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AN INTERPRETIVE ANALYSIS OF QUANTIFIER POSTPOSING PHENOMENA IN AFRIKAANS

by

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1. Introduction

It is a well-known fact of English that a so-called floating universal quantifier (or quantifier phrase, QP) [1] can occur either to the left or to the right of the constituent with which it is associated. [2] This phenomenon can be illustrated with the sentence pairs in (1) and (2), in which the QP all serves to modify the NPs the men and them, respectively. [3]

(1)(a) All the men would have been working.
(b) The men would all have been working.

(2)(a) She loved all of them.
(b) She loved them all.

Several linguists working within the general framework of transformational generative grammar have presented analyses of the phenomenon illustrated in (1) and (2). [4] While these analyses differ in many respects, some of them nontrivial, they nevertheless share the following fundamental assumption: [5]

(3) A floating QP is base-generated to the left of the constituent it modifies, and can be moved to a position to the right of this modified constituent by means of a transformational rule(s).

In terms of this assumption, the (b) sentences in (1) and (2) were transformationally derived from the structure underlying the respective (a) sentences. In each case the QP all was *postposed*, that is, it was moved to a new position to the right of the modified NP. For convenience the term **quantifier postposing** will henceforth be used to refer to the phenomenon illustrated by the sentence pairs in (1) and (2). The term **movement analysis** will furthermore be used to refer to an analysis of quantifier postposing which incorporates the fundamental assumption (3).

The phenomenon of quantifier postposing is also found in Afrikaans. This can be illustrated with the sentence pairs in

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(4) and (5), in which the QP al/almal serves to modify the NPs die studente and hulle, respectively. [6]

(4)(a) AL die studente het die boek gelees.
all the student-PLU have the book PAST-read
"All the students have read the book"
(b) Die studente het ALMAL die boek gelees.
the student-PLU have all the book PAST-read
"The students have all read the book"

(5)(a) Sy haat ALMAL van hulle.
she hates all of them
"She hates all of them"
(b) Sy haat hulle ALMAL.
she hates them all
"She hates them all"

The present study focusses on two problematic aspects of the phenomenon of quantifier postposing in Afrikaans. In general terms, these two problematic aspects may be formulated as follows:

(6)(a) Which positions can be occupied by a postposed QP in surface structure?
(b) With which constituent(s) can a postposed QP be associated semantically?

The movement analyses of quantifier postposing that have been presented in the literature on generative grammar invariably concentrated on the question (6)(a). That is, with these analyses, the primary objective was to explain the syntactic distribution of postposed QPs, with no or little attention given to their semantic interpretation. In the case of English, two distinct quantifier postposing rules have been proposed in an attempt to answer the question (6)(a), viz. the rules of Q-FLOAT and Q-Pro FLIP. Q-FLOAT moves a floating QP to the right out of the larger NP containing the modified constituent, and adjoins this QP to the VP. [7] This rule is claimed to derive sentences like the one in (1)(b). Q-Pro FLIP is an NP-internal

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rule which moves the quantifiers all and both to a position immediately to the right of the modified constituent, provided that this constituent is a pronoun. [8] Q-Pro FLIP is claimed to derive sentences like the one in (2)(b).

The only movement analysis of quantifier postposing in English of which I am aware which also addresses the question (6)(b) about the semantic interpretation of postposed QPs, is the one presented in (Baltin 1978). According to Baltin (1978: 66-69) a QP, which is base-generated to the left of the NP it modifies, leaves behind a trace when it is moved to the right out from under the domination of the larger NP containing the modified NP. [9] The postposed QP is then semantically related to the modified NP via this trace. [10] In other words, the only constituent with which a postposed QP can be associated semantically is the NP which forms part of the larger NP containing the trace of the postposed QP. On this view, then, the semantic interpretation of a postposed QP is determined through the *interaction* of a quantifier movement rule with the interpretive devices associated with Trace Theory.

A detailed movement analysis of quantifier postposing in Afrikaans - one which employs the movement rules of Q-FLOAT and Q-Pro FLIP - was set out and subjected to critical scrutiny in (Oosthuizen 1988: chapter 3). [11] It was found that such an analysis yields a large number of incorrect predictions about the surface distribution of postposed QPs. The Afrikaans rules of Q-FLOAT and Q-Pro FLIP, and the various additional movement devices that are required to make the analysis compatible with the facts, were furthermore found to be objectionable in that they have formal properties that cannot be reconciled with the concepts and principles of the GB Theory of core grammar. [12] It was concluded on the basis of these findings that an analysis which incorporates the assumption (3) does not provide either an empirically adequate or a conceptually adequate description of quantifier postposing in Afrikaans core grammar.

In the present study an attempt is made to develop an alternative analysis of quantifier postposing in Afrikaans. This al-

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ternative analysis, which may be called "the interpretive analysis" for convenience, differs in two important respects from the movement analysis referred to above. Firstly, the interpretive analysis does not make use of any quantifier movement rules to explain the syntactic distribution of so-called postposed QPs. That is, it does not incorporate the assumption (3). Instead, in answer to the general question (6)(a), it is claimed on this analysis that the surface positions occupied by Afrikaans "postposed" QPs represent the positions in which they were generated by the phrase structure rules of the base component. Secondly, the proposed interpretive analysis explicitly addresses the question (6)(b) about the semantic interpretation of "postposed" QPs. In terms of this analysis, a "postposed" QP represents an overt anaphor that is coreferentially related (or more accurately, *bound*) to the phrase that it modifies by means of the interpretive devices provided for by the GB Theory of core grammar, specifically by GB Binding Theory. [13] The aim of this study is to determine whether an interpretive analysis of the type just outlined can provide an empirically and conceptually adequate description of the syntactic distribution and the semantic interpretation of "postposed" QPs in the core grammar of Afrikaans.

In order to describe the positions which Afrikaans "postposed" QPs may (not) occupy relative to the various constituents of a sentence, it is necessary to determine the hierarchical and linear relations holding between these constituents. In (Oosthuizen 1988: par. 2.3.2) four phrase structure rules were proposed in an attempt to express those aspects of Afrikaans sentence internal structure that enter into describing the syntactic distribution of "postposed" QPs. The investigation in (Oosthuizen 1988: par. 3.2.2) of the empirical consequences of a movement analysis of quantifier postposing revealed fifteen generalisations about the surface distribution of "postposed" QPs relative to the constituents generated by these phrase structure rules. These generalisations have to be expressed by a descriptively adequate analysis of quantifier postposing in Afrikaans, a requirement that is not met by an analysis which incorporates the assumption (3). The phrase structure rules in

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question, and the fifteen generalisations about the surface distribution of Afrikaans "postposed" QPs feature prominently in the development and evaluation of the proposed interpretive analysis. Hence, to facilitate the exposition of this analysis, these rules and generalisations are summarised below in Appendixes 1 and 2, respectively.

The rest of this study is organised as follows. In par. 2 we briefly discuss some of the concepts and principles of the GB Theory of core grammar that enter into determining the (non-) coreferential relations between NPs. The focus in this discussion will be on the association of overt anaphors with their antecedents. In par. 3 an attempt is made to develop an analysis of quantifier postposing in Afrikaans core grammar which employs phrase structure rules and the devices of GB Binding Theory to explain the syntactic distribution and the semantic interpretation of "postposed" QPs. The empirical and conceptual consequences of the proposed analysis - the interpretive analysis - will be discussed in the various subsections of par. 3. The findings of these discussions are summarised in par. 4.

There is one important point relating to the scope of the present study that must be clarified here. The interpretive analysis is presented as a possible analysis of the phenomenon of quantifier *postposing* in Afrikaans. More specifically, it is presented in an attempt to account for the syntactic distribution of "postposed" QPs (e.g. the QP <u>almal</u> in (4,5)(b) above), and the semantic relation between these QPs and the constituents with which they are associated (e.g. the NPs <u>die studente</u> and <u>hulle</u> in (4)(b) and (5)(b), respectively). The analysis does not, and is in fact not intended to, make any predictions about any aspect of "non-postposed" QPs in Afrikaans (e.g. the QPs <u>al</u> and <u>almal</u> in (4,5)(a)). [14] An inquiry into (i) the positions which "non-postposed" QPs may occupy in deep and derived structure and (ii) the semantic relation between these QPs and the constituents with which they are associated falls outside the scope of the present study, and will accordingly be left as a task for future research.

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Before proceeding, there are a number of terminological points that must be clarified. The term **non-postposed QP** is used to denote a QP which occurs in its base-generated position *to the left* of the constituent with which it is associated (i.e. the **modified constituent**), and which forms part of the phrase containing the modified constituent (i.e. the **containing phrase**). In an analysis employing the movement rules of Q-FLOAT and Q-Pro FLIP, a non-postposed QP would be one which has not been affected by these rules. The term **non-postposed position** is used to refer to the position in which such a non-postposed QP occurs. In (7), for example, al represents a non-postposed QP occurring in non-postposed position; the modified constituent is the NP die mans, and the containing phrase the subject NP al die mans.

(7) AL die mans het die meisie herken.
all the man-PLU have the girl recognise
"All the men recognised the girl"

The term **postposed QP** is used to denote a QP which occurs in a position *to the right* of the constituent it modifies (i.e. its **postposed position**). In an analysis incorporating the assumption (3), a postposed QP would be one which has been moved out of its non-postposed position by the rule of Q-FLOAT or Q-Pro FLIP. In the proposed interpretive analysis, however, the term **postposed QP** is used without the accompanying connotation of movement. In this analysis, a "postposed" QP is understood to be a QP that is base-generated in its "postposed" position. In (8), for example, almal represents a postposed QP occurring in postposed position, the latter being the position in which the QP was generated in deep structure. (The modified NP is underlined.)

(8) Die mans het ALMAL die meisie herken.
the man-PLU have all the girl recognise
"The men all recognised the girl"

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2. Some interpretive devices in GB Theory

Within the framework of the GB Theory of core grammar the fact that a given pair of categories can be interpreted as coreferential or non-coreferential is expressed by assigning referential indices to these categories.[15] The indices take the form of subscripts that are appended to the categories in question. Categories with the same referential index, that is, *coindexed* categories, are interpreted as coreferential, while those with different indices are interpreted as non-coreferential.

It is assumed in (Chomsky 1982a: 185) that the coindexing of a moved category and its trace is, by convention, part of the operation performed by the rule Move α.[16] This type of index-assignment will not be discussed here, the reason being that the interpretive analysis of quantifier postposing proposed in par. 3 below does not employ any quantifier movement rules. Rather, we will restrict our attention to those instances of index-assignment that are *not* brought about by the application of Move α. The latter type of index-assignment is effected at S-structure level by a convention of free/random indexing.[17]

Random assignment of referential indices is subject to several independent principles of core grammar within the framework of GB Theory; these principles rule out cases of improper random indexing.[18] The principles in question include those associated with Control Theory and Binding Theory. GB Control Theory concerns the choice of possible antecedents for the non-overt pronominal PRO.[19] The devices of Control Theory will not be considered here, since the indexing of PRO does not enter into the interpretive analysis of quantifier postposing set out in par. 3 below. GB Binding Theory concerns the relation of anaphors, overt pronominals, and R-expressions to possible antecedents.[20] Chomsky (1982a: 188) "intuitively" takes anaphors to be "NPs that have no capacity for 'inherent reference'". He goes on to distinguish between two types of anaphors: overt/lexical anaphors (such as reflexives and reciprocals), and NP-traces. It will be proposed in par. 3 below that the notion "anaphor" should be extended to include postposed QPs as well.

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More specifically, it will be proposed that postposed QPs - at least in Afrikaans - should be analysed as overt anaphors that are base-generated in their postposed positions, and that are coreferentially related (or *bound*) to appropriate antecedents by means of the interpretive devices of the GB Theory of core grammar. In view of this proposal, a brief background exposition is called for of the devices of GB Binding Theory that enter into determining the relation between overt anaphors and their antecedents. The rest of par. 2 is devoted to such an exposition. In the course of the discussion consideration will also be given to the devices of GB Government Theory and GB Case Theory that enter into determining the relevant properties of overt anaphors.

The semantic relation between an anaphor and its antecedent is determined by the following principle of GB Binding Theory:[21]

(9) An anaphor is bound in its governing category.

The notions "bound" and "governing category" in this principle require clarification. Let us start with the notion "bound". Chomsky (1982a:184) distinguishes two types of binding, namely A-binding and non-A-binding/$\bar{A}$-binding, with the A standing for "argument". [22] A-binding holds when the binder is in an A-position, and $\bar{A}$-binding when the binder is in an $\bar{A}$-position. A-positions are those positions in which arguments may appear in deep structure. These positions include the subject position and the complements to an X category (where X = N, V, A, P). $\bar{A}$-positions include the head of an X-phrase, and adjuncts of any sort. [23] Chomsky (1982a:184) defines the notion "X-bound" as in (10), where X can be replaced by A or $\bar{A}$.

(10) "α is X-bound by β if and only if α and β are coindexed, β c-commands α, and β is in an X-position."

This definition of A-bound and $\bar{A}$-bound can be illustrated with the structure (11). t, t^1, and t" represent the traces of the wh-phrase <u>who</u>. [24]

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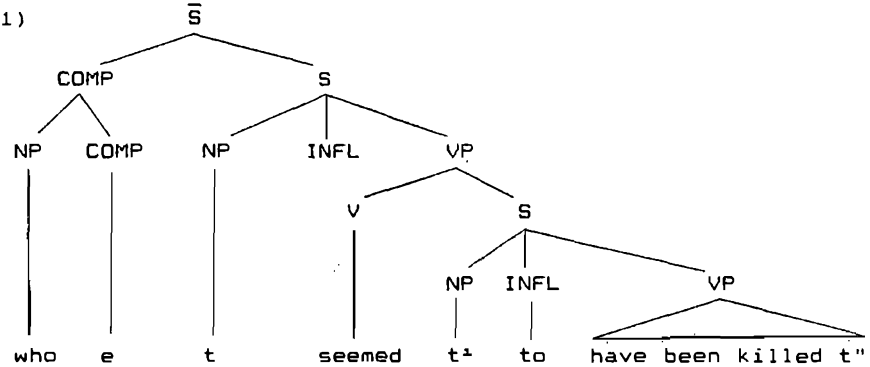
(11)



The traces t, t¹, and t" in (11) are all Ā-bound by who, since (i) they are coindexed with who; [25] (ii) they are c-commanded by who; [26] and (iii) who occurs in an Ā-position. The trace t occupies an A-position (viz. the subject position), and it c-commands t¹ and t". Thus t A-binds t¹, t". Similarly, t¹ A-binds t". A more restricted notion of binding than the one in (10) is presented in (Chomsky 1982a). This is the notion "local binding", which is informally characterised as follows by Chomsky (1982a: 59): [27]

(12) "To say that α locally binds β is to say that α and β are coindexed, α c-commands β, and there is no γ coindexed with α that is c-commanded by α and c-commands β."

In terms of (12), α is locally bound by its nearest binder, that is, by the potential binder that is "closest" to it in the structure. For example, in (11) the NP who locally Ā-binds t, t locally A-binds t¹, and t¹ locally A-binds t". GB Binding Theory is a theory of local A-binding. [28] It is in this sense of "local A-bound" that the term **bound** in the principle (9) is understood.

Let us next consider the notion "governing category" in the principle (9). Chomsky (1982a:211) defines this notion as follows:

(13) "β is a *governing category for* α if and only if β is the minimal category containing α, a governor of α, and a SUBJECT accessible to α."

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There are two points in connection with this definition that require clarification. The first point concerns the expression "a governor of α". According to Chomsky's (1982a: 250) definition of "government", α governs y if (i) α = X^0 or is coindexed with y, (ii) α c-commands y, and (iii) α and y are not separated by an intervening maximal projection ø, where ø = $\bar{S}$; NP; AP; PP; VP (or PredPhrase, as in the case of the present study – cf. Appendix 1 below). The verb <u>seem</u> in the structure (11), for example, governs the trace t^1, but not the trace t''; the latter trace is separated from the verb by a maximal projection in the form of the VP of the subordinate clause.

The second point in connection with (13) concerns the expression "a *SUBJECT* accessible to α". The notion "SUBJECT" should not be confused with the structural notion "subject of S/NP". According to Chomsky (1982a:209) the SUBJECT is the "most prominent nominal element" in S or NP. In an infinitival clause, an NP, or a so-called small clause the SUBJECT correlates with the structural subject; [29] In clauses where INFL contains the element AGR(EEMENT) – e.g. tensed clauses in English – AGR is the SUBJECT. AGR consists of the complex of features person, number and gender. Chomsky (1982a:52) states that "the element AGR is basically nominal in character; we might consider it to be identical with PRO and thus to have the features [+N, -V]." AGR is furthermore coindexed with the NP it governs, e.g. with the subject NP of a tensed clause in English. [30] As regards the "accessibility" of the SUBJECT, Chomsky (1982a: 212) provides the definition (15). This definition is given in terms of the well-formedness condition (14).

(14) " *[$_\gamma$ ... δ ...], where γ and δ bear the same index."

(15) "α is *accessible to* β if and only if β is in the c-command domain of α and assignment to β of the index of α would not violate (73) [= (14) – J.O.]"

In terms of the well-formedness condition (14), a category and one of its constituents may not be coindexed. For example, the condition will mark a construction like (16) as ill-formed:

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the NP itself in this construction is coindexed with the containing NP a picture of itself. [31]

(16) There is $[_{NP_i}$ a picture of $[_{NP_i}$ itself]] on the mantelpiece.

The definition (13) stipulates that a governing category for α must have a SUBJECT accessible to α. It follows that S will be a governing category, since it always contains a SUBJECT - in the form of either the structural subject or AGR. NP will also be a governing category when it contains a structural subject (hence a SUBJECT). [32]

We have now discussed the notions "bound" and "governing category" in the principle (9). Before turning to the application of this principle, one further property of overt anaphors must be mentioned. Overt anaphors - e.g. the reciprocal each other and the reflexive himself in English - have phonetic content. Hence these anaphors must be assigned Case in terms of the Extended Case Filter presented in (Chomsky 1982a: 175). [33] GB Case Theory, like GB Binding Theory, is closely linked to Government Theory, a link that is clearly illustrated by Chomsky's (1982a:170) formulation of the Case-assignment rules for English. [34] In terms of these rules an NP is assigned Case by a Case-assigner which *governs* it. It follows, therefore, that an overt anaphor must have a governing category from the viewpoint of Case-assignment. Such an anaphor must be bound in its governing category from the viewpoint of GB Binding Theory, as was pointed out above.

The application of the binding principle (9) for anaphors can be illustrated as follows with reference to English. Consider, first, the clausal constructions in (17)-(19), where α_n represents an overt anaphor like each other, and INFL is taken to be [[+Tense] AGR]. [35]

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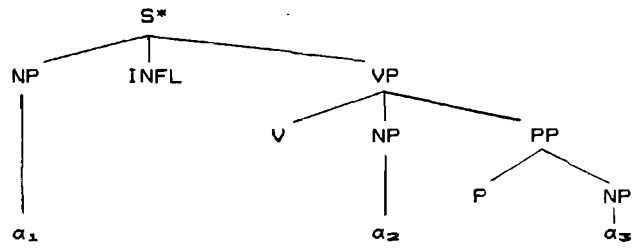
(17)



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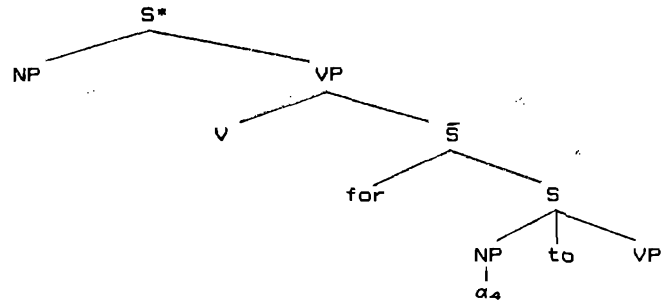

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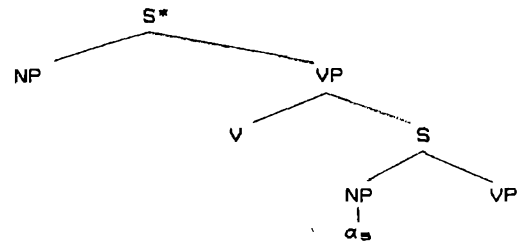

Suppose, firstly, that a_1 = <u>each other</u>, as in (20). [36]

(20) *we thought [$_S$ each other gave the books to Bill].

S* is the governing category for <u>each other</u> in (20), since it is the minimal category containing <u>each other</u>, a governor of <u>each other</u> (i.e. INFL), and a SUBJECT accessible to <u>each other</u> (i.e. AGR). In terms of the principle (9) <u>each other</u> must be bound in S*. This is not the case, however, since none of the NPs in S* c-commands <u>each other</u>. The structure (20) is accordingly ruled out as ill-formed.

Suppose, secondly, that a_2 or a_3 = <u>each other</u>, as in (21) and (22) respectively.

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(21) *they expected [$_S$ me to introduce each other to Bill].

(22) *they expected [$_S$ me to point the gun at each other].

S* is the governing category for each other in (21) and (22): it is the minimal category containing each other, a governor of each other (i.e. the verb introduce in (21) and the preposition at in (22)), and a SUBJECT that is accessible to each other (i.e. the subject NP me). In both cases each other is c-commanded by the subject NP me. But me and each other cannot be coindexed, because the latter requires an antecedent with the number feature [+plural]. Hence each other cannot be bound by me in S*. The structures (21) and (22) are therefore ruled out as ill-formed by the principle (9).

Suppose, thirdly, that α_4 or α_5 = each other, as in (23) and (24), respectively.

(23) *we expected [$_S$ Bill to prefer [for each other to win]].

(24) *we expected [$_S$ him to believe [each other to be incompetent]].

S* is the governing category for each other in (23) and (24): it is the minimal category containing each other, a governor of each other (i.e. the prepositional complementiser for in (23), and the verb believe in (24)), and a SUBJECT accessible to each other (i.e. the subject NPs Bill in (23), and him in (24)). The NPs Bill and him are not possible antecedents for each other, because of the plurality requirement of the anaphor. As a consequence, each other is not bound in S* in either (23) or (24). These structures are accordingly ruled out as ill-formed in terms of the principle (9).

Consider, next, the NP constructions in (25) and (26). [37]

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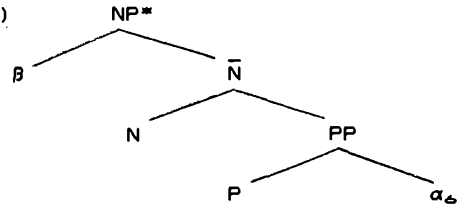
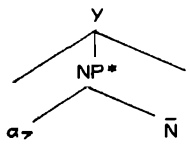
(25)



(26)



Suppose, firstly, that α_6 = each other, as in (27) - (29). [38]

(27) [NP their stories about each other].

(28) *we heard [NP his stories about each other].

(29) we heard [NP some stories about each other].

