A \dots ] \dots ]$$

where  $\alpha$  is a cyclic node, then it must be so interpreted as to apply to the maximal phrase of the type A."

A deletion rule which is subject to the A-over-A Condition, will delete  $NP_1$  in (15) and not  $NP_2$ .

17. Cf. Maartens (1979:142 ff.) for an overview of these arguments.
18. The Subjacency Condition (in Chomsky (1973:271)) states that in the structure  $\dots \underline{X} \dots [ \alpha \dots [ \beta \dots \underline{Y} \dots ] \dots ] \dots \underline{X} \dots$  no rule may move a phrase from position Y to position X, or vice versa, where  $\alpha$  and  $\beta$  are binding categories. In connection with the notion of "binding categories", Chomsky (1978:16) states that these categories, including NP and S, form a class of which the members are alike in many respects. For example, each one of them involves the basic grammatical relations of subject etc. and each serves as the domain of transformational rules. The Subjacency Condition states in effect that no transformational rule may move a phrase over more than one binding category.
19. The C-Command Condition (in Chomsky (unpublished p.12)) states that an antecedent must c-command its anaphor.  $\beta$  c-commands  $\alpha$  if  $\beta$  does not contain  $\alpha$  ( $\beta \neq \alpha$ ), and if  $\alpha$  is dominated by the first branching category that dominates  $\beta$ .  $\alpha$  is then in the domain of  $\beta$ .
20. The same would be true of adjunction to the left of the VP.
21. The same would be true of adjunction to the left of the  $\bar{S}_1$ .
22. The same would be true of adjunction to the right of  $\bar{S}_1$ .
23. Cf. fn. 16 in which a problem for a deletion rule of this type is explained.

24. Movement of NP<sub>2</sub> is prevented by the A-over-A Condition.
25. Movement of NP<sub>3</sub> is prevented by the A-over-A Condition. Movement of NP<sub>1</sub> results in a structure which violates the C-Command Condition. NP<sub>1</sub> can be moved only into the empty NP<sub>3</sub> and then the trace of NP<sub>1</sub> will not be dominated by the first branching category NP<sub>2</sub> which will dominate the moved NP<sub>1</sub> in derived structure.
26. Or  $\bar{S}_2$   $\bar{S}_3$
27. Cf. Subbarao (1973:641), for example.  
I use the terms grammatical and acceptable here as defined by Chomsky (1965:11-12): "Acceptability is a concept that belongs to the study of performance, whereas grammaticalness belongs to the study of competence" and "Grammaticalness is only one of many factors that interact to determine acceptability".
28. Genuine linguistic intuitions are those that reflect the content and form of the competence i.e. sentences are judged to be unacceptable because they are ungrammatical. Linguistic intuitions that reflect the influence of non-linguistic factors such as perceptual complexity are not genuine. In such a case sentences are judged to be unacceptable which are in fact grammatical.
29. Cf. Rosenbaum (1967), Kuno (1973), Ross (1967) and Grosu and Thompson (1977).

## REFERENCES

- Aitchison, Jean  
 1976 The Articulate Mammal. An Introduction to Psycholinguistics. London: Hutchinson.
- Anderson, Stephen, and Paul Kiparsky (eds.)  
 1973 A Festschrift for Morris Halle. Cambridge, Mass.: M.I.T. Press.
- Botha, R.P.  
 1978 Generatiewe Taalondersoek. Cape Town: H.A.U.M.
- Bresnan, Joan W.  
 1970 "On Complementizers: Toward a Syntactic Theory of Complement Types", Foundations of Language, Vol. 6 no. 3: 297-321.  
 1977 "Transformations and Categories in Syntax", in Butts and Hintikka (eds.) 1977:261-282.
- Butts, R., and J. Hintikka  
 1977 Basic Problems in Methodology and Linguistics. Dordrecht-Holland: D. Reidel Publishing Company.
- Chomsky, Noam  
 1973 "Conditions on Transformations", in Anderson and Kiparsky (eds.) 1973:232-286.  
 1978 "A Theory of Core Grammar", GLOT 1:7-26.  
 Unpublished "On Binding." Mimeographed.
- Chomsky, Noam and Howard Lasnik  
 1977 "Filters and Control", Linguistic Inquiry, Vol. VIII, no. 3:425-504.

- Chomsky, Noam and G.A. Miller  
 1963 "Introduction to the Formal Analysis of Natural Languages", in Luce et al. (eds.) 1963:269-322.
- De Haan, Ger J.  
 1974 "On Extraposition", Spektator, Vol. IV no. 4:161-183.  
 1978 "Dutch Syntax and The Theory of Grammar". Unpublished. Mimeographed.
- De Haan, G.J., G.A.T. Koefoed and A.L. des Tombe  
 1974 Basiskursus Algemene Taalwetenschap. Assen: Van Gorcum.
- Grosu, Alexander, and Sandra A. Thompson  
 1977 "Constraints on the distribution of NP Clauses", Language, Vol. 53 no. 1:104-151.
- Koster, Jan  
 1975 "Why Subject Sentences don't Exist". Unpublished manuscript. University of Amsterdam/Utrecht.
- Kuno, S.  
 1973 "Constraints on Internal Clauses and Sentential Subjects", Linguistic Inquiry, Vol. IV no. 3:363-385.
- Luce, R.D., R. Bush and E. Galanter (eds.)  
 1963 Handbook of Mathematical Psychology - Vol. II. New York: Wiley.
- Maartens, J.  
 1979 Extraposition in Afrikaans: Implications for the Extended and Revised Extended Standard Theories. Unpublished M.A. thesis, University of Stellenbosch.
- Neyt-Kappen, A.  
 1976 "Marked Co-ordination in Conjunction with the SOV-SVO Problem", in W. Zonneveld (ed.) 1978:188-195.

Rosenbaum, Peter S.

1967            The Grammar of English Predicate Complement Construc-  
tions.    Cambridge, Mass.: The M.I.T. Press.

Ross, John R.

1976            Constraints on Variables in Syntax.    Ph.D. Disserta-  
tion, M.I.T., reproduced by the Indiana University  
Linguistics Club.

1973            "The Same Side Filter", in Papers from the Ninth Regional  
Meeting.    Chicago Linguistic Society, 1973:568-576.

Sinclair, M.

1978            Chomsky se Teorie van Kerngrammatika.    'n Publikasie  
van die Studiegroep vir Taalwetenskap, Universiteit van  
Pretoria.

Zonneveld, W. (ed.)

1978            Linguistics in the Netherlands 1974-1976.    Lisse.