NP* is the governing category for each other in (27) and (28): it is the *minimal* category containing each other, a governor of each other (i.e. the preposition about), and a SUBJECT β that is accessible to each other (where β = the subject NPs their in (27) and his in (28)). Given that each other is coindexed with their in (27), each other will be bound in NP*. The principle (9) therefore marks (27) as well-formed. The structure (28), by contrast, is ruled out as ill-formed: his cannot be an antecedent for each other, since it does not satisfy the plurality requirement of the anaphor. Each other is therefore free in NP* in (28), in violation of the principle (9). The structure (29) is well-formed in terms of this principle, even though each other is not bound in NP*. The reason for this is that NP* is not a governing category for each other: it does not contain a SUBJECT accessible to each other (some ≠ subject NP). In this case the matrix S will be the governing category, with AGR being the accessible SUBJECT. Given that each other is coindexed with we in (29), each other will be bound in its governing category. Hence the acceptability of (29). [39]

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Suppose, secondly, that α_7 = each other, as in (30) and in (31). [40]

(30) we read [$_{NP}$ each other's books].

(31) *they forced me [PRO to read [$_{NP}$ each other's books]].

NP* in (30) and (31) does not contain a SUBJECT accessible to each other. [41] NP* is therefore not a governing category for each other in either of these structures. In (30) the governing category is the matrix S, since it contains an accessible SUBJECT (i.e. AGR). The matrix S also contains a possible antecedent for each other, viz. the subject NP we. Given that each other is coindexed with we, the anaphor will be bound in its governing category. Hence the principle (9) marks (30) as well-formed. In (31) the governing category for each other is the infinitival clause, with the subject NP PRO being the accessible SUBJECT. In terms of the principle (9), each other must be bound in the infinitival clause. This is not the case, however, since the only NP c-commanding each other in the infinitival clause (i.e. the subject NP PRO) is not a possible antecedent for each other. PRO is controlled by the matrix object NP me, so that it has the number feature [-plural]. The structure (31) is accordingly ruled out as ill-formed in terms of the principle (9). [42]

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3. An interpretive analysis of quantifier postposing

3.1 Introduction

In par. 3 we discuss the concepts and consequences of the proposed interpretive analysis of quantifier postposing in Afrikaans core grammar. The fundamental hypotheses of the analysis are presented and briefly illustrated in par. 3.2. The empirical and conceptual consequences of these hypotheses in Q-FLOAT constructions and Q-Pro FLIP constructions are examined in par. 3.3 and 3.4 respectively. The notions "Q-FLOAT construction" and "Q-Pro FLIP construction" will be explicated at the beginning of the relevant sections.

Before considering the fundamental hypotheses of the interpretive analysis, there is one important point that requires clarification. As noted above, the proposed analysis employs the devices of GB Binding Theory in a bid to explain the semantic interpretation of Afrikaans postposed QPs. The relevant interpretive devices were set out and illustrated in par. 2 with reference to English. Since GB Binding Theory is presented as a component of UG, it could be claimed, as a matter of principle, that the devices of this theory will form part of Afrikaans core grammar. Factual support for this claim will be presented shortly below. It will be argued, specifically, that the binding principle (9) and the devices that are associated with it are required to explain local A-binding phenomena in Afrikaans that are unrelated to the phenomenon of quantifier postposing. In this, we will focus on the coreferential relation of overt anaphors - e.g. the reciprocal mekaar ("each other") - to possible antecedents in clauses and NPs. It should be noted at this point that a detailed and systematic analysis of local A-binding phenomena in Afrikaans has not yet been attempted in the literature. Such an analysis falls outside the scope of the present study, and will not be attempted here either. The discussion in the remaining part of par. 3.1 serves only to illustrate that there is independent empirical justification for incorporating the GB interpretive devices in question into the core grammar of Afrikaans.

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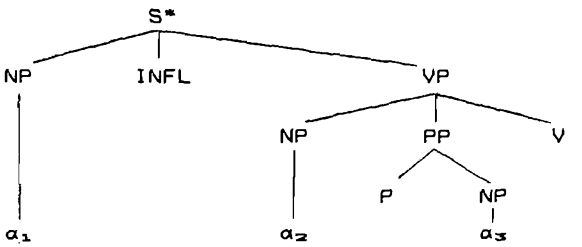
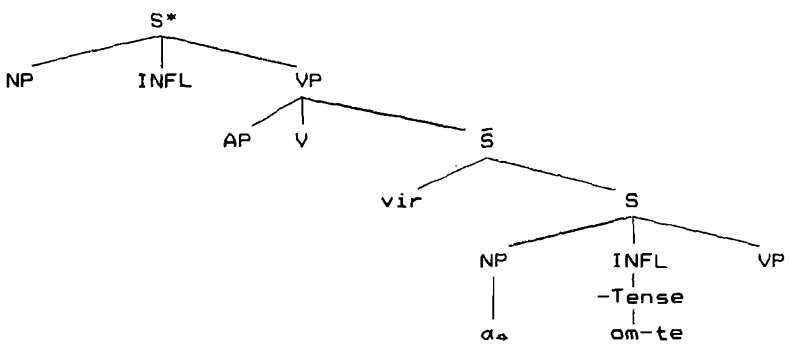
Consider the clausal constructions in (32) and (33), where α_n represents an overt anaphor like mekaar, vir represents a prepositional complementiser, and om-te represents the infinitive marker; [43] INFL is taken to be [[+Tense] AGR] in (32) and in the matrix clause in (33), with AGR coindexed with the subject NP of S*. [44]

(32)



(33)



Suppose, firstly, that α_1 = mekaar, as in (34).

(34) *Hulle sê dat [$_{S^*}$ mekaar die boeke op die tafel
they say that each-other the book-PLU on the table
gesit het].
PAST-put have

S* in (34) is the minimal category containing the reciprocal mekaar, a governor of mekaar (i.e. INFL), and a SUBJECT that is accessible to mekaar (i.e. AGR). In terms of the binding principle (9) for anaphors, mekaar must be bound in S*. The latter category does not contain a possible antecedent for mekaar, however, since none of the NPs in S* c-commands mekaar. In other words, the anaphor is free in S*. The principle (9) thus correctly predicts that (34) will be unacceptable.

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Suppose, secondly, that α_2 = mekaar, as in (35) and (36).

(35) *Hulle sê dat [$_{S*}$ sy mekaar in die swembad
they say that she each-other in the swim-pool
gestamp het].
PAST-push has

(36) Sy sê dat [$_{S*}$ hulle mekaar in die swembad
she says that they each-other in the swim-pool
gestamp het].
PAST-push have
"She says they pushed each other into the swimming-pool"

S* is the governing category for mekaar in both (35) and (36): it is the minimal category containing mekaar, a governor of mekaar (i.e. the verb stamp), and a SUBJECT accessible to mekaar (i.e. AGR). In both cases mekaar is c-commanded by the subject NP of S* (i.e. the singular count NP sy in (35), and the plural NP hulle in (36)). In (35) sy and mekaar cannot be coindexed, since the latter requires an antecedent with the number feature [+plural]. Mekaar thus cannot be bound by the NP sy, leaving the anaphor free in its governing category. The principle (9) accordingly correctly predicts that (35) will be unacceptable. The NP hulle in (36), by contrast, is a possible antecedent for mekaar. Hence the principle (9) predicts that (36) will be acceptable with hulle and mekaar coreferential. This prediction is correct.

Suppose, thirdly, that α_3 = mekaar, as in (37) and (38).

(37) *Hulle sê dat [$_{S*}$ sy die geweer op mekaar ge-
they say that she the rifle on each-other PAST-
rig het].
point has

(38) Sy sê dat [$_{S*}$ hulle die geweer op mekaar ge-
she says that they the rifle on each-other PAST-
rig het].
point have

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S* in (37) and (38) is the minimal category containing mekaar, a governor of mekaar (i.e. the preposition op), and a SUBJECT accessible to mekaar (i.e. AGR). Thus in both cases S* is the governing category for mekaar in which it must be bound. S* in (37) does not contain a possible antecedent for mekaar, which means that the anaphor is free in its governing category. The principle (9) thus correctly predicts that (37) will be unacceptable. In (38) mekaar can be bound by the subject NP hulle of S*. Hence the principle (9) predicts that (38) will be acceptable with hulle and mekaar coreferential. This prediction is correct.

Suppose, fourthly, that α_4 = mekaar, as in (39) and (40).

(39) *Hulle sê dat [$_S$* sy gretig is [$_{\bar{S}}$ vir mekaar om te
they say that she eager is for each-other to
gaan]].
go

(40) Sy sê dat [$_S$* hulle gretig is [$_{\bar{S}}$ vir mekaar om te
she says that they eager are for each-other to
gaan]].
go
"She says they're eager for each other to go"

S* is the governing category for mekaar in both (39) and (40): it is the minimal category containing mekaar, a governor of mekaar (i.e. the prepositional complementiser vir), and a SUBJECT accessible to mekaar (i.e. AGR). In both cases mekaar is c-commanded by the subject NP of S* (the NP sy in (39) and the NP hulle in (40)). Sy in (39) is not a possible antecedent for mekaar, because of the plurality requirement of the anaphor. This means that mekaar is free in S* in (39), in violation of the principle (9). Hence the unacceptability of (39). The NP hulle in (40), by contrast, is a possible antecedent for mekaar. The principle (9) consequently predicts that (40) will be acceptable with hulle and mekaar coreferential. The prediction is correct.

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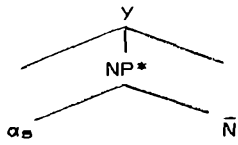
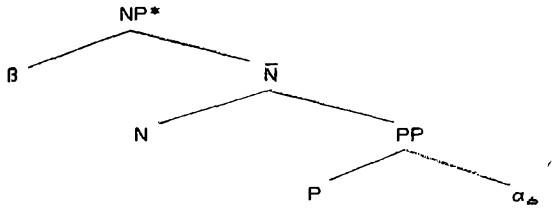
Consider next the NP constructions in (41) and (42). [45]

(41)



(42)



Suppose, firstly, that α_5 = mekaar, as in the following examples (where se = the possessive marker):

(43) Hulle lees [$_{NP}$* mekaar se briewe].
they read each-other Poss letter-PLU
"They're reading each other's letters"

(44) *Sy lees [$_{NP}$* mekaar se briewe].
she reads each-other Poss letter-PLU

(45) Hulle het haar belowe [PRO om [$_{NP}$* mekaar se
they have her promise each-other Poss
briewe] te lees].
letter-PLU to read
"They promised her to read each other's letters"

(46) *Sy het hulle belowe [PRO om [$_{NP}$* mekaar se
she has them promise each-other Poss
briewe] te lees].
letter-PLU to read

NP* in (43)-(46) does not contain a SUBJECT that is accessible to mekaar. [46] NP* is therefore not a governing category for mekaar in any of these examples. In the case of (43) and (44) the governing category for mekaar is the matrix S, with AGR being the accessible SUBJECT. In both these examples mekaar is

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(43) and sy in (44)). If mekaar is coindexed with the NP hulle in (43), the anaphor will be bound in its governing category. The principle (9) consequently predicts that (43) will be acceptable with hulle and mekaar coreferential. This prediction is correct. In (44), by contrast, mekaar and the NP sy cannot be coindexed, because of the plurality requirement of the anaphor. Mekaar is therefore free in its governing category S, in violation of the principle (9). Hence the unacceptability of (44). Turning to (45) and (46), the governing category for mekaar is the infinitival clause, with the subject NP PRO being the accessible SUBJECT. PRO moreover c-commands mekaar, thus representing a potential antecedent for the anaphor. PRO is a possible antecedent for mekaar in (45), since it is controlled by the plural count matrix subject NP hulle (belowe is a verb of subject control). Given that mekaar is coindexed with PRO, the anaphor will be bound in its governing category. The principle (9) therefore predicts that (45) will be acceptable with mekaar and PRO (hence hulle) interpreted coreferentially. This prediction is correct. PRO in (46), by contrast, is not a possible antecedent for mekaar: PRO is controlled by the matrix subject NP sy, so that it has the feature [-plural]. Mekaar is therefore not bound in its governing category, in violation of the principle (9). Hence the unacceptability of (46). [47]

Suppose, secondly, that α_4 = mekaar, as in (47)-(49).

(47) [$_{NP}$* hulle stories van mekaar].
their story-PLU of each-other
"their stories about each other"

(48) *Hulle ken [$_{NP}$* sy stories van mekaar].
they know his story-PLU of each-other

(49) Hulle ken [$_{NP}$* baie stories van mekaar].
they know many story-PLU of each-other
"They know many stories about each other"

NP* is the governing category for mekaar in (47) and (48): it is the minimal category containing mekaar, a governor of mekaar (i.e. the preposition van), and a SUBJECT β accessible to mekaar (β = the subject NPs hulle in (47) and sy in (48)). The

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latter two NPs both c-command mekaar. Given that mekaar is co-indexed with the NP hulle in (47), the anaphor will be bound in NP*. The principle (9) consequently correctly predicts that (47) will be acceptable with hulle and mekaar coreferential. In (48), by contrast, mekaar and the NP sy cannot be coindexed because of the plurality requirement of the anaphor. Mekaar is therefore free in NP* in this case, in violation of the principle (9). Hence the unacceptability of (48). Turning to (49), this structure is well-formed in terms of the principle (9), even though mekaar is free in NP*. The reason for this is that NP* is not a governing category for mekaar: it does not contain a SUBJECT accessible to mekaar (baie ≠ subject NP). In this case the matrix S represents the governing category for mekaar, AGR being the accessible SUBJECT. If mekaar in (49) is coindexed with the subject NP hulle of the clause, the anaphor will be bound in its governing category. It is therefore predicted in terms of the principle (9) that (49) will be acceptable with hulle and mekaar coreferential. This prediction is correct.

At this point a few remarks are in order about the notion "accessible SUBJECT". The version of GB Binding Theory under discussion incorporates the definition (13) of governing category in which the notion "accessible SUBJECT" figures as a key concept. This version replaces the earlier versions of GB Binding Theory, specifically the version that incorporates the definition of governing category given as (i) in note 32. The latter version, which we referred to as the "GB Governor Binding Theory", is faced with a number of empirical problems relating to arguments within NPs. [40] Chomsky (1982a: 209-216) argues that most of these problems can be overcome, at least in English, by formulating Binding Theory in terms of the notion "accessible SUBJECT". The question now is whether this notion is also applicable to Afrikaans, as has been tacitly assumed above in the discussion of the examples (34)-(40) and (43)-(49). To put it differently, is there any evidence that the definition of governing category in Afrikaans should incorporate the notion "accessible SUBJECT"? Consider again in this regard the examples in (47)-(49). In terms of the definition (i) in note 32,

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NP* represents the governing category for mekaar in (47)-(49): in each case NP* is the minimal category containing mekaar and a governor of mekaar (i.e. the preposition van). Notice that this definition does not require NP* to contain a SUBJECT that is accessible to mekaar. NP* in (47), on the one hand, contains a possible antecedent for mekaar, namely the subject NP hulle. Given that mekaar is coindexed with hulle, the anaphor will be bound in NP*. The principle (9) accordingly correctly predicts that (47) will be acceptable with hulle and mekaar coreferential. NP* in (48) and (49), on the other hand, does not contain a possible antecedent for mekaar: sy in (48) does not meet the plurality requirement of mekaar, whereas baie in (49) is not a (subject) NP. Mekaar is therefore not bound in NP* in either (48) or (49), in violation of the principle (9). The GB Governor Binding Theory consequently predicts that both (48) and (49) should be unacceptable. The prediction is incorrect as far as (49) is concerned. By contrast, as illustrated above, the version of GB Binding Theory that incorporates the definition (13) of governing category correctly predicts the acceptability of (49). This predictive success of the latter version of the theory provides support for the claim that the definition of governing category in Afrikaans should be formulated in terms of the notion "accessible SUBJECT". [49]

To summarise: GB Binding Theory, specifically the version set out in par. 2, makes the correct predictions about the coreferential relation of overt anaphors to possible antecedents in Afrikaans constructions like (34)-(40) and (43)-(49). This finding lends empirical support to the claim that the binding principle (9) and the devices associated with it should be incorporated into Afrikaans core grammar, a claim that follows from the hypothesis that the relevant devices form part of UG.

3.2 Fundamental hypotheses

The proposed interpretive analysis of quantifier postposing in Afrikaans contains the following two fundamental hypotheses:

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(50) The Base Position Hypothesis (BPH)
Postposed QPs in Afrikaans are generated in their postposed positions by means of the phrase structure rules of the base component.

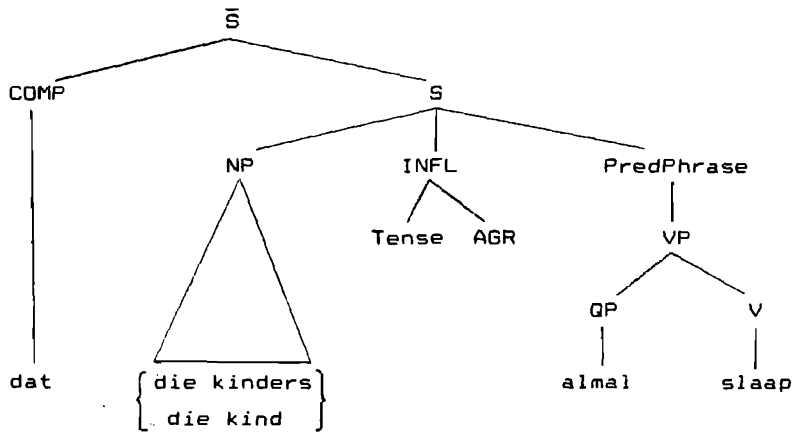
(51) The Overt Anaphor Hypothesis (OAH)
Postposed QPs in Afrikaans represent overt anaphors.

A consequence of the OAH (51) is that Afrikaans postposed QPs should be subject to the binding principle (9) for anaphors. That is, such a QP should be bound in its governing category.

The hypotheses (50) and (51) can be illustrated as follows.[50] Consider the examples in (52). The structure underlying the embedded sentences in (52)(a,b) may be represented roughly as in (52)(c). In terms of the BPH, the position occupied by the postposed QP almal in (52)(c) represents the position in which it was generated in deep structure. [51]

(52)(a) Hy sê dat die kinders ALMAL slaap.
he says that the child-PLU all sleep
"He says that the children are all sleeping"
(b) *Hy sê dat die kind ALMAL slaap.
he says that the child all sleep

(c)



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S in (52)(c) is the minimal category containing almal, a governor of almal (i.e. the verb slaap), and a SUBJECT accessible to almal (i.e. AGR). S is therefore the governing category for almal in which it must be bound. The only potential binder of almal is the subject NP of S (i.e. die kinders in (52)(a) and die kind in (52)(b)). This NP occurs in an A-position, and it c-commands the QP. Suppose, on the one hand, that the subject of S is the singular count NP die kind as in (52)(b). The QP cannot be coindexed with die kind, since almal requires an antecedent with the number feature [+plural].[52] Almal thus cannot be bound by die kind, leaving the QP free in its governing category. Consequently, the binding principle (9) for anaphors correctly predicts that (52)(b) will be unacceptable. Suppose, on the other hand, that the subject of S is the plural count NP die kinders as in (52)(a). If almal is coindexed with die kinders, the QP will be bound in its governing category, as is required by the binding principle (9). Hence it is predicted in terms of the interpretive analysis that (52)(a) will be acceptable with almal interpreted coreferentially with die kinders. This prediction is correct. If almal and die kinders are assigned different referential indices, however, the principle (9) will be violated, hence (52)(a) will be ruled out as ill-formed. The principle (9) thus correctly predicts that almal in (52)(a) cannot be interpreted non-coreferentially from the NP die kinders.

Consider next the examples in (53). The structure underlying the embedded sentence in (53)(a) may be represented roughly as in (53)(b). In terms of the BPH almal in (53)(b) occurs in the position in which it was base-generated. [53]

(53)(a) Hy sê dat die soldate ALMAL geskiet het.
he says that the soldier-PLU all PAST-shoot have
"He says that the soldiers were all shooting"

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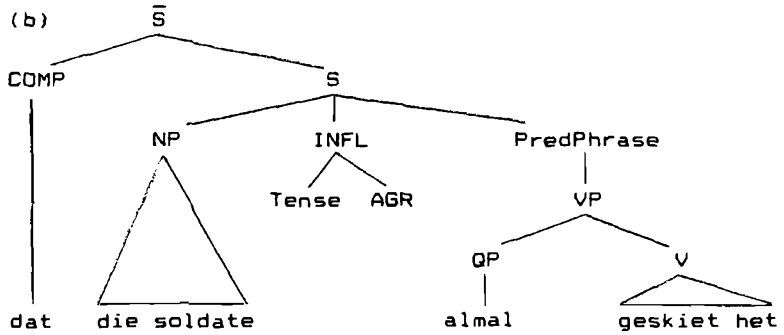

S is the governing category for almal in (53)(b), since it is the *minimal* category containing almal, a governor of almal (i.e. the verb skiet), and a SUBJECT accessible to almal (i.e. AGR). The subject NP die soldate of S represents a possible antecedent for almal. Given that almal is coindexed with die soldate, the QP will be bound in its governing category, as is required by the binding principle (9). It is accordingly predicted *in terms of the interpretive analysis* that (53)(a) will be acceptable with almal interpreted coreferentially with die soldate. That is, it is predicted that (53)(a) can have the interpretation (54), with the verb skiet used intransitively. This prediction is correct.

(54) "*for all persons x, x = soldiers; x were shooting*"

Suppose, however, that almal in (53)(b) is not coindexed with the NP die soldate. Almal will then be free in its governing category, in violation of the principle (9). (53)(a) will thus be ruled out as ill-formed. That is, it is predicted in terms of the interpretive analysis that (53)(a) cannot have the interpretation (55).

(55) "*for every person x; the soldiers shot x*"

Contrary to the latter prediction, (55) is an acceptable interpretation of (53)(a). (53)(a), interpreted as in (55), thus constitutes a potential counterexample for the interpretive analysis. The problem posed by (53)(a) can be overcome, however, by means of the hypothesis (56).

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(56) The Phonological Identity Hypothesis (PIH)
For each postposed QP in Afrikaans there exists a phonologically identical, non-anaphor NP.

It could be claimed in terms of this hypothesis that (53)(a), interpreted as in (55), does not contain a *postposed QP* almal, but that almal in this case rather represents an *NP* functioning as the direct object complement of the verb skiet.[54] This claim is supported by the fact that skiet can be used transitively, as is illustrated by the following example (the direct object NP is underlined):

(57) Hy sê dat die soldate die kinders geskiet
he says that the soldier-PLU the child-PLU PAST-shoot
het.
have
"He says that the soldiers shot the children"

As a non-anaphor the NP almal in (53)(a) is not subject to the binding principle (9). More specifically, this NP has to be free in its governing category in terms of the binding principles for non-anaphors.[55] This accounts not only for the acceptability of the interpretation (55), in which almal is non-coreferential with die soldate, but also for the unacceptability of the interpretation (58) below, in which almal is coreferential with die soldate. In the latter case the non-anaphor NP almal will be bound in its governing category, in violation of the relevant binding principle.

(58) "for all persons x, x = soldiers; x shot x"

In terms of the PIH (56), the example (53)(a) - interpreted as in (55) - can thus be denied the status of an actual counter-example for the proposed interpretive analysis of quantifier postposing in Afrikaans. It should be noted, though, that the PIH does not form part of the interpretive analysis. This hypothesis expresses an observation that was made in (Oosthuizen 1988: par. 2.3.3), and that is unrelated to the binding of postposed QPs. The observation in question concerns the fact

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that formatives that are used as postposed QPs in Afrikaans can also occur alone as (pro)nouns, that is, they can be used as the (pro)nominal heads of NPs.

To summarise: we have now briefly illustrated the BPH (50) and the OAH (51), the two fundamental hypotheses of the proposed interpretive analysis of quantifier postposing in Afrikaans. It was found that an analysis which incorporates these two hypotheses makes the correct predictions about the coreferential relation of postposed QPs to possible antecedents in sentences like (52)(a,b) and (53)(a), with the latter interpreted as in (54). The sentence (53)(a) can also be interpreted as in (55), with almal and die soldate non-coreferential. It was argued that this interpretation, which seems to be inconsistent with the prediction made in terms of the interpretive analysis, can be accounted for straightforwardly by means of the PIH (56) and the relevant binding principle for non-anaphors.

The empirical and conceptual consequences of the BPH and the OAH, and of the interpretive analysis as a whole, will be systematically examined in par. 3.3 and 3.4. Before proceeding, however, there is one point that requires clarification. This concerns the question whether any analysis of quantifier postposing has been presented within the GB framework that is analogous to the interpretive analysis proposed above for Afrikaans. That is, is there any precedent for the proposal that postposed QPs are base-generated in their postposed positions, and that these QPs are related to the phrases they modify by means of the GB interpretive devices set out in par. 2? Chomsky (1982a: 219) mentions two works, viz. (Belletti 1980) and (Jaeggli 1980), in which the idea is pursued "that the relation of an NP to a displaced quantifier related to it ... is subject to opacity". [96] These works were unfortunately not available at the time of writing the present study, hence it is not possible here to give an exposition of the concepts and the consequences - also for Afrikaans - of the analyses presented by Belletti and by Jaeggli. As far as could be ascertained, no other analyses of quantifier postposing have been presented in the literature on GB Theory. There is, however,

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one analysis that must be noted here, albeit one that is not presented within the GB framework. This is the analysis which Nakamura (1983) proposes of quantifier postposing phenomena in English, and which he (1983: 3) characterises as follows: [57]

(59) "The basic ideas of the interpretive approach to be proposed here are that floating quantifiers are base-generated as such by the phrase structure rules ... and that there exists an interpretive rule relating floating quantifiers with their 'antecedent' instead of... a transformational rule." [58]

The similarity between the analysis of quantifier postposing which Nakamura proposes for English, and the interpretive analysis proposed above for Afrikaans is clear: it is claimed in terms of both these analyses that postposed QPs are generated in their postposed positions by means of the phrase structure rules of the base component, and that these QPs are related to the phrases they modify by means of a semantic interpretation device(s). There is, however, one important difference between the two analyses. This concerns the type of device that enters into determining the semantic interpretation of postposed QPs. It was claimed in par. 3.1 that there is empirical justification for incorporating the GB interpretive devices set out in par. 2 - the binding principle (3) and the devices that are associated with it - into Afrikaans core grammar. This claim was based on the finding that the devices in question make the correct predictions about the coreferential relation of overt anaphors (e.g. the reciprocal mekaar) to possible antecedents in clauses and NPs. The same devices are employed in the proposed Afrikaans interpretive analysis of quantifier postposing for determining the semantic interpretation of postposed QPs. That is, the analysis does not require any special, additional interpretive devices to account for the semantic relation between a postposed QP and the NP associated with it. It is thus claimed in terms of the Afrikaans analysis that a unifying account can be given of the semantic interpretation of postposed QPs and "ordinary" overt anaphors like reciprocals. Evidence in support of this claim will be presented in par. 3.3 below,

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when we examine the interpretation of postposed QPs in so-called *Q-FLOAT constructions*. Let us now briefly consider the type of interpretive device employed in Nakamura's analysis of quantifier postposing in English. He (1983: 4) proposes the following "semantic interpretation rule for floating quantifiers": [59]

(60) "Floating-Q Interpretation Rule
Given the structure of the form
... NP ... Q(P) ...
where NP immediately c-commands Q(P),
assign the index of NP to Q(P)."

Nakamura's analysis faces two problems - both relating to the interpretation rule (60) - which raise doubts about the merit of adopting it for the description of quantifier postposing in Afrikaans core grammar. The first problem concerns the fact that rule (60) is proposed *exclusively* for the interpretation of postposed QPs. Obviously, from a metascientific point of view, it will be more desirable if the semantic interpretation of postposed QPs could be accounted for in terms of a general principle of UG, rather than in terms of a special device such as the one in (60). This is exactly the approach taken by the proposed interpretive analysis of quantifier postposing in Afrikaans, which uses the devices of GB Binding Theory in an attempt to account for the semantic interpretation of postposed QPs. This analysis does not require any special interpretive devices for postposed QPs, which makes it more economical than one which employs a rule of the type (60). The second problem facing Nakamura's analysis is of an empirical nature. Consider the Afrikaans example in (61)(a). The structure underlying the embedded sentence in this example may be represented roughly as in (61)(b). Note that (61)(a) is ambiguous: the postposed QP <u>almal</u> can be interpreted coreferentially either with the direct object NP <u>die meisies</u> or with the subject NP <u>hulle</u>.

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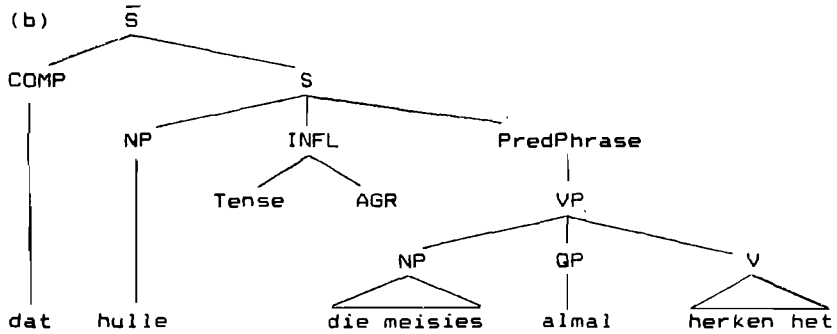
(61)(a) Ek veronderstel dat hulle die meisies ALMAL herken
I presume that they the girl-PLU all recognise
het.
have
"I take it that they all recognised the girls/that they recognised all the girls"



The NP die meisies in (61)(b) immediately c-commands the postposed QP almal. [60] Taking Nakamura's proposals over for Afrikaans, the index of this NP can thus be assigned to the QP by means of the interpretation rule (60). In other words, it is predicted in terms of Nakamura's analysis that (61)(a) will be acceptable with almal interpreted coreferentially with the direct object NP die meisies. This prediction is correct. The NP hulle in (61)(b) also c-commands the QP. However, in this case the NP does not *immediately* c-command the QP, which means that its index cannot be assigned to the QP by means of rule (60). It is therefore predicted in terms of Nakamura's analysis that almal cannot be interpreted coreferentially with the NP hulle. This prediction is incorrect. Nakamura's analysis thus fails to account for the ambiguity of (61)(a). This is in contrast to the interpretive analysis of quantifier postposing proposed above for Afrikaans: it will be illustrated in par. 3.3.2.4 that this analysis makes the correct predictions about the semantic interpretation of the postposed QP in sentences such as (61)(a).

In short, the analysis of quantifier postposing which Nakamura (1983) proposes for English requires the special rule (60) for

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the semantic interpretation of postposed QPs. This makes Nakamura's analysis less economical than an analysis - such as the one proposed for Afrikaans - which employs a general principle of UG to account for the semantics of postposed QPs. The fact that Nakamura's analysis fails to account for the ambiguity of sentences like (61)(a) furthermore reflects negatively on the merit of adopting this analysis for the description of quantifier postposing in the core grammar of Afrikaans. Of course, this does not imply that Nakamura's proposals are necessarily objectionable as a framework for the description of quantifier postposing in English. [41]

3.3 Q-FLOAT constructions

Par. 3.3 focusses on the empirical and conceptual consequences of the BPH (50) and the OAH (51) in Q-FLOAT constructions. By "Q-FLOAT constructions" is meant those constructions in which the postposed QP occurs *outside* of the NP containing the modified constituent, that is, those constructions in which the postposed QP and the constituent which it modifies do not form part of the same NP. In terms of a movement analysis of quantifier postposing, these constructions are derived by the movement rule of Q-FLOAT. Hence the convenient term **Q-FLOAT constructions.**

3.3.1 The Base Position Hypothesis

In terms of the BPH (50) Afrikaans postposed QPs are generated in their postposed positions in deep structure by means of the phrase structure rules. The following two, interrelated, questions arise in connection with this hypothesis:

(62)(a) By means of which phrase structure rules are postposed QPs generated in Q-FLOAT constructions?

(b) Which deep structure positions can be occupied by postposed QPs in Q-FLOAT constructions, that is, which postposed positions are available for these QPs?

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The aim of par. 3.3.1 is to provide answers to the questions in (62). We start with (62)(a). The Afrikaans phrase structure rules for $\bar{S}$, S, PredPhrase and VP that were proposed in (Oosthuizen 1988: par. 2.3.2) [cf. Appendix 1 below] do not generate postposed QPs. It will be argued shortly below that three of these rules, viz. those for S, PredPhrase and VP, should be expanded to make provision for postposed QPs. In other words, an attempt will be made to justify the following claim:

(63) Afrikaans postposed QPs are base-generated in their postposed positions in Q-FLOAT constructions by means of the phrase structure rules for S, PredPhrase, and VP.

It is predicted in terms of this claim that postposed QPs that are generated under S/PredPhrase/VP should display the characteristics of S/PredPhrase/VP constituents. There are a number of empirical considerations that point to the correctness of this prediction, thus providing support for the general claim (63). These considerations relate to (i) the criteria for constituent membership set out in (Oosthuizen 1988: par. 2.3.2), and (ii) the distribution of postposed QPs relative to S, PredPhrase and VP constituents. [62]

Consider first the specific claim in (63) that Afrikaans postposed QPs can be base-generated by the phrase structure rule for S (henceforth, the S-claim). [63] There are at least three considerations that could be adduced in support of this claim. The first concerns the phenomenon of initial coordination. It was illustrated in (Oosthuizen 1988:par. 2.3.2.4) that initial coordinations in Afrikaans can take place only between distinct constituents. That is, each conjunct of an initial coordinate construction must be exclusively dominated by a single constituent node. A postposed QP that is generated under the S should therefore not participate in an initial coordination of PredPhrase. Consider in this connection the sentence in (64), which contains an initial coordination of PredPhrase (the PredPhrase conjuncts are underlined). [64]

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(64) Die rektor het gesê dat die studente ALMAL óf
the rector has PAST-say that the student-PLU all or
vandag nog vir die kursus moet inskryf óf onmiddellik
today still for the course must in-write or immediately
hulle studies moet staak.
their study-PLU must stop
"The rector said the students must all either enroll for the course today, or suspend their studies immediately"

The postposed QP almal in (64) occurs *outside* the initial co-ordinate construction, directly to the right of the subject NP die studente of the subordinate clause. This could be taken as an indication that the QP is directly dominated by the S, occupying the position in which it was base-generated.

At this point a potential misunderstanding must be cleared up. The fact that the postposed QP in (64) occurs outside the initial coordinate construction does not imply that postposed QPs are excluded from participating in initial coordinations of PredPhrase. On the contrary, given the claim (63), it should be possible for QPs that are generated *under the PredPhrase/VP* to participate in such contructions. This possibility will be discussed below when we consider the claim that Afrikaans postposed QPs can be base-generated by the phrase structure rule for PredPhrase. These remarks about the misunderstanding that could arise with regard to (non-)participation in initial co-ordinate constructions hold for all the considerations that are presented below in support of the general claim (63). The fact that a postposed QP displays the characteristics associated with, say, S constituents therefore does not preclude the possibility that the QP can also, alternatively, display the characteristics associated with PredPhrase or VP constituents.

We turn now to a second consideration that could be adduced in support of the S-claim. This concerns the rules of PREDPHRASE PREPOSING and PREDPHRASE DELETION, which respectively prepose and delete the constituents of the category PredPhrase in root sentences. Constituents occurring outside the PredPhrase are not affected by the application of these rules. It follows

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therefore that QPs that are generated under the S will not be preposed/deleted along with the PredPhrase. Consider the sentences in (65) in this connection. PREDPHRASE PREPOSING has applied in the second conjunct in (65)(a) and PREDPHRASE DELETION in the second conjunct in (65)(b). Both sentences are acceptable. [65]

(65)(a) Hulle was nie fiks genoeg vir die wedloop nie, maar
they PAST-be not fit enough for the race not, but
daaraan déélgeneem het die atlete ALBEI ____.
it-to part-PAST-take have the athlete-PLU both
"They weren't fit enough for the race, but participate in it the athletes both did"

(b) Hy kan nog nie met die nuwe masjien werk nie, maar sy
he can yet not with the new machine work not, but his
vennote kan ALMAL ~~met--die-nuwe-masjien-werk.~~
partner-PLU can all ~~with-the-new--machine-work~~
"He can't as yet work with the new machine, but his partners all can"

The postposed QPs albei in (65)(a) and almal in (65)(b) have not been affected by PREDPHRASE PREPOSING/DELETION. It could thus be argued that the QPs in these examples are both directly dominated by the S, having been generated in that position by the phrase structure rule for S.

A third consideration that supports the S-claim concerns the distribution of postposed QPs relative to weak vir-phrases and phrases functioning as sentence adverbials. [66] These phrases are generated in a position between the subject NP on the left and the PredPhrase on the right by the proposed phrase structure rule for S. As is illustrated by the sentences in (66)(a) and (b), respectively, a postposed QP can appear between the subject NP and a weak vir-phrase/sentence adverbial. This phenomenon can be explained straightforwardly in terms of the S-claim: the postposed QPs in (66) both occur directly under the S, in the position in which they were generated in deep structure. [67] (The weak vir-phrase in (66)(a) and the AP sentence adverbial in (66)(b) are underlined.)

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(66)(a) Ek is seker dat die mans ALMAL vir haar hulle
I am sure that the man-PLU all for her their
rokery sal opgee.
smoking will up-give
"I'm sure the men will all quit smoking for her sake"

(b) Hy sê dat die kinders ALMAL waarskynlik slaap.
he says that the child-PLU all probably sleep
"He says the children are all probably sleeping"

Let us next consider the specific claim in (63) that postposed QPs in Afrikaans can be generated by the phrase structure rule for PredPhrase (henceforth, the PredPhrase-claim). [68] There are at least four empirical considerations that can be adduced in support of this claim. The first concerns the phenomenon of initial coordination. Since initial coordinations in Afrikaans are possible only between distinct constituents, it follows that a QP that is generated under the PredPhrase should participate in initial coordinations of PredPhrase. This consequence is borne out by the sentence in (67). The PredPhrase conjuncts of the initial coordinate construction in (67) both contain a postposed QP as member. (The conjuncts are underlined.)

(67) Die rektor het gesê dat die studente óf ALMAL
the rector has PAST-say that the student-PLU or all
vandag nog vir die kursus moet inskryf óf ALMAL hulle
today still for the course must in-write or all their
studies moet staak.
study-PLU must stop
"The rector said that the students must either all enroll for the course today, or all suspend their studies"

The second consideration supporting the PredPhrase-claim concerns the rules of PREDPHRASE PREPOSING and PREDPHRASE DELETION. It is predicted in terms of this claim that a QP that is generated under the PredPhrase should be preposable/deletable along with the rest of the PredPhrase in root sentences. The sentences in (68) illustrate that this prediction is correct. PREDPHRASE PREPOSING has applied in the second conjunct of

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(68)(a) and PREDPHRASE DELETION in the second conjunct of (68)(b). In each case the postposed QP almal was preposed/deleted as part of the PredPhrase. Both sentences are acceptable.

(68)(a) Hy het gesê dat die soldate op aandag moet
he has PAST-say that the soldier-PLU on attention must
staan, en ALMAL op aandag gestaan het hulle ____.
stand, and all on attention PAST-stand have they
"He said the soldiers must stand at attention, and stand at attention they all did"

(b) Sy dink waarskynlik dat die kinders ALMAL vroeg
she thinks probably that the child-PLU all early
gaan slaap het, maar hulle het nie ~~ALMAL-vroeg-gaan~~
go sleep have, but they have not ~~*all---early-go*~~
~~slaap-nie~~.
~~*sleep-not*~~
"She probably thinks the children all went to bed early, but they didn't"

A third consideration supporting the PredPhrase-claim concerns a criterion for constituent membership which was discussed in (Oosthuizen 1988: par. 2.3.2.3.3), and which is based on the positions phrases can occupy in pseudo-cleft constructions. In terms of this criterion, the predicate part of a pseudo-cleft construction contains only PredPhrase constituents, while the relative clause part contains only non-PredPhrase constituents. It is consequently predicted that a QP that is generated under the PredPhrase should occur in the predicate part of a pseudo-cleft construction. This prediction is borne out by the pseudo-cleft sentence in (69), the (underlined) predicate part of which contains the postposed QP almal as member. [69]

(69) Wat julle kan doen is om ALMAL vir die meisie 'n present
what you can do is all for the girl a present
te gee.
to give
"What you could do is to all give the girl a present"

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Consider finally the sentences in (70)(a)-(c). The underlined phrases in these sentences - i.e the AP time adverbial in (a), the strong vir-phrase in (b), and the regular indirect object NP in (c) - are all generated by the proposed phrase structure rule for PredPhrase. [70] The fact that the QPs in (70) occur to the right of the phrases in question can be explained straightforwardly in terms of the PredPhrase-claim: these QPs are all directly dominated by the PredPhrase, having been generated in that position in deep structure. [71]

(70)(a) Hy sê dat die gaste gisteraand ALMAL in die hotel geslaap het.
he says that the guest-PLU yesterday-evening all in the hotel PAST-sleep have
"He says the guests all slept in the hotel last night"

(b) Hy beweer dat hulle vir die meisie ALMAL 'n boek gekoop het.
he claims that they for the girl all a book PAST-buy have
"He claims they all bought the girl a book"

(c) Ek weet dat die agente (aan) hom ALMAL 'n huis wil verkoop.
I know that the agent-PLU (to) him all a house want-to sell
"I know the agents all want to sell him a house"

This brings us to the third specific claim in (63), namely the claim that postposed QPs can be generated by the phrase structure rule for VP (henceforth, the VP-claim). [72] There are at least two considerations that could be adduced in support of this claim. The first consideration concerns the phenomenon of initial coordination. It is predicted in terms of the VP-claim that a postposed QP that is generated under the VP should take part in initial coordinations of VP. This prediction is borne out by the sentence in (71). The VP conjuncts of the initial coordinate construction in (71) both contain a postposed QP as member. [73] (The conjuncts are underlined.)

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(71) Hy sê dat julle vanaand óf ALMAL by die huis moet
he says that you this-evening or all by the house must
bly óf ALMAL saam met hom kan gaan fliek.
stay or all together with him can go movie-watch
"He says you can all either stay at home this evening, or go with him to the movies"

The second consideration relates to the distribution of postposed QPs relative to direct object NPs and irregular indirect object NPs. [74] These two types of NPs are generated by the proposed phrase structure rule for VP. As illustrated by the sentences in (72) a postposed QP can occur to the right of the phrases in question. The VP-claim provides a straightforward explanation for this phenomenon: the postposed QPs in (72) are both directly dominated by the VP, occupying the position in which they were generated in deep structure. [75] (The direct object NP in (72)(a) and the irregular indirect object NP in (72)(b) are underlined.)

(72)(a) Hy sê dat hulle daardie meisie ALMAL gegroet het.
he says that they that girl all PAST-greet have
"He says that they all greeted that girl"
(b) Hy beweer dat die mans jou vrou ALMAL 'n klap
he claims that the man-PLU your wife all a smack
wou gee.
PAST-want-to give
"He claims that the men all wanted to smack your wife"

We turn our attention next to the specific positions under the VP, the PredPhrase, and the S in which Afrikaans postposed QPs can be base-generated, that is, the specific postposed positions that are available for these QPs in deep structure. To begin with, let us consider the potential postposed positions under the S. The phrase structure rule for S in Appendix 1 below generates the subject NP, weak vir-phrases, phrases that function as sentence adverbials, and the PredPhrase. It was illustrated in (Oosthuizen 1988: chapter 3) that postposed QPs may occur in the following surface positions relative to these S constituents: [76] (i) to the right of the subject NP; (ii)

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to the left of the PredPhrase; (iii) to the left or the right of weak vir-phrases/sentence adverbials. In terms of the BPH (50) and the general claim (63) these surface positions represent the positions in which postposed QPs are base-generated by the rule for expanding S. To express the distribution of postposed QPs relative to the S constituents in question in deep (hence, surface) structure, the proposed phrase structure rule for S could be modified as in (73). NP_1 in (73) represents the position for subject NPs; and AP, NP_2, PP and QP represent the position for weak vir-phrases, phrases that function as sentence adverbials, and postposed QPs. In terms of the star convention employed in (73), the constituents within the braces are unrestricted with regard to number and relative order. [77]

$$(73)\quad S \longrightarrow NP_1 - \left(\left\{ \begin{matrix} AP \\ NP_2 \\ PP \\ QP \end{matrix} \right\}^{*} \right) - PredPhrase$$

Consider, next, the specific positions under the PredPhrase in which postposed QPs might be generated in deep structure. The phrase structure rule for PredPhrase in Appendix 1 generates strong vir-phrases; regular indirect object NPs (with or without the preposition aan); phrases functioning as manner, time and instrumental adverbials; and the VP. In (Oosthuizen 1988: chapter 3) it was illustrated that postposed QPs may occur in the following surface positions relative to these phrases: [78] (i) to the left of the VP; (ii) to the left of manner/instrumental adverbials; (iii) to the left or the right of time adverbials; (iv) to the left or the right of strong vir-phrases/regular indirect object NPs. In terms of the BPH (50) and the claim (63), these surface positions represent the positions in which postposed QPs are base-generated by the phrase structure rule for PredPhrase. In order to express the distributional facts in question at deep structure level the phrase structure rule for PredPhrase could be modified as in (74). NP_1 and PP_1 in (74) represent the position for strong vir-phrases, and regular indirect object NPs (with or without aan); AP_1, NP_2, and PP_2 represent the position for phrases functioning as time ad-

PP_3 represent the position for phrases func-

tioning as instrumental/manner adverbials; and QP represents the position for postposed QPs.

(74) PredPhrase $\rightarrow$ (QP) - ($\left\{\begin{matrix}NP_1\\PP_1\end{matrix}\right\}$) - ($\left\{\begin{matrix}AP_1\\NP_2\\PP_2\\QP\end{matrix}\right\}^*$) - ($\left\{\begin{matrix}AP_2\\PP_3\end{matrix}\right\}^*$) - VP

Let us finally consider the specific positions under the VP in which postposed QPs might be generated in deep structure. The phrase structure rule for VP in Appendix 1 provides for direct object NPs; irregular indirect object NPs; predicate adjective APs; predicate nominal NPs; phrases functioning as directional and place adverbials; prepositional object NPs; verbs; sentential complements of verbs. A postposed QP may occupy the following surface positions relative to these constituents: [79] (i) to the left of the sentential complement of a verb; (ii) to the left of the verb; (iii) to the left of predicate adjective APs, directional/place adverbials, and prepositional object NPs; (iv) to the left or the right of irregular indirect object NPs; and (v) to the left or (in certain constructions) to the right of direct object NPs and predicate nominal NPs. Given the BPH (50) and the claim (63), these surface positions are projected from the deep structure positions in which postposed QPs are generated by the phrase structure rule for VP. The deep structure (hence, surface) distribution of postposed QPs relative to the VP constituents in question can be expressed by modifying the phrase structure rule for VP as in (75). In (75), NP_1 represents the position for an irregular indirect object NP, the position for a direct object NP (in structures not containing an irregular indirect object NP), and the position for a predicate nominal NP (in structures not containing a direct object NP); AP represents the position for a predicate adjective AP; PP represents the position for prepositional object NPs and for directional and place adverbials; QP represents the position for postposed QPs; NP_2 represents the position for a predicate nominal NP (in structures containing a direct object NP), and the position for a direct object NP (in structures containing an irregular indirect object NP).

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$$(75)\quad VP \longrightarrow (QP) - (NP_1) - (QP) - \left(\left\{ \begin{matrix} AP \\ NP_2 \\ PP \end{matrix} \right\}^{*} \right) - V - (\bar{S})$$

One potentially problematic aspect of rule (75) must be noted here. [80] Following Williams (1977: 19-28) and De Haan (1979: 21-27), it was assumed in (Oosthuizen 1988: par. 2.3.2.2) that VP constituency is determined by, among others, the subcategorisation characteristics of verbs. That is, it was assumed that a constituent is directly dominated by the VP in deep structure if that constituent satisfies the subcategorisation frame of a verb. No postposed QP enters into the subcategorisation frames of verbs (or any other lexical items) in Afrikaans. We have nevertheless just now argued for the claim that the Afrikaans phrase structure rule for VP in Appendix 1 below should be expanded as in (75) to make provision for postposed QPs. Given the validity of this claim, it could be concluded that subcategorisation does not represent a necessary criterion for determining VP membership. It remains to be clarified, though, whether this conclusion is acceptable in the framework of Williams' (1977) theory of phrasing, which formed the basis of the discussion in (Oosthuizen 1988: par. 2.3.2) of deep structure constituent membership in Afrikaans.

To sum up: in this section we discussed a number of empirical considerations that could be adduced in support of the general claim (63) - the claim that Afrikaans postposed QPs are generated in the positions they occupy in Q-FLOAT constructions by the phrase structure rules for S, PredPhrase, and VP. We then discussed the specific positions under S, PredPhrase and VP in which postposed QPs might be generated in deep structure. In terms of the BPH (50), these deep structure positions are reflected in the surface distribution of postposed QPs relative to the various constituents of S, PredPhrase, and VP. Herein lies a major difference between the proposed interpretive analysis of Afrikaans quantifier postposing and an analysis such as the one in (Oosthuizen 1988: chapter 3) which incorporates the assumption (3). The latter analysis requires several movement rules to describe the surface distribution of postposed QPs in Q-FLOAT constructions. No such movement rules are re-

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quired in the interpretive analysis, because the surface positions of postposed QPs are projected from the deep structure positions made available by the phrase structure rules (73)-(75).

Of course, the fact that a particular analysis dispenses with movement rules in favour of an enriched set of phrase structure rules does not in itself necessarily give such an analysis an advantage over an alternative analysis which employs movement rules. Chomsky (1982b: 16) remarks as follows in this regard:

(76) " ... clearly there would be no point in merely shifting the complexity and variety of grammars from one component to another. It has often been assumed that the natural outcome of these developments would be to eliminate the transformational component of the grammar completely. This would indeed be reasonable, if it did not lead to a corresponding or greater proliferation of base systems. Given the extreme simplicity of the transformational component as compared with the rich variety and complexity of base rules, however, a much more natural proposal would be to eliminate the rewriting rules of the base in favor of transformational rules (now, Move α) and the [subsystems of principles of UG - J.O.]. This appears to be a viable prospect, and a very welcome one." [81]

There is an opposite side to the prospect outlined in (76). It clearly makes little sense to eliminate or to simplify a given set of phrase structure rules if this will lead to transformational rules that are incompatible with the concepts and principles of UG. This is exactly what will happen in the case of the Afrikaans movement analysis of quantifier postposing which was set out in (Oosthuizen 1988: chapter 3). On the one hand, the movement analysis entails a simplification of the categorial component, in that the phrase structure rules for S, Pred-Phrase and VP do not have to make provision for postposed QPs. But on the other hand, this analysis requires movement rules that exhibit several empirical and conceptual shortcomings.

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The proposed interpretive analysis, by contrast, employs the phrase structure rules (73) for S, (74) for PredPhrase, and (75) for VP to base-generate postposed QPs in the positions they occupy in surface structure. This analysis furthermore employs the GB interpretive devices which were set out in par. 2 to explain the semantic relation between postposed QPs and the phrases that they modify; these devices were independently motivated for Afrikaans in par. 3.1. In short, the interpretive analysis does not require any special devices to account for the syntactic distribution and the semantic interpretation of postposed QPs. By eliminating the objectionable rules associated with the movement analysis, it would thus be possible to retain, in Chomsky's (1982b:16) words, "the extreme simplicity of the transformational component", clearly a desirable consequence. Against this background, it seems implausible to regard the adoption of the interpretive analysis over the alternative movement analysis as amounting to a mere shifting of complexity from one component of the grammar to another. Admittedly, the phrase structure rules (73) - (75) are somewhat more complex than those employed in the movement analysis in that they make provision for postposed QPs. It could however be argued that this complication of the phrase structure rules is outweighed by the empirical and conceptual advantages of the interpretive analysis, and that it represents a relatively minor flaw when compared with the objections that were raised against the devices of the movement analysis.

An obvious question at this point is whether the positions occupied by postposed QPs in deep and surface structure could be derived from lexical properties and/or other principles of the grammar, instead of just being stipulated in the phrase structure rules (73)-(75). The answer to this question seems to be in the negative. It was pointed out above that Afrikaans postposed QPs do not enter into the subcategorisation frames of lexical items. The structural positions of these QPs thus cannot be regarded as being projected from the lexicon. As far as could be ascertained, GB Theory incorporates no other principles and/or parameters from which the specific positions that are available for postposed QPs could conceivably be derived.

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for instance, there does not appear to be a general principle of grammar which restricts these QPs from occurring to the right of predicate adjective APs, but which allows them to occur to the right of predicate nominal NPs in certain structures. [92] Without necessarily precluding the existence of such a grammatical (or perhaps extragrammatical) principle, it will be assumed here to be an idiosyncratic property of Afrikaans postposed QPs that they are restricted to the specific positions provided for by the proposed phrase structure rules (73)-(75). [93] This assumption is in accordance with Chomsky's (1982a: 31) claim that phrase structure rules serve to express language-particular idiosyncracies that are "not determined by lexical properties and other principles of grammar."

3.3.2 The Overt Anaphor Hypothesis

In the previous section we examined the phrase structure rules by means of which Afrikaans postposed QPs can be generated in Q-FLOAT constructions. We turn our attention now to the semantic interpretation of these QPs.

The OAH (51) holds that postposed QPs represent overt anaphors in Afrikaans. By implication, then, these QPs should conform to the binding principle (9) for anaphors and the GB interpretive devices associated with it, which were set out and illustrated in par. 2 and 3.1. The OAH was briefly illustrated in par. 3.2 with the examples in (52) and (53). The type of Q-FLOAT construction represented by (52) and (53) exhibits the following general characteristics: it contains (i) a finite clause; (ii) a single postposed QP, which forms part of the VP of the finite clause; and (iii) only one potential binder of the QP, viz. the subject NP of the finite clause. It was concluded in par. 3.2 that an analysis which incorporates the OAH (51) makes the correct predictions about the semantic interpretation of postposed QPs in constructions of the type just characterised. In the present section we discuss the empirical and conceptual consequences of the OAH in a number of other Q-FLOAT constructions in Afrikaans. [94]

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The discussion is organised as follows. Par. 3.3.2.1 deals with finite clause constructions containing a single postposed QP which is directly dominated by the Predphrase or the S, and where the only potential binder of the QP is the subject NP of the clause. Par. 3.3.2.2 also deals with finite clause constructions that contain a single postposed QP and a single potential binder of the QP; however, in this case the potential binder is a phrase other than the subject NP of the clause. In par. 3.3.2.3 we turn our attenion to constructions in which the postposed QP occurs in an infinitival clause, with its potential binder occurring outside of the infinitival clause as part of the matrix clause. Constructions containing more than one potential binder of a single postposed QP are discussed in par. 3.3.2.4, and constructions with more than one postposed QP in par. 3.3.2.5.

3.3.2.1 Constructions with QP dominated by PredPhrase or S

This paragraph deals with two types of finite clause constructions: constructions in which the postposed QP is directly dominated by the PredPhrase in S-structure, and constructions in which the QP is directly dominated by the S. In terms of the BPH (50), the positions occupied by the postposed QPs in these constructions represent the positions in which they were generated in deep structure.

Consider, firstly, the sentence in (77)(a). The constituents immediately to the left and to the right of the postposed QP almal - i.e. the AP time adverbial gisteraand and the AP manner adverbial rustig - are both generated by the proposed phrase structure rule (74) for PredPhrase. [85] Taking this to indicate that the QP is directly dominated by the PredPhrase, the structure underlying the embedded sentence in (77)(a) may be represented roughly as in (77)(b).

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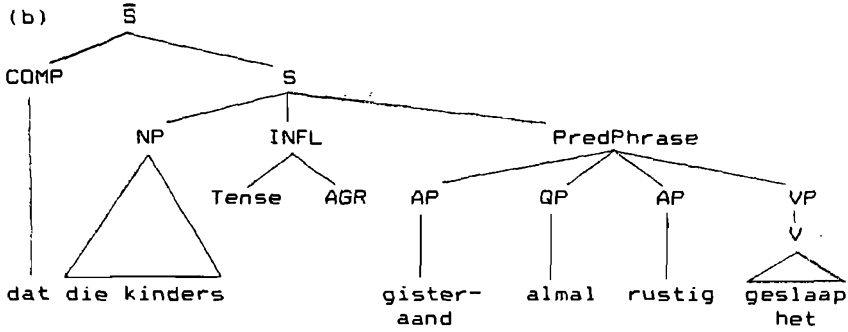
(77)(a) Dit blyk dat die kinders gisteraand ALMAL
it appears that the child-PLU yesterday-evening all
rustig geslaap het.
peacefully PAST-sleep have
"It appears that the children all slept peacefully last night"

(b)



It is a consequence of the OAH (51) that a postposed QP should be subject to the binding principle (9) for anaphors, that is, the QP should be bound in its governing category. S is the governing category for the postposed QP almal in (77)(b) since it is the minimal category containing almal, a governor of almal (i.e. the verb slaap) [86] and a SUBJECT that is accessible to almal (i.e. AGR). The only potential binder of almal is the subject NP die kinders: this NP occurs in an A-position, it c-commands the QP, and it satisfies the plurality requirement which the QP imposes on its antecedent. If almal is coindexed with die kinders, the QP will be bound in its governing category, in accordance with the principle (9). It is accordingly predicted in terms of the interpretive analysis that (77)(a) is acceptable with almal interpreted coreferentially with the NP die kinders. This prediction is correct. If almal and die kinders are assigned different referential indices, however, the principle (9) will be violated, and (77)(a) will be ruled out as ill-formed. The interpretive analysis thus correctly predicts that almal in (77)(a) cannot be interpreted non-coreferentially from the NP die kinders.

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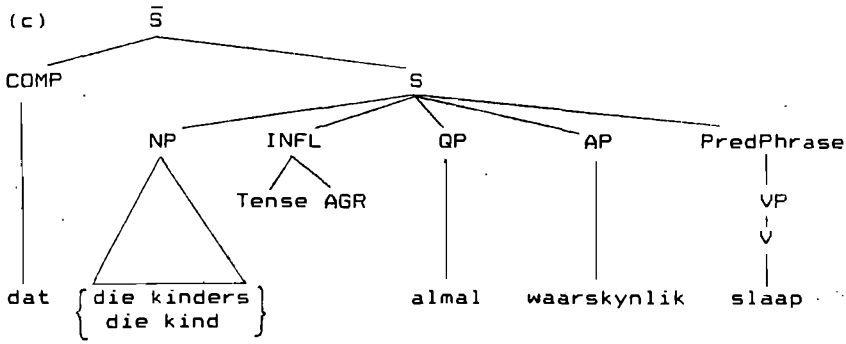
Consider, next, the examples in (78)(a) and (b). The postposed QP almal in these sentences is flanked on both sides by a constituent that is generated by the proposed phrase structure rule (73) for S, viz. the subject NP die kinders/die kind and the AP sentence adverbial waarskynlik. [87] This suggests that the QP is directly dominated by the S, so that the structure underlying the embedded sentences in (78)(a),(b) may be represented roughly as in (78)(c).

(78)(a) Hulle sê dat die kinders ALMAL waarskynlik slaap.
they say that the child-PLU all probably sleep
"They say that the children are probably all sleeping"

(b) *Hulle sê dat die kind ALMAL waarskynlik slaap.
they say that the child all probably sleep

(c)



S in (78)(c) is the minimal category containing the QP almal, a governor of almal (i.e. AGR) [88] and a SUBJECT accessible to almal (i.e. AGR). S is therefore the governing category for almal in which it must be bound. The only potential binder of almal in S is the subject NP. This NP occurs in an A-position and it c-commands the QP. Let us first consider the example in (78)(a), in which the subject of S is the plural count NP die kinders. If almal and die kinders are coindexed, the QP will be bound in its governing category, thereby conforming to the binding principle (9). Thus it is predicted that (78)(a) will be acceptable with almal and die kinders coreferential. This prediction is correct. If almal and die kinders are assigned different referential indices, however, the principle (9) will be violated, and (78)(a) will be ruled out as ill-formed. The

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interpretive analysis therefore correctly predicts that almal cannot be interpreted non-coreferentially from the NP die kinders. Notice that the subject of the matrix clause in (78)(a) - i.e. the plural count pronominal NP hulle - also represents a potential antecedent of the QP almal. However, the QP cannot be coindexed (hence interpreted coreferentially) with this NP. As was pointed out just now, (78)(a) is acceptable only if almal is coindexed with the subject NP die kinders of the embedded sentence. Given that the NP die kinders and the NP hulle are interpreted non-coreferentially, coindexing of the QP with both these NPs will result in almal being disjoint in reference to itself. This possibility of a category simultaneously having distinct antecedents is presumably ruled out by a general principle of LF to the effect that a given category can be assigned only one referential index. [89] Note furthermore that the NPs hulle and die kinders in (78)(a) cannot be interpreted coreferentially. Coindexing of these two NPs will result in die kinders, a referring (R)-expression, being bound by the matrix subject NP hulle, in violation of the binding principle for R-expressions. [90] In short, the binding principle (9) and the two other general principles of UG just mentioned predict that there is only one acceptable interpretation of (78)(a): the QP almal and the NP die kinders are interpreted coreferentially with each other and non-coreferentially with the NP hulle. This prediction is correct.

Let us next consider the example in (78)(b). In this case the subject of the embedded sentence is the singular count NP die kind. The QP cannot be coindexed with die kind, because almal requires an antecedent with the number feature [+plural]. Almal therefore cannot be bound by die kind, leaving the QP free in its governing category. The principle (9) accordingly correctly predicts that (78)(b) will be unacceptable. Note that, as in the case of (78)(a), the subject NP hulle of the matrix clause in (78)(b) represents a potential antecedent of the QP almal. But coindexing of almal and hulle will not affect the unacceptability of (78)(b), since the QP will still be free in its governing category. In other words, it is correctly predicted in terms of the interpretive analysis that (78)(b) will

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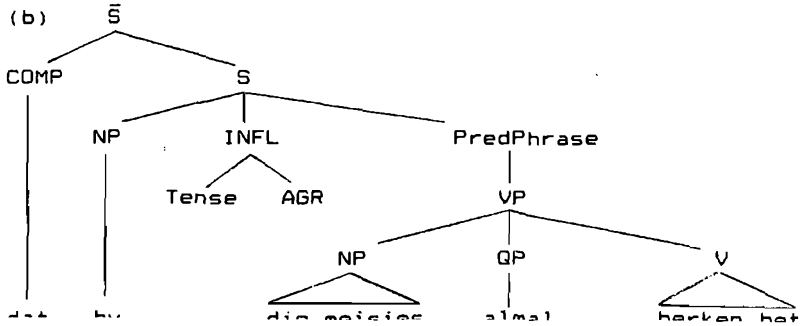
be unacceptable regardless of whether the QP is coindexed with the NP hulle.

3.3.2.2 Constructions with potential binders other than the subject NP

In all the previous examples that were discussed in connection with the OAH (51) - viz. those in (52), (53), (77), and (78) - the postposed QP had as its potential binder the subject NP of a finite clause. In par. 3.3.2.2 we discuss finite clause constructions in which the postposed QP has as its potential binder a constituent other than the subject NP. The potential binders in question are (i) direct object NPs; (ii) predicate nominal NPs; (iii) irregular indirect object NPs; (iv) regular indirect object NPs, with or without the preposition aan/vir; and (v) prepositional object NPs and the NP complements of PPs functioning as weak vir-phrases, place adverbials, directional adverbials, manner adverbials, and instrumental adverbials.

(i) Direct object NPs Consider the sentence in (79)(a). The constituent immediately to the left of the postposed QP almal - i.e. the direct object NP die meisies - is generated by the proposed phrase structure rule (75) for VP.[91] This suggests that the QP in (79)(a) is dominated by the VP, so that the embedded sentence in this example may be represented roughly as in (79)(b).

(79)(a) Ek veronderstel dat hy die meisies ALMAL herken het.
I presume that he the girl-PLU all recognise has
"I take it that he recognised all the girls"



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S in (79)(b) is the minimal category containing the postposed QP almal, a governor of almal (i.e. the verb herken), and a SUBJECT that is accessible to almal (i.e. AGR). S is therefore the governing category for almal. The plural count direct object NP die meisies is a possible binder of almal in S, since it occupies an A-position and it c-commands the QP. Coindexing of almal and die meisies will result in the QP being bound in S, as is required by the binding principle (9). It is accordingly correctly predicted in terms of the interpretive analysis that (79)(a) will be acceptable with the QP and the NP die meisies coreferential. However, if these two categories are assigned different referential indices, the QP will be free in its governing category, and (79)(a) will be ruled out as ill-formed by the principle (9). In other words, it is predicted that almal cannot be interpreted non-coreferentially from the NP die meisies. This prediction is correct. Notice that almal cannot be bound by the subject NP hy in (79)(b), even though this NP represents an argument which c-commands the QP. The reason for this is that the subject NP, in contrast to the direct object NP, does not meet the plurality requirement which almal imposes on its antecedent. Constructions in which both the direct object NP and the subject NP of a finite clause are possible binders of the postposed QP will be discussed in par. 3.3.2.4 below.

In Afrikaans, a direct object NP, especially one having a pronoun or a proper noun as its head, can be optionally preceded by the preposition vir. [92] This is illustrated by the following examples (the direct object NPs are underlined):

(80)(a) Sy het (vir) hulle gesoen.
she has (for) them PAST-kiss
"She kissed them"

(b) Ek weet dat sy (vir) Jan herken het.
I know that she (for) John recognise has
"I know that she recognised John"

Consider now the sentence (81)(a), in which the direct object NP hulle is accompanied by the formative vir. The constituent

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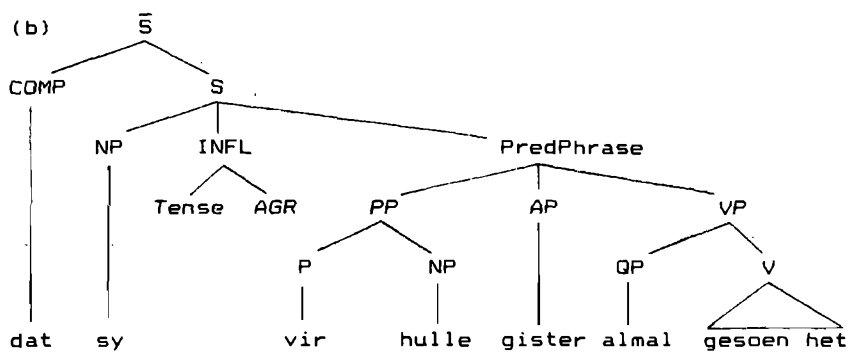
immediately to the right of the direct object NP - i.e. the AP time adverbial gister - is generated by the proposed phrase structure rule (74) for PredPhrase; hence it could be claimed that the sequence vir hulle is directly dominated by the PredPhrase. [93] This claim is incorporated in the structure (81)(b), which may be taken to underlie the embedded sentence in (81)(a). Note that the sequence vir hulle is analysed as a PP in (81)(b) with vir representing the prepositional head of the phrase. The consequences of this analysis will be discussed shortly below. It is furthermore assumed in (81)(b) that the postposed QP almal is directly dominated by the VP. This assumption is made for expository purposes only.

(81)(a) Dit blyk nou dat sy vir hulle gister ALMAL gesoen het.
it appears now that she for them yesterday all PAST-kiss has
"It now appears that she kissed all of them yesterday"



S in (81)(b) is the minimal category containing the QP almal, a governor of almal (i.e. the verb soen), and a SUBJECT accessible to almal (i.e. AGR). S is therefore the governing category for almal in which it must be bound. Hulle is the only plural count NP in (81)(b), hence the only possible antecedent of almal. But almal cannot be bound by the NP hulle, since the latter does not c-command the QP. The QP is therefore free in its governing category, in violation of the principle (9). It is thus predicted that (81)(a) will be unacceptable, irrespective of whether almal is coindexed with the NP hulle. The pre-

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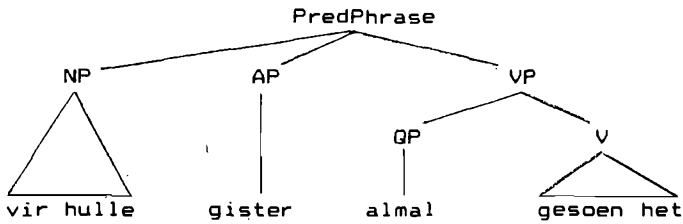
diction is incorrect: (81)(a) is in fact acceptable with almal and hulle coreferential. This sentence thus constitutes a potential counterexample for the interpretive analysis. [94]

One possible way of overcoming the problem posed by (81)(a) is to deny the sequence vir hulle in (81)(b) the syntactic status of a PP. More specifically, it could be proposed that this sequence should be analysed as an NP, with the formative vir representing an (optional) lexically realised Case marker. In terms of this proposal, the structure underlying the relevant PredPhrase in (81)(a) would have roughly the following form:

(82)



The NP vir hulle in (82) qualifies as an A-binder of the QP almal in terms of the definition (10) of X-bound given in par. 2: this NP occupies an A-position, it c-commands the QP and it is coindexable with the QP. Assuming coindexing of almal and vir hulle, the QP will be bound in its governing category, as is required by the binding principle (9). In other words, the proposal to analyse the sequence vir hulle as an NP (where vir = Case marker) makes it possible to explain the acceptability of (81)(a), with almal and vir hulle coreferential. In terms of this proposal (81)(a) could thus be denied the status of an actual counterexample for the interpretive analysis.

It must be noted at this point that a similar problem to the one posed by (81)(a) is found with sentences containing "ordinary" overt anaphors such as the reciprocal mekaar. Consider in this regard the example in (83)(a). The structure underlying the embedded sentence in this example is given in (83)(b). The direct object NP hulle in (83)(a), which is accompanied by the formative vir, occurs immediately to the left of the regular indirect object NP mekaar; the latter NP is contained in a

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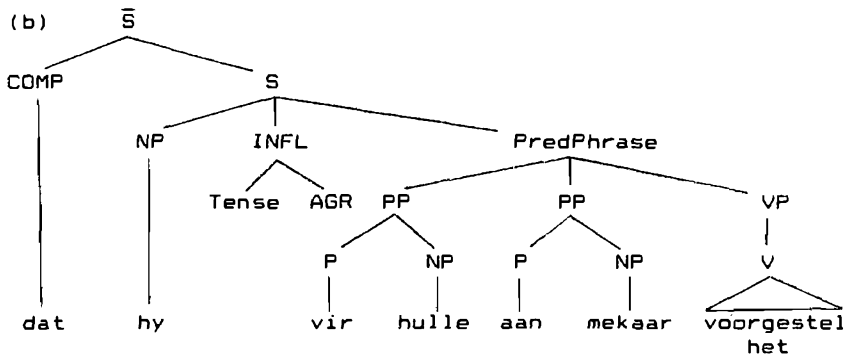
PP with the preposition aan. Since regular indirect object NPs (with or without aan) are generated by the proposed phrase structure rule (74) for PredPhrase, it could be claimed that the sequence vir hulle in (83)(a) is directly dominated by the PredPhrase. [95] This claim is incorporated in the structure (83)(b). Notice that the sequence vir hulle is analysed as a PP in this structure.

(83)(a) Ek weet dat hy vir hulle aan mekaar voorgestel het.
I know that he for them to each-other PAST-introduce has
"I know that he introduced them to each other"



It was argued in par. 3.1 that the semantic interpretation of the reciprocal mekaar is determined by the binding principle (9) and the GB interpretive devices associated with it. In terms of the principle (9) mekaar must be bound in its governing category. S is the governing category for mekaar in (83)(b) since it is the minimal category containing mekaar, a governor of mekaar (i.e. the preposition aan), and a SUBJECT that is accessible to mekaar (i.e. AGR). As was pointed out in par. 3.1, mekaar requires an antecedent with the number feature [+plural]. Hulle is the only plural count NP in (83)(b), hence the only possible antecedent of the reciprocal. Mekaar cannot be bound by the NP hulle, however, because the latter does not c-command the reciprocal. The reciprocal is therefore free in its governing category, in violation of the principle (9). It

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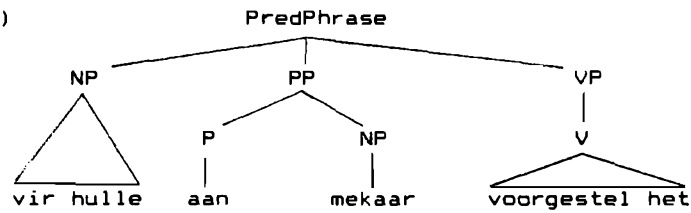
is thus predicted that (83)(a) will be unacceptable. This prediction is incorrect: (83)(a) is in fact acceptable with hulle and mekaar coreferential. (83)(a) therefore constitutes a potential counterexample for those aspects of GB Binding Theory that were set out and illustrated in par. 2 and 3.1.

The problem which (83)(a) poses for GB Binding Theory can be overcome by means of the same proposal that was presented above in an attempt to explain the acceptability of (81)(a). In terms of this proposal the sequence vir hulle in (83)(a) is analysed as an NP, with vir representing a lexically realised Case marker. The structure underlying the relevant PredPhrase in (83)(a) would thus have roughly the following form:

(84)



The NP vir hulle in (84) is a possible binder of the reciprocal mekaar since it occupies an A-position, it c-commands mekaar, and it is coindexable with mekaar. Coindexing of mekaar and vir hulle will result in the reciprocal being bound in its governing category, in accordance with the binding principle (9). Hence the acceptability of (83)(a). By analysing the sequence *vir + direct object NP* as an NP (with vir = Case marker), (83)(a) can thus be denied the status of an actual counterexample.

The proposal to analyse the formative vir which optionally co-occurs with direct object NPs as a Case marker appears to be supported by a number of considerations that are unrelated to the semantic interpretation of overt anaphors. Let us briefly discuss two of these considerations.[96] The first concerns the phenomenon of preposition stranding.[97] This phenomenon can be illustrated with the sentences (85)(b,c) and (86)(b,c), which have been derived from the underlying structures (85)(a) and

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(86)(a), respectively. The PPs met watter man in (85)(b) and vir wie in (86)(b) were both moved into sentence initial position by Wh-MOVEMENT. [98] In the (c) sentences the prepositions met and vir were stranded, that is they were not fronted along with their NP complements, the prepositional object NP watter man and the regular indirect object NP wie. [99] The (b) and (c) sentences are all acceptable.

(85)(a) hy [$_{PP}$ met [$_{NP}$ watter man]] gesels het
he with which man talk has

(b) Met watter man het hy gesels?
with which man has he talk
"To which man did he talk?"

(c) Watter man het hy mee gesels?
which man has he with talk
"Which man did he talk to?"

(86)(a) hy die boek [$_{PP}$ vir [$_{NP}$ wie]] wil leen
he the book for whom wants-to lend

(b) Vir wie wil hy die boek leen?
for whom wants-to he the book lend
"To whom does he want to lend the book?"

(c) Wie wil hy die boek voor leen?
whom wants-to he the book for lend
"Whom does he want to lend the book to?"

Suppose that the formative vir which optionally co-occurs with direct object NPs in Afrikaans (cf. the examples in (80)) is analysed as the head of a PP. As a consequence, it should be possible for the object NP of this formative to be fronted on its own, that is to say, it should be possible for vir to be stranded. This consequence is not borne out by the facts, as is illustrated by the sentences in (87). The (b) and (c) sentences were both derived by means of Wh-MOVEMENT from the underlying structure (87)(a). Note that the direct object NP wie in (87)(a) is contained in a PP having vir as its head. Vir was fronted along with wie in the derivation of (87)(b), but was stranded in the derivation of (87)(c). The latter sentence is unacceptable.

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(87)(a) Sy [$_{PP}$ vir [$_{NP}$ wie]] gesoen het
she for whom PAST-kiss has

(b) Vir wie het sy gesoen?
for whom has she PAST-kiss
"Whom did she kiss?"

(c) *Wie het sy voor gesoen?
whom has she for PAST-kiss

The fact that the vir that co-occurs with Afrikaans direct object NPs cannot be stranded can be explained straightforwardly by the proposal that this vir represents a Case marker, rather than the head of a PP. In terms of this proposal, (87)(a) contains only one wh-phrase to which Wh-MOVEMENT can be applied, viz. the NP vir wie. This correctly implies that wie cannot be fronted without being accompanied by vir, as is illustrated by the difference in acceptability between (87)(b) and (c).

We turn now to the second consideration which could be adduced in support of analysing vir as a Case marker when it co-occurs with direct object NPs. A consequence of this analysis is that the sequence *vir + direct object NP* should be preposable by NP MOVEMENT in the derivation of passive sentences. This consequence is borne out by the examples (88)(b) and (89)(b), which have been derived from the underlying structures (88)(a) and (89)(a) respectively. In each case the formative vir was moved along with the direct object NP - i.e. Jan in (88)(b) and hulle in (89)(b) - into an empty NP position, yielding an acceptable passive sentence. This could be taken as support for the proposal that the *vir + direct object NP* sequence represents an NP, with vir analysed as an (optional) Case marker. Notice that (88)(c) and (89)(c), the vir-less analogues of the passive (b) sentences, are also acceptable.

(88)(a) [$_{NP}$ e] [(vir) Jan] geslaan is dat die bloed loop
(for) John PAST-hit be that the blood flows

(b) Vir Jan is geslaan dat die bloed loop.
for John be PAST-hit that the blood flows
"The blood really flowed when John was hit"

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(c) Jan is geslaan dat die bloed loop.
John be PAST-hit that the blood flows
"The blood really flowed when John was hit"

(89)(a) [$_{NP}$ e] al lank [(vir) hulle] gesoek word deur
already long (for) them PAST-seek be by
die polisie
the police
(b) Vir hulle word al lank gesoek deur die polisie.
for them be already long PAST-seek by the police
"They've been wanted for a long time by the police"
(c) Hulle word al lank gesoek deur die polisie.
they be already long PAST-seek by the police
"They've been wanted for a long time by the police"

Summarising, it was illustrated above that sentences like (81)(a) and (83)(a) represent potential counterexamples for the binding principle (9) and the GB interpretive devices that are associated with it. These sentences can be denied the status of actual counterexamples by the proposal to analyse the formative vir which optionally co-occurs with direct object NPs as a Case marker, rather than as the head of a PP. This proposal seems to be supported by factual considerations that are completely unrelated to the semantic interpretation of overt anaphors, specifically, by the facts of preposition stranding and passive sentence formation illustrated in (87)-(89).

(ii) Predicate nominal NPs Consider the example (90)(a). The structure underlying the embedded sentence in this example is given in (90)(b). The postposed QP almal in (90)(a) occurs between the predicate nominal NP daardie karakters and the copular verb was. The latter two constituents are generated by the proposed phrase structure rule (75) for VP, hence it could be claimed that the QP is directly dominated by the VP. [100] This claim is incorporated in the underlying structure (90)(b).

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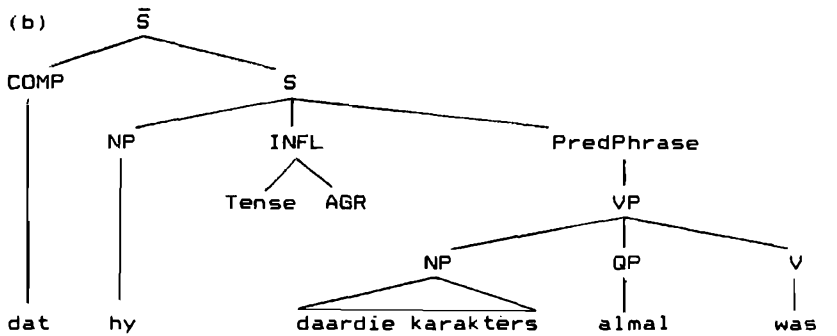
(90)(a) Dit blyk nou dat hy daardie karakters ALMAL was
it appears now that he those character-PLU all PAST-be
(in die eenmansvertoning).
(in the one-man-show)
"It now appears that he had been all those characters
(in the one-man-show)"

(b)



S in (90)(b) contains a governor of the QP almal, viz. the copular verb was, as well as an accessible SUBJECT, viz. AGR. S is therefore the governing category for almal in which it must be bound. Assuming coindexing, the QP is bound in S by the predicate nominal NP daardie karakters, as is required by the binding principle (9). Hence the acceptability of (90)(a) with almal and daardie karakters coreferential. If almal and daardie karakters are not coindexed, the QP will be free in its governing category, in violation of the principle (9). The interpretive analysis accordingly correctly predicts that almal in (90)(a) cannot be interpreted non-coreferentially from the NP daardie karakters.

(iii) Irregular indirect object NPs Consider the example (91)(a). The constituents immediately to the left and to the right of the postposed QP almal - i.e. the irregular indirect object NP die motors and the direct object NP 'n stamp - are both generated by the phrase structure rule (75) for VP.[101] Taking this as an indication that the QP is directly dominated by the VP, the structure underlying the embedded sentence in (91)(a) may be represented roughly as in (91)(b).

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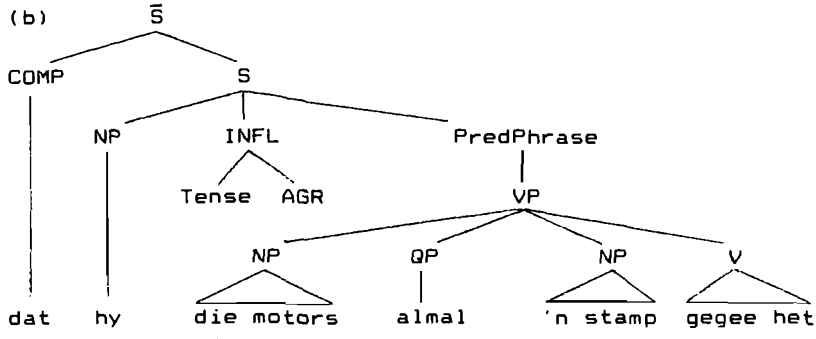
(91)(a) Dit is duidelik dat hy die motors ALMAL 'n stamp
it is clear that he the car-PLU all a dent
gegee het.
PAST-give has
"It's clear that he gave all the cars a dent"

(b)



The acceptability of (91)(a), with the QP interpreted coreferentially *with the irregular indirect object* NP *die motors*, is correctly predicted by the interpretive analysis. S in (91)(b) is the governing category for the QP almal, since it contains an accessible SUBJECT (i.e. AGR), as well as a governor of almal (i.e. the verb gee). If almal is coindexed with die motors the QP will be bound in its governing category, as is required by the binding principle (9). If almal and die motors are not coindexed, however, the QP will be free in its governing category, and (91)(a) will correctly be ruled out as ill-formed by the principle (9).

(iv) Regular indirect object NPs Consider the example in (92)(a). The QP almal in this example is flanked on both sides by a constituent that is generated by the phrase structure rule (74) for PredPhrase, namely the regular indirect object NP die meisies and the AP time adverbial gister. This suggests that the QP is directly dominated by the PredPhrase, so that the structure underlying the embedded sentence in (92)(a) may be represented roughly as in (92)(b).

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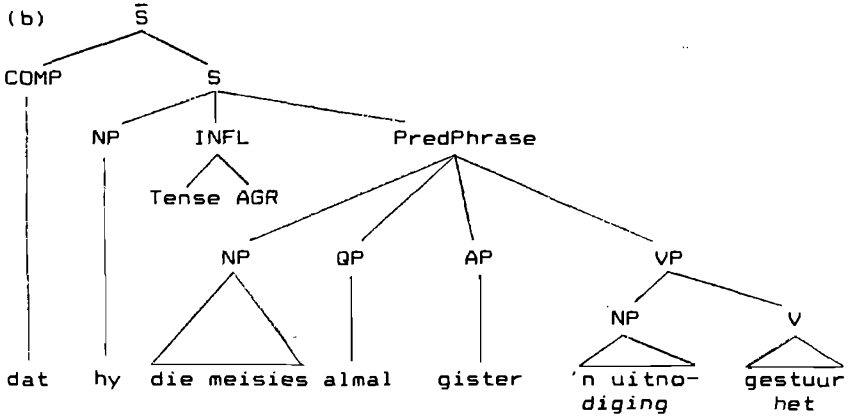
(92)(a) Dit blyk nou dat hy die meisies ALMAL gister 'n
it appears now that he the girl-PLU all yesterday an
uitnodiging gestuur het.
invitation PAST-send has
"It now appears that he sent all the girls an invitation yesterday"

(b)



S is the governing category for the QP almal in (92)(b), since it is the minimal category containing almal, a governor of almal (i.e. the verb stuur), and a SUBJECT that is accessible to almal (i.e. AGR). Assuming that almal is coindexed with the regular indirect object NP die meisies, the QP is bound in S. This is in accordance with the binding principle (9). Hence it is predicted that (92)(a) will be acceptable with almal and die meisies coreferential. The prediction is correct. Notice that the NP die meisies is the only possible binder of the QP in (92)(b): neither of the other two potential binders, viz. the subject NP hy and the direct object NP 'n uitnodiging, satisfies the plurality requirement of almal. If almal and die meisies are not coindexed, the QP will accordingly be free in its governing category and (92)(a) will correctly be ruled out as ill-formed by the principle (9).

Consider next the example in (93)(a). This sentence is identical to the one in (92)(a), except that the QP occurs directly after a regular indirect object NP that is accompanied by the preposition vir, a so-called strong vir-phrase.[102] The struc-

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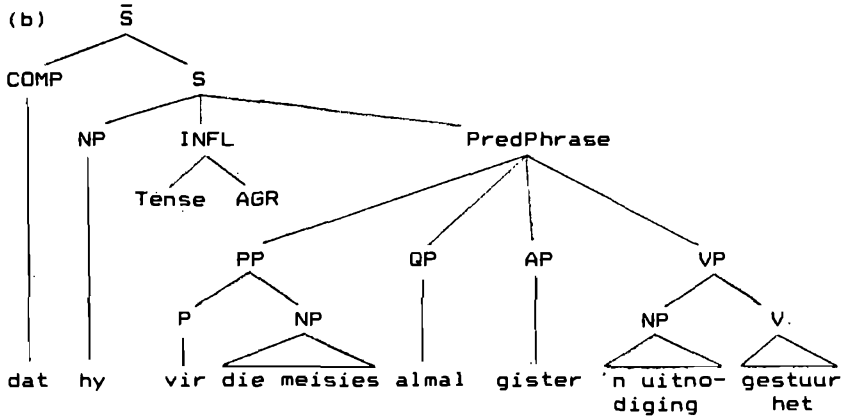
ture underlying the embedded sentence in (93)(a) is given in (93)(b).

(93)(a) Dit blyk nou dat hy vir die meisies ALMAL gister
it appears now that he for the girl-PLU all yesterday
'n uitnodiging gestuur het.
an invitation PAST-send has
"It now appears that he sent all the girls an invitation yesterday"

(b)



S in (93)(b) is the minimal category containing the QP almal, a governor of almal (i.e. the verb stuur), and a SUBJECT that is accessible to almal (i.e. AGR). S is therefore the governing category for almal in which it must be bound. Die meisies is the only plural count NP in (93)(b), hence the only possible antecedent of almal. Almal cannot be bound by the NP die meisies, however, since the latter does not c-command the QP. Thus the QP is free in its governing category, in violation of the binding principle (9). It is therefore predicted in terms of the interpretive analysis that (93)(a) is unacceptable, irrespective of whether almal is coindexed with die meisies. The prediction is incorrect: (93)(a) is in fact acceptable with almal interpreted coreferentially with die meisies. This sentence thus constitutes a potential counterexample for the interpretive analysis. [103]

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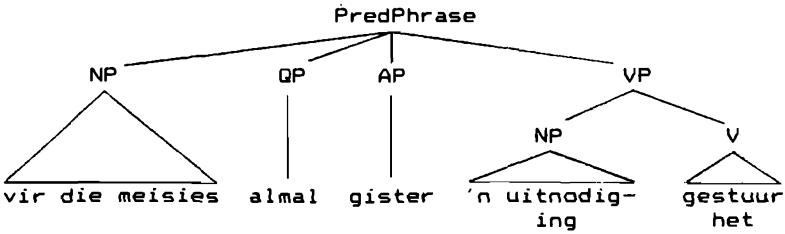
It was proposed in section (i) above that the formative vir which optionally co-occurs with direct object NPs in Afrikaans should be analysed as a Case marker, rather than as the head of a PP. One possible way of overcoming the problem posed by (93)(a) is to extend this proposal to the vir which optionally co-occurs with regular indirect object NPs in so-called double object constructions. [104] That is, it could be proposed that the sequence vir die meisies in (93)(a) should be analysed as an NP, with vir representing a lexically realised Case marker. In terms of this proposal, the structure underlying the relevant PredPhrase in (93)(a) would have roughly the following form:

(94)



The NP vir die meisies in (94) is a possible binder of the QP almal, since it occurs in an A-position, it c-commands the QP, and it is coindexable with the QP. Assuming coindexing of almal and vir die meisies, the QP will be bound in its governing category in accordance with the principle (9). In other words, the proposal to analyse the sequence vir die meisies as an NP (where vir = Case marker) makes it possible to explain the acceptability of (93)(a), with almal and vir die meisies interpreted coreferentially. In terms of this proposal, then, (93)(a) can be denied the status of an actual counterexample for the interpretive analysis.

The problem posed by (93)(a) is also found with sentences containing "ordinary" overt anaphors like the reciprocal mekaar. This can be illustrated with the sentence in (95)(a), in which the direct object NP mekaar occurs immediately after the regular indirect object NP hulle. The structure underlying the embedded sentence in (95)(a) is given in (95)(b). It is assumed

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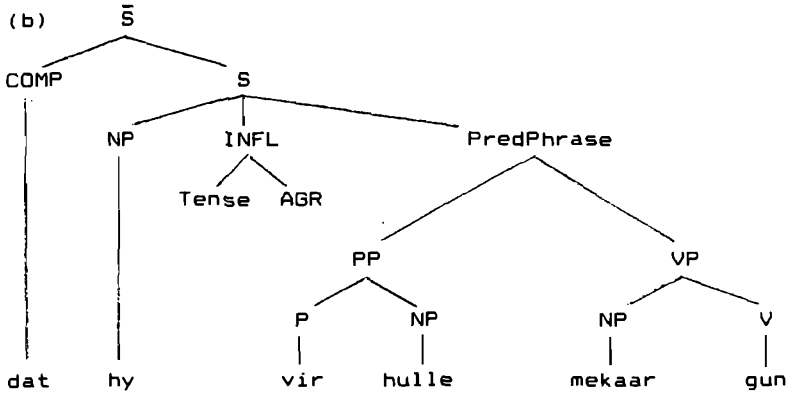
in this structure that the vir accompanying the NP hulle forms the head of a PP; we return to this assumption shortly below.

(95)(a) Ek is seker dat hy vir hulle mekaar gun.
I am sure that he for them each-other grants
"I'm sure he feels they deserve each other"

(b)



The reciprocal mekaar must be bound in its governing category in terms of the principle (9). S is the governing category for mekaar in (95)(b), since it is the minimal category containing mekaar, a governor of mekaar (i.e. the verb gun) and a SUBJECT that is accessible to mekaar (i.e. AGR). Hulle is the only NP in (95)(b) that satisfies the plurality requirement of mekaar, hence the only possible antecedent of the reciprocal. Mekaar cannot be bound by the NP hulle, however, since this NP does not c-command the reciprocal. Mekaar is therefore free in its governing category, in violation of the principle (9). It is accordingly predicted that (95)(a) will be unacceptable. This prediction is incorrect: (95)(a) is in fact acceptable with hulle and mekaar coreferential. This sentence thus constitutes a potential counterexample for GB Binding Theory, specifically for the principle (9) and the devices associated with it.

The problem which (95)(a) poses for GB Binding Theory can be overcome if the formative vir which optionally accompanies regular indirect object NPs in double object constructions is analysed as a Case marker, rather than as the head of a PP. In

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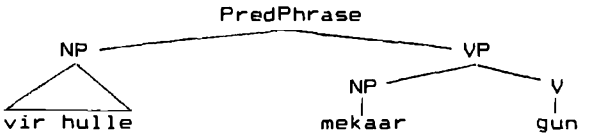
terms of this analysis, the structure underlying the relevant PredPhrase in (95)(a) would have roughly the form (96), with the sequence vir hulle representing an NP.

(96)



The NP vir hulle in (96) is a possible binder of the reciprocal mekaar, since it occupies an A-position, it c-commands mekaar, and it is coindexable with mekaar. Coindexing of mekaar and vir hulle will result in the reciprocal being bound in its governing category, in accordance with the binding principle (9). Hence the acceptability of (95)(a) with vir hulle and mekaar interpreted coreferentially. By analysing the sequence vir hulle as an NP (with vir = Case marker), (95)(a) can thus be denied the status of an actual counterexample.

The question now arises whether there are any independent considerations - i.e. considerations that are unrelated to the semantic interpretation of overt anaphors - that could be adduced in support of the proposal that the formative vir represents a Case marker when it co-occurs with a regular indirect object NP in double object constructions. One such consideration concerns the phenomenon of preposition stranding. [105] It was illustrated in section (i) above that vir may be stranded when it accompanies a regular indirect object NP which occurs to the right of the direct object NP (cf. the examples (86)). The vir which accompanies the regular indirect object NP in double object constructions may not be stranded, however. This can be illustrated with the sentences in (97)(b) and (c), both of which have been derived from the underlying structure (97)(a) by means of Wh-MOVEMENT. [106] The sequence vir wie is analysed as a PP in (97)(a) with vir representing the prepositional head of the phrase. Vir was fronted along with the regular indirect object NP wie in the derivation of (97)(b), but was stranded in the derivation of (97)(c). The latter sentence is unacceptable. [107]

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(97)(a) hy [$_{PP}$ vir [$_{NP}$ wie]] die boek wil leen
he for whom the book wants-to lend

(b) Vir wie wil hy die boek leen?
for whom wants-to he the book lend
"To whom does he want to lend the book?"

(c) ?*Wie wil hy voor die boek leen?
whom wants-to he for the book lend

The proposal to analyse vir as a Case marker when it co-occurs with a regular indirect object NP in double object constructions provides a straightforward explanation of the unacceptability of (97)(c). In terms of this proposal, (97)(a) contains only one wh-phrase to which Wh-MOVEMENT can be applied, namely the NP vir wie. As a consequence, wie cannot be preposed on its own, as is illustrated by the difference in acceptability between (97)(b) and (c).

Summarising, the facts of preposition stranding illustrated in (97) appear to provide support for the proposal that the sequence *vir + regular indirect object NP* represents an NP in double object constructions (with vir = Case marker). Given this proposal, the sentences (93)(a) and (95)(a) can be denied the status of actual counterexamples for the principle (9) and the GB interpretive devices associated with it.

Up to now, the discussion in this section has focussed on double object constructions, that is, constructions in which the phrase functioning as a regular indirect object occurs to the *left* of the direct object NP (cf. the examples in (92)(a), (93)(a), (95)(a), and (97)(a)). NPs which function as regular indirect objects may also occur to the *right* of the direct object NP, but in such cases the indirect object NP must be contained in a PP with the preposition vir (or aan) as its head. This can be illustrated with the sentence in (98) in which the indirect object NP die meisies is preceded by the direct object NP 'n uitnodiging; the preposition accompanying the indirect object NP is obligatory. [108]

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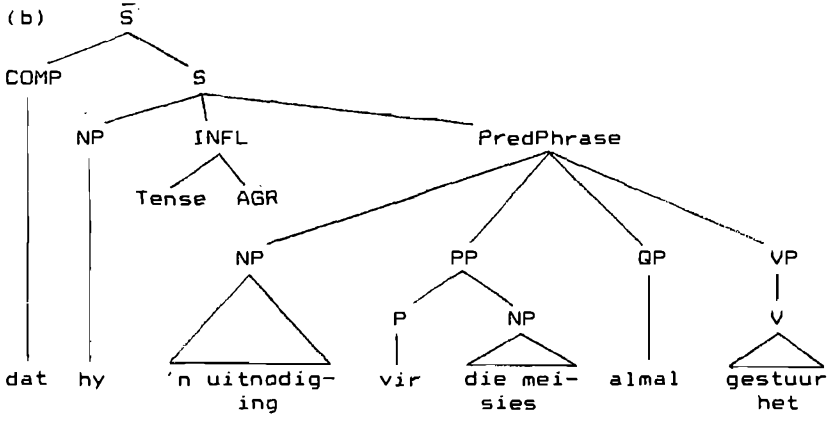
(98) Dit blyk nou dat hy 'n uitnodiging *(vir) die meisies
*it appears now that he an invitation *(for) the girl-PLU*
gestuur het.
PAST-send has
"It now appears that he sent an invitation to the girls"

Consider now the sentence in (99)(a). This sentence is structurally identical to the one in (98) except for the occurrence of the postposed QP almal immediately after the NP die meisies functioning as indirect object. Taking the latter phrase to be contained in a PP with vir as its head, the structure underlying the embedded sentence in (99)(a) may be represented roughly as in (99)(b). [109]

(99)(a) *Dit blyk nou dat hy 'n uitnodiging vir die meisies
it appears now that he an invitation for the girl-PLU
ALMAL gestuur het.
all PAST-send has

(b)



The unacceptability of (99)(a) can be explained as follows in terms of the proposed interpretive analysis. S in (99)(b) is the governing category for the QP almal: it is the minimal category containing almal, a governor of almal (i.e. the verb stuur), and a SUBJECT that is accessible to almal (i.e. AGR). Die meisies is the only plural NP in (99)(b), hence the only possible antecedent of almal. But this NP cannot bind the QP, since it does not c-command the QP. Almal is thus free in its

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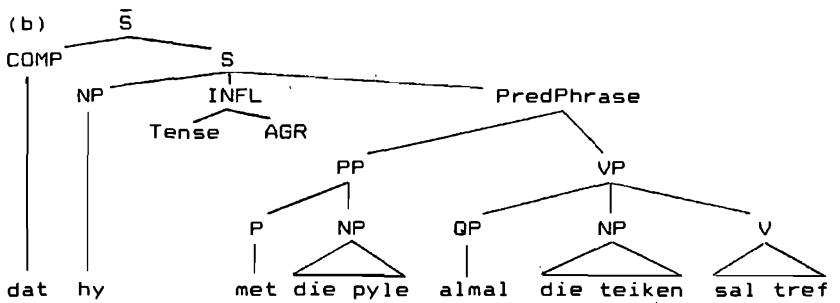
governing category, in violation of the binding principle (9). (99)(b) is accordingly correctly ruled out as ill-formed. In short, then, a postposed QP cannot be bound by an NP functioning as indirect object in constructions like (99)(b), that is, in constructions where the indirect object NP is contained in a PP which occurs to the right of the direct object NP.

(v) Other potential binders The proposed interpretive analysis correctly predicts that a postposed QP may be bound in its governing category by an NP functioning as a direct object, a predicate nominal, an irregular indirect object, or a regular indirect object in finite clause constructions. This was illustrated in sections (i)-(iv) above. In this final section of par. 3.3.2.2 we turn our attention to a number of other NPs which might conceivably serve as binders of a postposed QP in finite clauses. Specifically, we will examine whether a postposed QP may be bound by a prepositional object NP, and by the NP complement of PPs functioning as weak *vir*-phrases, place adverbials, directional adverbials, manner adverbials, or instrumental adverbials. To start, consider the sentence (100)(a). The postposed QP *almal* in this sentence occurs in a position between the PP instrumental adverbial *met die pyle* and the direct object NP *die teiken*. The structure underlying the embedded sentence in (100)(a) may be represented roughly as in (100)(b). [110]

(100)(a) *Ek is seker dat hy met die pyle ALMAL die teiken sal tref.
I am sure that he with the arrow-PLU all the target will hit

(b)



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S in (100)(b) is the *minimal category* containing the QP almal, a governor of almal (i.e. the verb tref) and a SUBJECT that is accessible to almal (i.e. AGR). S is therefore the governing category for almal in which it must be bound. The NP die pyle which forms part of the PP instrumental adverbial is the only plural NP in (100)(b), hence the only possible antecedent of the QP. Almal cannot be bound by the NP die pyle, however, because the NP does not c-command the QP. The QP is consequently free in its governing category, in violation of the binding principle (9). It is thus predicted in terms of the interpretive analysis that (100)(a) will be unacceptable, irrespective of whether almal and die pyle are interpreted coreferentially. This prediction is correct.

Consider next the sentences (101)(a)-(e), in which the postposed QP almal occurs immediately after a weak vir-phrase, a prepositional object NP, a PP place adverbial, a PP directional adverbial, and a PP manner adverbial, respectively. These sentences are all unacceptable. (The relevant PPs are underlined.)

(101)(a) *Ek is seker dat hy vir sy vriende ALMAL die
I am sure that he for his friend-PLU all the
rokery sal opgee.
smoking will up-give

(b) *Ek is seker dat hy na die voorstelle ALMAL sal
I am sure that he to the proposal-PLU all will
luister.
listen

(c) *Ek weet dat hy op die tafels ALMAL geklim het.
I know that he on the table-PLU all PAST-climb has

(d) *Hy sê dat die bende in die rigtings ALMAL
he says that the gang in the direction-PLU all
laat spat het.
let scoot has

(e) *Ek weet dat hy die probleem op daardie maniere
I know that he the problem on those manner-PLU
ALMAL probeer oplos het.
all try solve has

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The unacceptability of the sentences in (101) can be explained as follows in terms of the interpretive analysis. In each case the only possible antecedent of the QP almal is the plural NP which forms part of the underlined PP - the NPs sy vriende in (101)(a), die voorstelle in (101)(b), die tafels in (101)(c), die riqtings in (101)(d) and daardie maniere in (101)(e). Almal cannot be bound by any of these NPs, however, since none of them c-commands the QP which follows it. The QPs are therefore all free in their governing categories in violation of the binding principle (9). Hence the unacceptability of the sentences in (101)(a)-(e).

To sum up: it is stipulated in the definition (10) of X-bound in par. 2 that a category β must c-command the category α which it binds. An NP which forms part of a PP does not c-command any category occurring outside of that PP, which means that such an NP does not qualify as a possible binder of α. It is accordingly predicted in terms of the interpretive analysis that a postposed QP cannot be bound by a prepositional object NP or by an NP that is dominated by a PP functioning as an instrumental adverbial, a weak vir-phrase, a place adverbial, a directional adverbial, or a manner adverbial. This prediction is correct, as is illustrated by the unacceptability of the sentences in (100)(a) and (101).

3.3.2.3 Infinitival constructions

In this paragraph we discuss constructions in which the postposed QP forms part of an infinitival clause. Consider firstly the sentences in (102)(a,b). The structure underlying these two sentences may be represented roughly as in (102)(c). [111] Belowe in (102)(a,b) is a verb of subject control. [112] This means that the subject NP PRO of the infinitival clause is controlled by, hence coindexed with, the main clause subject NP hulle/sy. The coreferential relation between these two NPs is expressed by means of the subscript *i* in (102)(c).

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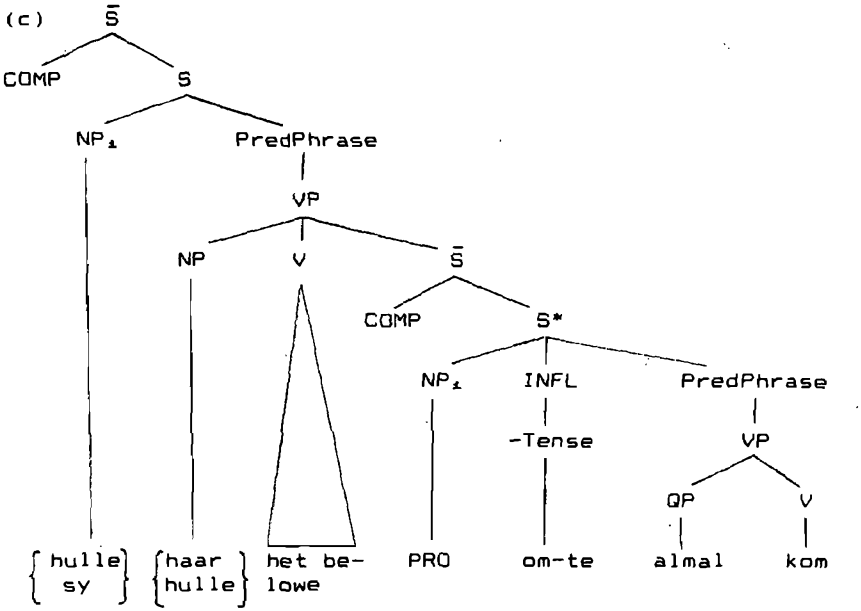
(102)(a) Hulle het haar belowe om ALMAL te kom.
they have her promise all to come
"They promised her that they would all come"

(b) *Sy het hulle belowe om ALMAL te kom.
she has them promise all to come

(c)



S* in (102)(c) is the minimal category containing the post-posed QP almal, a governor of almal (i.e. the verb kom), and a SUBJECT that is accessible to almal (i.e. the subject NP PRO). S* is therefore the governing category for almal in which it must be bound. The only potential binder of almal in S* is the NP PRO. This NP occurs in an A-position and it c-commands the QP. Suppose, on the one hand, that the NP PRO is controlled by the main clause plural subject NP hulle as in (102)(a). PRO has the number feature [+plural] in this case, so that it qualifies as a possible antecedent of the QP almal. Coindexing of almal and the NP PRO will therefore result in the QP being bound in its governing category, in accordance with the binding principle (9). It is accordingly predicted in terms of the interpretive analysis that (102)(a) will be acceptable with the QP interpreted coreferentially with the NP PRO, and hence with the main clause subject NP hulle. The prediction is cor-

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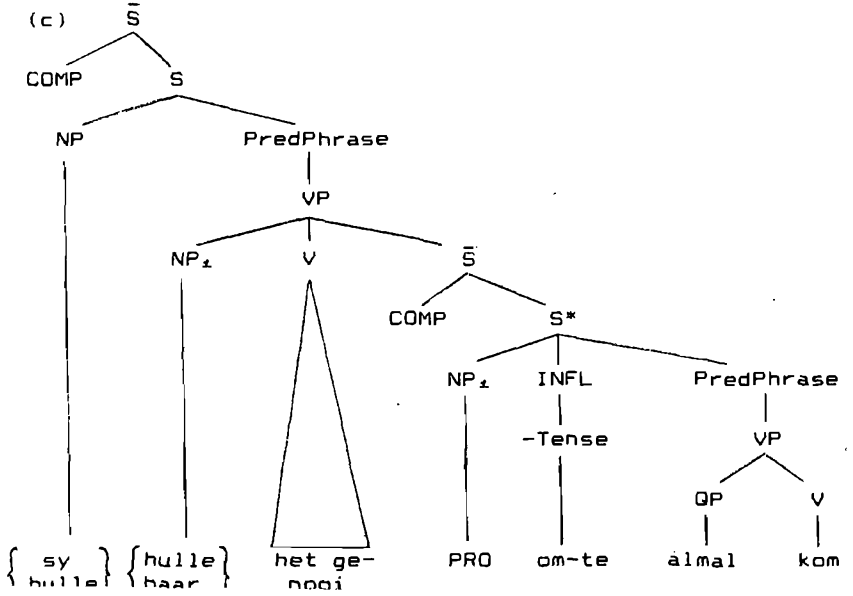
rect. Suppose, on the other hand, that the NP PRO in S* is controlled by the main clause singular subject NP sy as in (102)(b). In this case PRO is not a possible binder of the QP, since it does not meet the plurality requirement which almal imposes on its antecedent. The QP is thus free in its governing category, in violation of the principle (9). Hence it is correctly predicted that (102)(b) will be unacceptable, irrespective of whether the QP is interpreted coreferentially with the main clause plural direct object NP hulle.

Consider, secondly, the sentences in (103)(a) and (b). (103)(c) roughly represents the structure underlying these two sentences. Nooi in (103)(a,b) is a verb of object control; that is, the subject NP PRO of the infinitival clause is controlled by, hence coindexed with, the main clause direct object NP hulle/haar. In (103)(c) the coreferential relation between the NPs PRO and hulle/haar is expressed with the subscript *i*.

(103)(a) Sy het hulle genooi om ALMAL te kom.
she has them PAST-invite all to come
"She invited them all to come"

(b) *Hulle het haar genooi om ALMAL te kom.
they have her PAST-invite all to come

(c)



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S* in (103)(c) is the governing category for the postposed QP almal: it is the minimal category containing almal, a governor of almal (i.e. the verb kom) and a SUBJECT accessible to almal (i.e. the subject NP PRO). By the principle (9) almal must be bound in S*. The QP can be bound by the NP PRO in the case of (103)(a). This NP occupies an A-position, it c-commands the QP and it also represents a possible antecedent of the QP by virtue of being controlled by the main clause plural direct object NP hulle. Assuming coindexing of the QP and the NP PRO, the principle (9) will thus be satisfied. It is accordingly predicted in terms of the interpretive analysis that (103)(a) is acceptable with the QP interpreted coreferentially with the NP PRO, and hence with the main clause direct object NP hulle. This prediction is correct. In the case of (103)(b) the NP PRO is controlled by the main clause singular direct object NP haar, so that it does not represent a possible binder of the QP. The QP is therefore free in its governing category S*, in violation of the principle (9). Hence the unacceptability of (103)(b).

Consider, thirdly, the sentence in (104)(a). The structure underlying this sentence may be represented as in (104)(b). Kom in (104)(a) is an intransitive verb. Almal thus represents a postposed QP, rather than the NP complement of kom. Note that (104)(b) does not contain an antecedent controlling the subject NP PRO of the infinitival clause. The PRO is accordingly arbitrary in reference, that is, indefinite in interpretation.

(104)(a) Dit is onmoontlik om ALMAL te kom.
it is impossible all to come
"It is impossible to all come"

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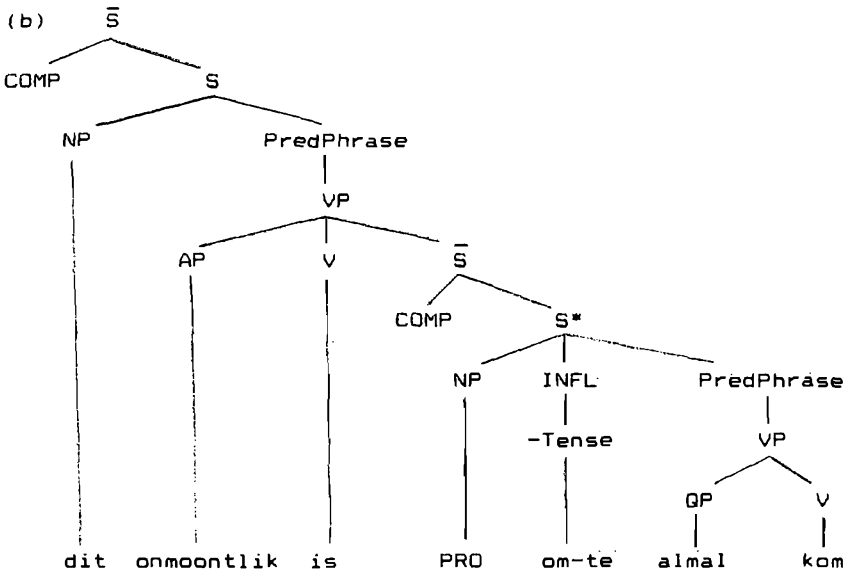

The governing category for the postposed QP almal in (104)(b) is S*: it contains a governor of almal (i.e. the verb kom), as well as an accessible SUBJECT (i.e. the subject NP PRO). The NP PRO is a potential binder of the QP. This NP occurs in an A-position and it c-commands the QP. The NP PRO is furthermore a possible antecedent of almal, since it can have the plural *indefinite interpretation "for some persons x"*. Thus, assuming coindexing of the QP and the PRO, the QP will be bound in its governing category, in accordance with the binding principle (9). Hence it is predicted in terms of the interpretive analysis that (104)(a) will be acceptable with almal interpreted coreferentially with the arbitrary plural subject NP PRO of the infinitival clause. This prediction is correct.

Consider, finally, the sentences in (105)(a) and (b). (105)(c) *roughly represents the structure underlying these sentences.* Vir is assumed here to be a prepositional complementiser. [113]

(105)(a) Sy is gretig vir hulle om ALMAL te kom.
she is eager for them all to come
"She's eager that they should all come"

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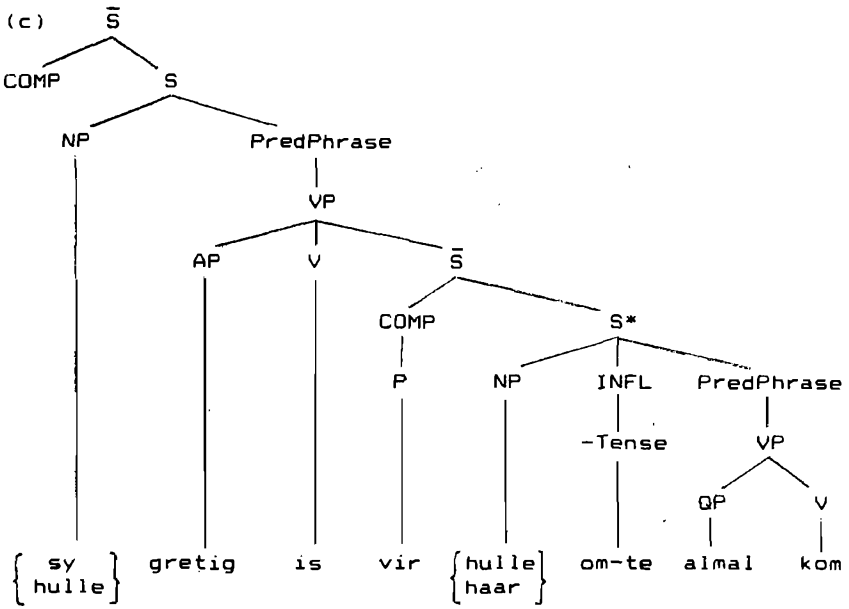
(b) *Hulle is gretig vir haar om ALMAL te kom.
they are eager for her all to come

(c)



S* in (105)(c) is the minimal category containing the post-posed QP almal, a governor of almal (i.e. the verb kom), and a SUBJECT accessible to almal (i.e. the subject NP hulle/haar). S* is therefore the *governing category for* almal in which it must be bound. The only potential binder of almal in S* is the subject NP (i.e. hulle in (105)(a) and haar in (105)(b)). This NP occurs in an A-position, and it c-commands the QP. Suppose, on the one hand, that the subject of S* is the singular count NP haar as in (105)(b). The QP cannot be coindexed with haar, since almal requires an antecedent with the number feature [+plural]. Almal therefore cannot be bound by haar, leaving the QP free in its governing category. The binding principle (9) accordingly correctly predicts that (105)(b) will be unacceptable. Suppose, on the other hand, that the subject of S* is the plural count NP hulle as in (105)(a). If almal is coindexed with hulle, the QP will be bound in its governing category. This is in accordance with the principle (9). It is thus predicted in terms of the interpretive analysis that (105)(a)

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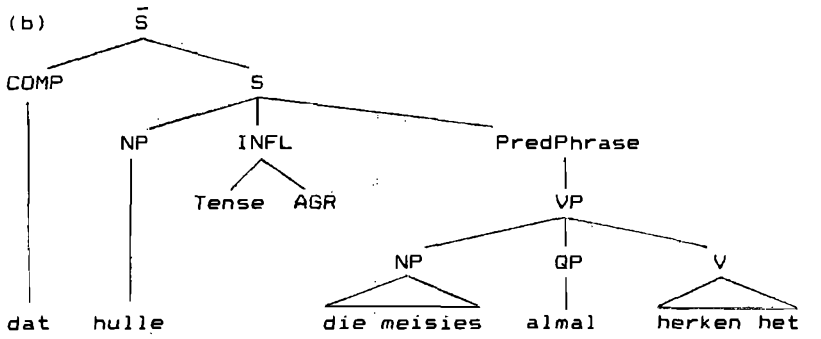
will be acceptable with almal and hulle coreferential. This prediction is correct.

3.3.2.4 Constructions with more than one potential binder

This paragraph focusses on constructions containing more than one potential binder of a single postposed QP. Consider first the sentence in (106)(a). The constituent immediately to the left of the postposed QP almal - i.e. the direct object NP die meisies - is generated by the proposed phrase structure rule (75) for VP. This suggests that the QP is directly dominated by the VP in (106)(a), so that the structure underlying the embedded finite clause may be represented roughly as in (106)(b). Notice that (106)(a) is ambiguous: the QP can be interpreted coreferentially with either the plural direct object NP die meisies or the plural subject NP hulle. [114]

(106)(a) Ek veronderstel dat hulle die meisies ALMAL herken
I presume that they the girl-PLU all recognise
het.
have
"I take it that they all recognised the girls/ that they recognised all the girls"

(b)



S is the governing category for the QP almal in (106)(b) since it is the minimal category containing almal, a governor of almal (i.e. the verb herken), and a SUBJECT accessible to almal (i.e. AGR). There are two possible binders of the QP in (106)

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(b), viz. the direct object NP die meisies and the subject NP hulle. Both these NPs occur in an A-position, both c-command the QP, and both satisfy the plurality requirement which the QP imposes on its antecedent. Suppose, on the one hand, that the QP is coindexed with the direct object NP die meisies. The QP will then be bound in its governing category, in accordance with the binding principle (9). It is consequently correctly predicted that (106)(a) will be acceptable with almal and die meisies coreferential. Suppose, on the other hand, that the QP is coindexed with the subject NP hulle. In this case, too, the QP will be bound in its governing category. In other words, it is predicted that (106)(a) will be acceptable also with the QP interpreted coreferentially with the NP hulle. The prediction is correct. The ambiguity of (106)(a) can thus be accounted for straightforwardly in terms of the interpretive analysis.

It should be noted at this point that the QP in (106)(b) cannot be coindexed, hence interpreted coreferentially, with both the subject NP hulle and the direct object NP die meisies. To put it differently, the QP cannot *simultaneously* be bound by both these NPs. Given that hulle and die meisies are interpreted non-coreferentially, coindexing of the QP with both these NPs will result in almal being disjoint in reference to itself. As was pointed out in par. 3.3.2.1, however, the possibility of a category simultaneously having distinct antecedents is ruled out by a general condition of LF to the effect that a category can be assigned only one referential index. [115] Notice, incidentally, that the NPs hulle and die meisies in (106)(b) cannot be interpreted coreferentially. Coindexing of these two NPs will result in die meisies, an R-expression, being bound in S by the subject NP hulle, in violation of the binding principle for R-expressions. [116]

Consider, secondly, the sentence (107)(a). The reciprocal NP mekaar functions as the direct object in the embedded finite clause; the structure underlying this clause may be represented roughly as in (107)(b).

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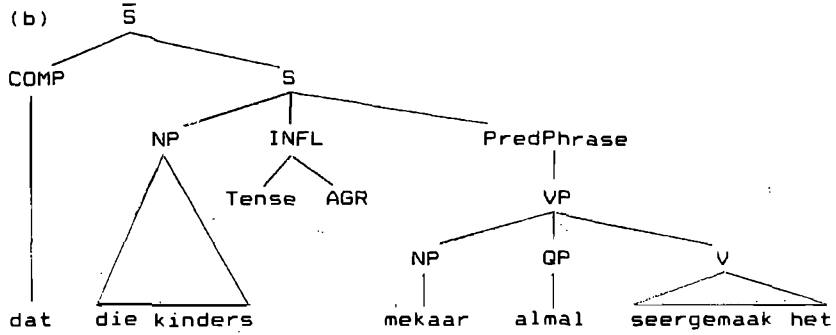
(107)(a) Hy sê dat die kinders mekaar ALMAL seerge-
he says that the child-PLU each-other all hurt-PAST-
maak het.
make have
"He says that the children all hurt each other"

(b)



(107)(a) contains two anaphors, namely the postposed QP almal and the reciprocal direct object NP mekaar. S in (107)(b) is the governing category for both these anaphors: it is the minimal category containing almal and mekaar, a governor of almal and mekaar (i.e. the verb seermaak) and an accessible SUBJECT (i.e. AGR). The plural subject NP die kinders is a possible antecedent of the reciprocal as well as of the QP. This NP moreover occupies an A-position, and it c-commands both the reciprocal and the QP. Coindexing of almal and mekaar with die kinders will thus result in both anaphors being bound in S, as is required by the binding principle (9). It is consequently predicted in terms of the interpretive analysis that (107)(a) will be acceptable with almal and mekaar interpreted coreferentially with the NP die kinders, hence with almal and mekaar coreferential with each other. The prediction is correct. Note that the reciprocal NP mekaar is also a possible binder of the QP. This NP occurs in an A-position, it c-commands the QP, and it satisfies the plurality requirement imposed by almal. Assuming coindexing, the QP will thus be bound in S by the reciprocal. The resulting interpretation is the same as when almal is bound by the NP die kinders: the QP is interpreted coreferentially with the reciprocal mekaar, and hence with the NP die kinders, since the latter binds the reciprocal. In short then,

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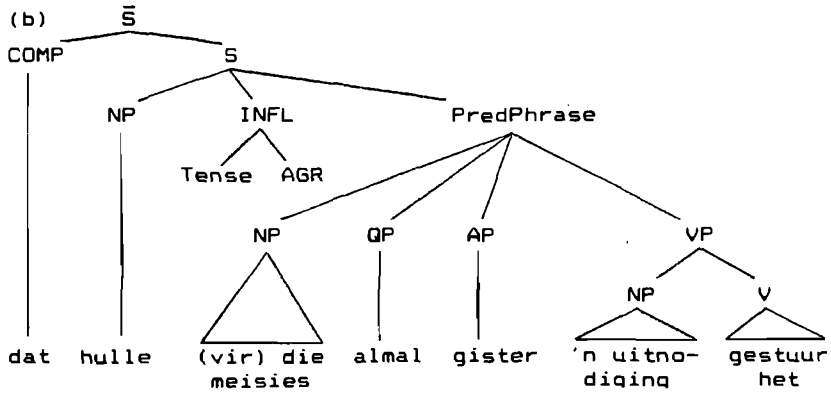
the QP has the same referential index as the two NPs in (107)(b), irrespective of which NP is taken as the binder of almal. This is in contrast to the sentence in (106)(b), in which the QP cannot simultaneously be interpreted coreferentially with the two available NPs.

Consider, thirdly, the sentence (108)(a); the structure underlying the embedded finite clause in this sentence is roughly that given in (108)(b). In view of the argumentation in par. 3.3.2.2, the sequence (vir) die meisies - which functions as the regular indirect object in (108)(a) - is analysed as an NP in (108)(b), with the formative vir representing an optional Case marker. This NP, and the AP time adverbial gister which occurs immediately to the right of the postposed QP almal, are both generated by the proposed phrase structure rule (74) for PredPhrase. It is accordingly assumed in (108)(b) that the QP is directly dominated by the PredPhrase. Note furthermore that (108)(a) is ambiguous: the QP can be interpreted coreferentially with either the plural subject NP hulle or the plural indirect object NP (vir) die meisies.

(108)(a) Ek weet dat hulle (vir) die meisies ALMAL gister
I know that they (for) the girl-PLU all yesterday
'n uitnodiging gestuur het.
an invitation PAST-send have
"I know that they all sent the girls an invitation yesterday/that they sent all the girls an invitation yesterday"



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S in (108)(b) contains a governor of the QP almal, namely the verb stuur, as well as an accessible SUBJECT, namely AGR. S is therefore the governing category for almal in which it must be bound. The subject NP hulle and the indirect object NP (vir) die meisies represent possible binders of the QP: both these NPs occupy an A-position, both c-command the QP, and both satisfy the plurality requirement imposed by almal. If almal is coindexed with the subject NP hulle, on the one hand, the QP will be bound in its governing category in accordance with the binding principle (9). It is thus predicted that (108)(a) will be acceptable with almal and hulle coreferential. The prediction is correct. On the other hand, the QP will also be bound in S if it is coindexed with the indirect object NP (vir) die meisies. It is therefore correctly predicted in terms of the interpretive analysis that (108)(a) will be acceptable with almal interpreted coreferentially with the indirect object NP. Notice that the QP cannot simultaneously be bound by the NPs hulle and (vir) die meisies in (108)(b). Since these two NPs must be interpreted non-coreferentially, coindexing of almal with both of them will result in the QP being disjoint in reference to itself. As was noted above in the discussion of (106)(a), this possibility of a category simultaneously having distinct antecedents is ruled out by a general condition of LF. In short, as predicted, there are only two acceptable interpretations of (108)(a): the QP is interpreted coreferentially with either the subject NP hulle or the indirect object NP (vir) die meisies.

In each of the examples in (106)(a), (107)(a) and (108)(a) the postposed QP is contained in an embedded finite clause. We now turn our attention to constructions in which the QP forms part of an infinitival clause. Consider the sentence in (109)(a) in this regard; (109)(b) represents the structure underlying this sentence. Waarsku in (109)(a) is a verb of object control. This means that the subject NP PRO of the infinitival clause is controlled by, hence coindexed with, the main clause direct object NP hulle. The coreferential relation between these two NPs is expressed in (109)(b) by means of the subscript *i*.

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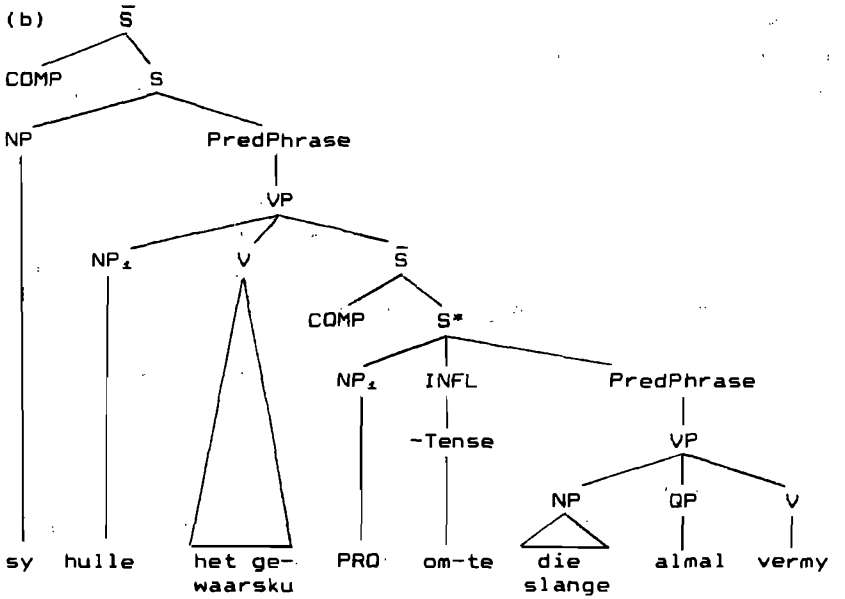
(109)(a) Sy het hulle gewaarsku om die slange ALMAL te
she has them PAST-warn the snake-PLU all to
vermy.
avoid
"She warned them to all steer clear of the snakes/to steer clear of all the snakes"

(b)



(109)(a) is ambiguous: the postposed QP <u>almal</u> can be interpreted coreferentially either with the subject NP PRO of the subordinate clause (hence with the main clause direct object NP <u>hulle</u>), or with the direct object NP <u>die slange</u> in the subordinate clause. This ambiguity can be explained as follows in terms of the interpretive analysis. S* in (109)(b) is the governing category for the QP <u>almal</u>: it contains a governor of <u>almal</u> (i.e. the verb <u>vermy</u>), and an accessible SUBJECT (i.e. the subject NP PRO). By the principle (9) the QP must be bound in S*. There are two possible binders of the QP in S*, namely the direct object NP <u>die slange</u> and the subject NP PRO. Both these NPs occupy an A-position, both c-command the QP and both satisfy the plurality requirement which <u>almal</u> imposes on its antecedent. [117] Coindexing of <u>almal</u> with <u>die slange</u> or with PRO will therefore result in the QP being bound in its govern-

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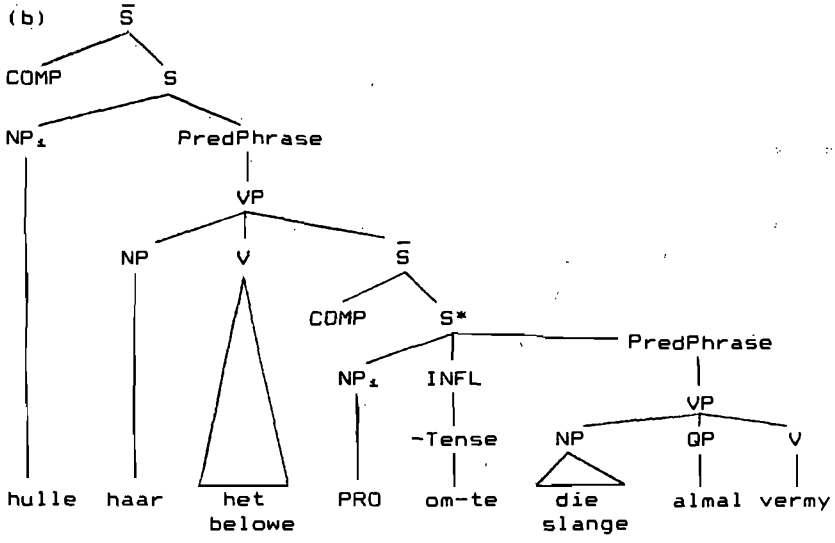
ing category. This is in accordance with the principle (9), which explains the fact that (109)(a) is acceptable with almal interpreted coreferentially either with the NP PRO (hence with the main clause direct object NP hulle), or with the NP die slange.

Consider next the sentence in (110)(a). (110)(b) roughly represents the structure underlying this sentence. Belowe being a verb of subject control, the subject NP PRO of the infinitival clause in (110)(b) is controlled by, hence coindexed with, the main clause subject NP hulle. The subscripts *i* in (110)(b) serve to express the coreferential relation between PRO and hulle. Note that (110)(a) is ambiguous: the postposed QP almal can be interpreted coreferentially with the NP PRO (hence with the main clause subject NP hulle), or with the direct object NP die slange in the subordinate clause.

(110)(a) Hulle het haar belowe om die slange ALMAL te vermy.
they have her promise the snake-PLU all to avoid
"They promised her to all steer clear of the snakes/ to steer clear of all the snakes"



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S* in (110)(b) contains a governor of the QP almal, namely the verb vermy, as well as an accessible SUBJECT, namely the subject NP PRO. S* is therefore the governing category for almal in which it must be bound. The NP PRO - which is controlled by the main clause subject NP hulle - and the NP die slange represent possible binders of the QP, since they both occupy an A-position, they both c-command the QP, and they both satisfy the plurality requirement imposed by almal. Thus, if the QP is coindexed with PRO or with die slange, it will be bound in S*. The binding principle (9) accordingly correctly predicts that (110)(a) has two acceptable interpretations: the QP can be interpreted coreferentially either with the NP PRO (hence with the main clause subject NP hulle), or with the NP die slange.

3.3.2.5 Constructions with more than one postposed QP

The sentences that were discussed in the preceding sections of par. 3.3.2 in connection with the OAH (51) each contained only one postposed QP. We turn our attention now to constructions that contain more than one postposed QP. Such constructions can be generated by the phrase structure rules that were proposed in par. 3.3.1. For example, in terms of the phrase structure rules (74) and (75), a construction can contain, say, two postposed QPs: one directly dominated by the Pred-Phrase and one directly dominated by the VP. (111)(a) below is an example of such a construction. [118] Similarly, in terms of the phrase structure rules (73) and (74), a construction can contain a postposed QP that is directly dominated by the S, as well as one that is directly dominated by the PredPhrase. (111)(b) is an example of such a construction. [119]

(111)(a) *Hy sê dat [$_S$ hulle waarskynlik [$_{PredPhrase}$ gister
he says that they probably yesterday
ELKEEN [$_{VP}$ vir die meisie ALMAL gesoen het]]]
each-one for the girl all PAST-kiss have

(b) *Hy sê dat [$_S$ die mans ELKEEN waarskynlik
he says that the man-PLU each-one probably
[$_{PredPhrase}$ haar ALMAL [$_{VP}$ 'n present gekoop het]]]
her all a present PAST-buy have

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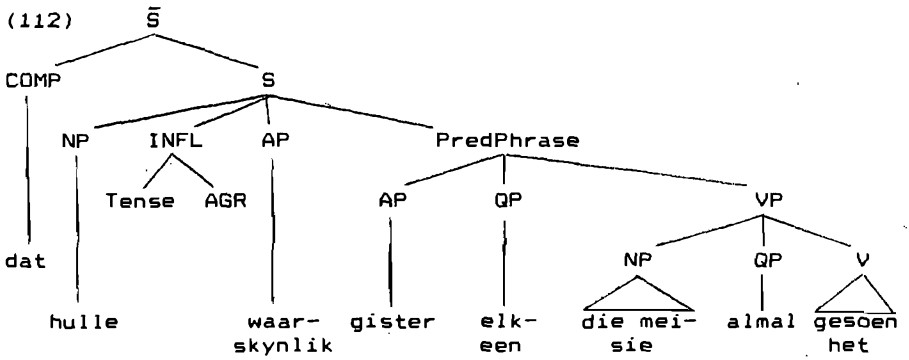
The unacceptability of (111)(a) and (b) poses a potential problem for the proposed interpretive analysis of Afrikaans quantifier postposing. This can be illustrated with the example in (111)(a). The structure underlying the embedded sentence in this example may be represented roughly as in (112).

(112)



S in (112) is the minimal category containing the postposed QPs elkeen and almal, a governor of elkeen and almal (i.e. the verb soen), and an accessible SUBJECT (i.e. AGR). S is therefore the governing category for elkeen and almal. The subject NP hulle is the only possible binder of the QPs in (112). This NP occupies an A-position, it c-commands the QPs and it satisfies the plurality requirement which elkeen and almal impose on their antecedents. Coindexing of elkeen and almal with the NP hulle will thus result in both QPs being bound in S, in accordance with the binding principle (9). It is consequently predicted in terms of the interpretive analysis that (111)(a) will be acceptable with elkeen and almal interpreted coreferentially with the NP hulle. The prediction is incorrect: (111)(a) is unacceptable irrespective of whether one or both of the QPs are interpreted coreferentially with hulle. (111)(a) thus constitutes a potential counterexample for the interpretive analysis.

The problem posed by (111)(a) can be overcome by means of the so-called Barrier to Vacuous Operators (henceforth, BVO) which is discussed in (Chomsky 1982b: 11-13, 30-33). This can be illustrated as follows. According to Chomsky (1982b:11) the BVO

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is "a general principle of LF to the effect that each operator must bind a distinct variable." Universal quantifiers - e.g. the QPs elkeen and almal in (111)(a) - are interpreted as operators at the level of LF, each binding a variable x within its scope.[120] (111)(a) is thus assigned an LF representation roughly along the lines of (113), with elkeen and almal interpreted as the operators "for each person x" and "for all persons x", respectively.

(113) "for each person x and for all persons x, x = they;
x probably kissed the girl yesterday"

The two operators in (113) bind the same variable x (= they). This is in violation of the BVO, which states that each operator must bind a *distinct* variable. Hence (113) is ruled out as ill-formed at the LF-level. Given the BVO, the unacceptability of (111)(a) can thus be explained without having to resort to special devices of Afrikaans grammar, and/or having to complicate GB Binding Theory. In other words, constructions such as (112) are freely generated by the grammar of Afrikaans but are "filtered out" at the LF-level by a general principle of UG. In this way, then, (111)(a) can be denied the status of an actual counterexample for the proposed interpretive analysis. A similar explanation can be given of the unacceptability of the sentence in (111)(b). In this case coindexing of the QPs elkeen and almal with the subject NP die mans - which represents the only possible antecedent of these QPs - will result in the operators "for each person x" and "for all persons x" binding the same variable (= men) in LF, thereby violating the BVO.

The examples in (111)(a) and (b) both contain two postposed QPs. Consider, by contrast, the sentences in (114). (114)(a) contains one postposed QP, namely almal, and one non-postposed QP, namely al; (114)(b) contains two non-postposed QPs, namely almal and elkeen.

(114)(a) *AL die kinders slaap ALMAL.
all the child-PLU sleep all
(b) *ALMAL ELKEEN van die kinders slaap.
all each-one of the child-PLU sleep

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(114)(a) and (b) are assigned LF representations roughly along the lines of (115)(a) and (b), respectively.

(115)(a) "for all persons x and for all persons x,
x = children; x are sleeping"
(b) "for all persons x and for each person x,
x = children; x are sleeping"

(115)(a) and (b) both contain two operators binding the same variable x (= children). This is in violation of the BVO which states that each operator must bind a distinct variable. (115)(a) and (b) are accordingly ruled out as ill-formed at the LF-level. Hence the unacceptability of (114)(a) and (b).

Consider next the example in (116)(a); (116)(b) represents the structure underlying the embedded sentence in (116)(a). As in the case of the constructions in (111), (116)(a) contains two postposed QPs. The constituents immediately to the left and to the right of the QP albei - i.e. the subject NP die mans and the AP sentence adverbial waarskynlik - are both generated by the proposed phrase structure rule (73) for S, while those immediately to the left and to the right of the QP almal - i.e. the direct object NP die meisies and the verbal sequence herken het - are generated by the proposed phrase structure rule (75) for VP. It could thus be claimed that albei in (116)(a) is directly dominated by the S, and that almal is directly dominated by the VP. This claim is incorporated in the structure (116)(b).

(116)(a) Hy sê dat die mans ALBEI waarskynlik die meisies
he says that the man-PLU both probably the girl-PLU
ALMAL herken het.
all recognise have
"He says that the men probably both recognised all the girls"

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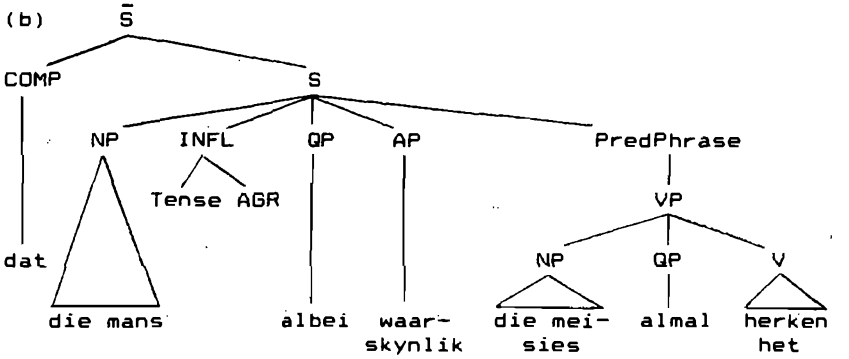

S in (116)(b) contains an accessible SUBJECT (i.e. AGR), a governor of the QP albei (i.e. AGR), and also a governor of the QP almal (i.e. the verb herken). S is therefore the governing category for both QPs. The subject NP die mans is a possible binder of the QP albei: this NP occurs in an A-position, it c-commands albei, and it meets the plurality requirement which albei imposes on its antecedent. Note that the plural direct object NP die meisies does not c-command the QP albei. Consequently, die meisies is not a possible binder of albei. The NP die meisies is, however, a possible binder of the QP almal since it c-commands almal and it occupies an A-position. Coindexing of albei and die mans, on the one hand, and of almal and die meisies, on the other hand, will thus result in both QPs being bound in S, as is required by the binding principle (9). It is accordingly predicted in terms of the interpretive analysis that (116)(a) will be acceptable with albei interpreted coreferentially with die mans, and with almal interpreted coreferentially with die meisies. The prediction is correct. (116)(a) is subsequently assigned an LF representation along the lines of (117), with the QP albei interpreted as the operator "for both persons x" and the QP almal interpreted as the operator "for all persons y".

(117) "for both persons x and for all persons y, x = men and y = girls; x probably recognised y"

The two operators in (117) bind distinct variables, namely x (= men) and y (= girls), respectively. This is in accordance

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with the BVO. (117) is accordingly marked as a well-formed representation in LF.

It could be objected that coindexing of almal and die meisies in (116)(b) constitutes a violation of the binding principle for R-expressions, which stipulates that R-expressions must be free. That is, it could be objected that coindexing of the QP almal and the NP die meisies will result in the latter being bound in S by the QP almal. This objection will only be valid if the QP almal represents a possible A-binder of the NP die meisies. In terms of the definition (10) of A-bound given in par. 2, a category β A-binds a category α if and only if (i) β c-commands α, (ii) α and β are coindexed, and (iii) β is in an A-position. The QP almal in (116)(b) meets the first two of these requirements: it c-commands the NP die meisies and, as was argued above, it must be coindexed with this NP. This leaves the requirement about occurrence in an A-position. It was noted in par. 2 that A-positions are those positions in which arguments appear in deep structure. According to Chomsky (1982a:35), arguments are expressions to which θ-roles such as "agent-of-action", "goal-of-action", etc. are assigned in LF. He (1982a: 35-36) remarks as follows on the positions that are available for the assignment of θ-roles:

(118) "Let us refer to a position in LF to which a θ-role is assigned as a 'θ-position.' Idioms apart, each position satisfying the subcategorization features of the lexical head of a construction is a θ-position; in the terminology of X-bar theory, each complement position is a θ-position. Furthermore, a θ-role may (though it need not be) assigned in the position of subject, whether of NP or S, a position not associated with a subcategorization feature of a lexical head."

In terms of the so-called θ-criterion, a criterion of adequacy for LF, each argument is assigned one and only one θ-role; to put it differently, each argument must occupy one and only one θ-position in which a θ-role can be assigned to it. [121] Thus, for a postposed QP to qualify as an argument, it must occur in

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a θ-position, which amounts to saying that it must occur in a position which satisfies the subcategorisation features of the lexical head of a construction. However, it was pointed out in par. 3.3.1 that postposed QPs in Afrikaans do not enter into the subcategorisation frames of lexical items. In view of the remarks in (118) these QPs therefore do not occupy θ-positions in which θ-roles can be assigned to them. In terms of the θ-criterion, Afrikaans postposed QPs accordingly fail to qualify as arguments occurring in A-positions. Such a QP consequently cannot be regarded as a possible A-binder, since A-binders, in terms of the definition (10) of A-bound, have to occur in A-positions. Against this background, coindexing of the postposed QP almal and the NP die meisies in (116)(b) clearly cannot be regarded as constituting a violation of the binding principle for R-expressions: since the QP does not represent a possible A-binder, the NP die meisies will be free, in accordance with the relevant binding principle. [122]

The direct object NP die meisies in (116)(b) is not the only possible binder of the QP almal. This QP can also be bound by the subject NP die mans: the latter NP occupies an A-position, it c-commands the QP almal, and it satisfies the plurality requirement which almal imposes on its antecedent. Suppose that almal is coindexed with die mans. Almal will then be bound in its governing category S, as is required by the principle (9). As a consequence, however, the QP albei will be left without a binder in S. The reasons for this are the following. Firstly, as was noted above, albei cannot be bound by the direct object NP die meisies, since the latter does not c-command this QP. Secondly, albei and almal cannot both be bound by the subject NP die mans, since the resulting LF representation would violate the BVO. In any case, albei and almal cannot both be coindexed with the NP die mans, since these QPs impose different plurality requirements on their antecedents: albei requires an antecedent referring to exactly two entities, while almal requires an antecedent referring to more than two entities. In short then, coindexing of the QP almal with the subject NP die mans in (116)(b) will result in the QP albei being free in its governing category, in violation of the principle (9). It is

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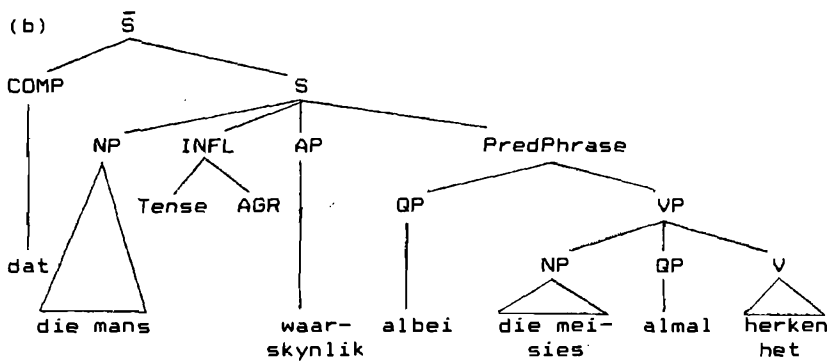
therefore predicted that (116)(a) will be unacceptable with almal interpreted coreferentially with the NP die mans. This prediction is correct.

In (116)(a) the postposed QP albei occurs to the left of the AP sentence adverbial waarskynlik. Consider now the sentence in (119)(a), in which albei occurs immediately to the right of the AP waarskynlik. (119)(b) represents one possible structure underlying the embedded sentence in (119)(a); we return shortly to a second possible structure for this sentence. It is assumed for the sake of the present discussion that the QP albei is directly dominated by the PredPhrase in the structure (119)(b), as is possible in terms of the proposed phrase structure rule (74) for PredPhrase.

(119)(a) Hy sê dat die mans waarskynlik ALBEI die meisies
he says that the man-PLU probably both the girl-PLU
ALMAL herken het.
all recognise have
"He says that the men both probably recognised all the girls"

(b)



S in (119)(b) is the minimal category containing the postposed QPs albei and almal, a governor of albei and almal (i.e. the verb herken) and an accessible SUBJECT (i.e. AGR). S is therefore the governing category for both QPs. The subject NP die mans is a possible binder of the QP albei: this NP occupies an A-position, it c-commands the QP, and it satisfies the plural-

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ity requirement which albei imposes on its antecedent. The direct object NP die meisies is similarly a possible binder of the QP almal. Coindexing of albei and die mans, on the one hand, and of almal and die meisies, on the other hand, will thus result in both QPs being bound in S. This is in accordance with the binding principle (9). It is therefore predicted in terms of the interpretive analysis that (119)(a) will be acceptable with albei interpreted coreferentially with the NP die mans, and with almal interpreted coreferentially with the NP die meisies. This prediction is correct. The resulting LF representation of the sentence (119)(a) will be as in (117), that is, it will be identical to that assigned to the sentence (116)(a).

The interpretation of (119)(a) that was explicated just now is not the only one that is possible for this sentence. This can be illustrated as follows. As pointed out above, the subject NP die mans in (119)(b) is a possible binder of the QP albei. However, in terms of the definition (10) of X-bound the NP die mans is a possible binder of the QP almal as well: this NP c-commands the QP almal, and it satisfies the plurality requirement imposed by almal. By the same token, the direct object NP die meisies in (119)(b) is a possible binder not only of the QP almal, as pointed out above, but also of the QP albei. [123] Suppose now that almal is coindexed with die mans, and that albei is coindexed with die meisies. As a consequence, both QPs will be bound in their governing category S, in accordance with the principle (9). It is accordingly predicted in terms of the interpretive analysis that (119)(a) will be acceptable with almal interpreted coreferentially with die mans, and with albei interpreted coreferentially with die meisies. This prediction is correct. That is, it is correctly predicted that (119)(a) is ambiguous: it can be assigned an LF representation along the lines of (117) or alternatively, one along the lines of (120).

(120) "for all persons x and for both persons y, x = men and
y = girls; x probably recognised y"

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Two issues in connection with sentences like those in (116)(a) and (119)(a) require clarification at this point. Firstly, in explicating the second, alternative interpretation of (119)(a) - i.e. with almal coreferential with die mans, and with albei coreferential with die meisies - it was assumed that albei represents a *postposed* QP. Note that in this case the QP albei occurs directly to the left of the object NP die meisies which binds it. However, it will be illustrated in par. 3.3.3 that the possibility of a postposed QP *preceding* its binder is problematic in that it gives rise to unacceptable interpretations in constructions with postposed QPs other than albei. [124] In an attempt to overcome this problem, it will be proposed that postposed QPs (including albei) are restricted to positions to the *right* of their binders, at least in Afrikaans S-structure. In terms of this restriction, albei in (119)(a) clearly cannot be analysed as a *postposed* QP when it modifies the NP die meisies, because it occurs to the left of this NP. Instead, it could be proposed that albei represents a *non-postposed* QP in this case, forming part of the phrase containing the modified NP die meisies. This proposal - that albei should be analysed as a non-postposed QP when it (directly) precedes the category with which it is associated semantically - will be investigated in more detail in par. 3.3.3.

The second issue concerns the fact that not all fluent speakers of Afrikaans have firm judgements about the acceptability of sentences like those in (116)(a) and (119)(a). Apparently, many speakers find these sentences only marginally acceptable. It seems reasonable, however, that such judgements are due to some sort of extragrammatical factor, presumably one relating to the "difficulty" of interpreting (i) sentences that contain more than one postposed QP and (ii) sentences in which a postposed QP and its binder are separated by another QP. Consider in this connection the sentences in (121)(a) and (b), neither of which belongs to the two types just mentioned. The (a) sentence contains one postposed QP (albei) and one non-postposed QP (al), while the (b) sentence contains two non-postposed QPs (albei and al). In both cases albei modifies the NP die mans, and al the NP die meisies.

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(121)(a) Hy sê dat die mans ALBEI waarskynlik AL die
he says that the man-PLU both probably all the
meisies herken het.
girl-PLU recognise have
"He says that the men both probably recognised all the girls"

(b) Hy sê dat ALBEI die mans waarskynlik AL die
he says that both the man-PLU probably all the
meisies herken het.
girl-PLU recognise have
"He says that both men probably recognised all the girls"

(121)(a,b) are both acceptable. This judgement appears to be made with much greater firmness than is the case with sentences such as those in (116)(a) and (119)(a), that is, sentences belonging to the two types mentioned above.

3.3.3 Problematic aspects

The discussion of the Base Position Hypothesis (50) and of the Overt Anaphor Hypothesis (51) in the previous sections of par. 3.3 could leave the mistaken impression that these two hypotheses, and the proposed interpretive analysis as a whole, are unproblematic as far as Q-FLOAT constructions are concerned. The interpretive analysis has certain potentially problematic aspects, however. One such aspect, which relates to the claim that Afrikaans postposed QPs can be base-generated under the VP, was pointed out in par. 3.3.1. Briefly, this claim is at variance with the assumption that the only constituents that are directly dominated by the VP in deep structure are those satisfying the subcategorisation frame of a verb. [125] It was pointed out in par. 3.3.1, however, that postposed QPs do not enter into the subcategorisation frames of verbs or any other lexical items in Afrikaans. Thus either the claim about base-generating postposed QPs under the VP, or the assumption relating VP constituency to the subcategorisation features of verbs has to be rejected. [126]

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The present paragraph is devoted to an exposition of further potentially problematic aspects of the proposed interpretive analysis of quantifier postposing in Afrikaans. The discussion is organised into two subsections. The first, par. 3.3.3.1, deals with a number of empirical problems facing the interpretive analysis. The second subsection, par. 3.3.3.2, focusses on an aspect of this analysis that is potentially problematic from a conceptual point of view.

3.3.3.1 Empirical problems

It was argued in par. 3.3.1 that Afrikaans postposed QPs are generated in their postposed positions by the phrase structure rules (73) for S, (74) for PredPhrase, and (75) for VP. One of the consequences of base-generating postposed QPs under the VP is that such a QP should be able to occur in a position to the right of phrases that function as instrumental and manner adverbials, since the latter phrases are generated to the left of the VP by the proposed phrase structure rule (74) for PredPhrase. This consequence is not borne out by the facts, as is illustrated by the unacceptability of the sentences in (122). The postposed QP almal occurs directly after the AP manner adverbial rustig in (122)(a), and directly after the PP instrumental adverbial met my pen in (122)(b). In both cases the QP modifies the subject NP die kinders of the embedded sentence.

(122)(a) *Hy sê dat die kinders rustig ALMAL slaap.
he says that the child-PLU peacefully all sleep

(b) *Ek vermoed dat die kinders met my pen ALMAL
I suspect that the child-PLU with my pen all
geskryf het.
PAST-write have

The unacceptability of (122)(a) and (b) obviously reflects negatively on the merit of the proposed phrase structure rules (75) for VP and (74) for PredPhrase, hence on the merit of the interpretive analysis which incorporates these rules.[127] At

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this point, however, it is unclear how, or even whether, these rules can be made compatible with the facts in (122).

Another potentially problematic consequence of base-generating postposed QPs under the VP concerns the co-occurrence of these QPs with direct object NPs (which are also generated under the VP), and with regular indirect object NPs (which are generated to the left of the VP under the PredPhrase). It was argued in par. 3.3.1 that a postposed QP can be base-generated as a right sister to the direct object NP. It is consequently *predicted* that such a QP should be able to occur in the sequence: *regular indirect object NP - direct object NP - QP*. This prediction is only partially borne out by the facts. Consider the sentences (123)(a)-(c) in this regard. In each case the postposed QP almal occurs directly after a sequence consisting of a regular indirect object NP followed by a direct object NP. In (123)(a) the QP modifies the direct object NP die boeke. The acceptability of this sentence is in accordance with the above prediction. In (123)(b,c) the QP modifies the subject NP hulle and the indirect object NP (vir) die meisies respectively. [128] Both these sentences are unacceptable. [129] (The modified NPs in (123) are underlined.)

(123)(a) Ek veronderstel dat hy (vir) die meisie die boeke
I presume that he (for) the girl the book-PLU
ALMAL gewys het.
all PAST-show has
"I take it that he showed the girl all the books"

(b) ?*Ek veronderstel dat hulle (vir) die meisie die boek
I presume that they (for) the girl the book
ALMAL gewys het.
all PAST-show have

(c) ?*Ek veronderstel dat hy (vir) die meisies die boek
I presume that he (for) the girl-PLU the book
ALMAL gewys het.
all PAST-show has

It is not clear how/whether the unacceptability of (123)(b,c) can be accounted for in a non-ad hoc way. Obviously, the gram-

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mar of Afrikaans has to make provision for the sequence *regular indirect object NP - direct object NP - postposed QP* to be generated, otherwise the acceptability of (123)(a) will remain unexplained. [130] It could of course be proposed that there is a constraint on the phrase structure rules for PredPhrase and VP to the effect that the relevant sequence may be generated only in case the QP serves to modify the direct object NP, as in (123)(a). This proposal would be highly objectionable, however. Apart from being ad hoc, it implies that phrase structure rules may have access to (i) information about the semantic and grammatical relations holding between the constituents of a phrase marker, and (ii) "global" information about previous and subsequent stages in the derivation of phrase markers. Access to these two types of information is clearly irreconcilable with the general conception of phrase structure rules as *context-free* devices. It should be noted at this point that the acceptability judgements of fluent speakers vary considerably with respect to sentences like (123)(b,c); some speakers appear to find these sentences at least marginally acceptable. This uncertainty surrounding the unacceptability of (123)(b,c) could conceivably be ascribed to some sort of extragrammatical factor. Thus it might well be that (123)(b,c) actually represent grammatical sentences, generable by the grammar of Afrikaans. It is not at all clear whether this suggestion has any merit, however. If it has, of course, the sentences in (123)(b,c) could be denied the status of actual counterexamples for the BPH (50), hence for the proposed interpretive analysis.

The empirical problems which sentences like those in (122) and (123)(b,c) pose for the interpretive analysis relate to the BPH (50), specifically, the claim that Afrikaans postposed QPs *can be base-generated under the VP in Q-FLOAT constructions.* We turn our attention now to a potential problem relating to the semantic interpretation of postposed QPs. Consider the sentence (124)(a). The structure underlying the embedded sentence in (124)(a) may be represented roughly as in (124)(b). It is assumed in this structure that the postposed QP <u>almal</u> is directly dominated by the VP, as is possible in terms of the

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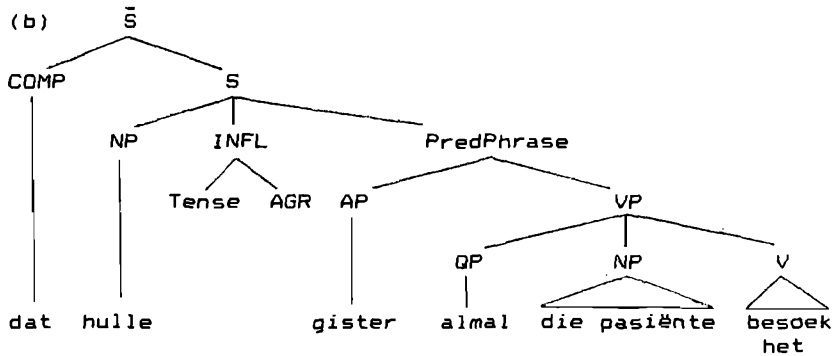
proposed phrase structure rule (75). This assumption is made for expository purposes only.

(124)(a) Hy sê dat hulle gister ALMAL die pasiënte
he says that they yesterday all the patient-PLU
besoek het.
visit have
"He says that they all visited the patients yesterday"

(b)



S in (124)(b) is the minimal category containing the postposed QP almal, a governor of almal (i.e. the verb besoek), and a SUBJECT that is accessible to almal (i.e. AGR). S is therefore the governing category for almal in which it must be bound. There are two possible binders of the QP in (124)(b), viz. the subject NP hulle and the direct object NP die pasiënte. Both these NPs occupy an A-position, both c-command the QP and both satisfy the plurality requirement imposed by almal. Suppose, on the one hand, that the QP is coindexed with the subject NP hulle. The QP will then be bound in its governing category, in accordance with the binding principle (9). It is consequently predicted that (124)(a) will be acceptable with almal and the NP hulle coreferential. The prediction is correct. Suppose, on the other hand, that the QP is coindexed with the direct object NP die pasiënte. In this case, too, the QP will be bound in its governing category S. It is thus predicted in terms of the interpretive analysis that (124)(a) will also be acceptable with the QP interpreted coreferentially with die pasiënte. This prediction is incorrect. (124)(a) thus constitutes a po-

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tential counterexample for the interpretive analysis. Notice, incidentally, that the unacceptability of (124)(a) - with the QP interpreted coreferentially with die pasiënte - cannot be ascribed to a violation of the binding principle for R-expressions, which stipulates that R-expressions must be free. That is, it cannot be claimed that coindexing of the QP almal and the NP die pasiënte, which is c-commanded by the QP, will result in the NP being bound by the QP. The reason for this was made clear in par. 3.3.2.5: postposed QPs do not occupy A-positions in Afrikaans, hence they do not qualify as possible A-binders in terms of the definition of A-bound that was given as (10) in par. 2. The NP die pasiënte in (124)(b) thus cannot be bound by the QP almal, which means that the NP is free, as is required by the binding principle for R-expressions.

One possible way of overcoming the problem posed by (124)(a) is to constrain the positions in which postposed QPs may occur relative to the categories that bind them. More specifically, it could be proposed that a postposed QP must be *preceded* by its binder, at least in S-structure. This constraint will correctly rule out the possibility of the QP almal in (124)(b) being bound by the direct object NP die pasiënte which follows it. Hence the fact that (124)(a) has only one acceptable interpretation, namely with almal coreferential with the subject NP hulle. Consider by contrast the sentence in (125), which is identical to the one in (124)(a), except that in this case almal occurs to the *right* of the direct object NP. (125) is ambiguous: the QP can be bound by, hence interpreted coreferentially with, either the subject NP hulle or the direct object NP die pasiënte. [13] Since the QP is preceded by both of its possible binders, neither of the interpretations in question will be ruled out by the proposed ordering constraint.

(125) Hy sê dat hulle gister die pasiënte ALMAL besoek
he says that they yesterday the patient-PLU all visit
het.
have
"He says that they all visited the patients yesterday"

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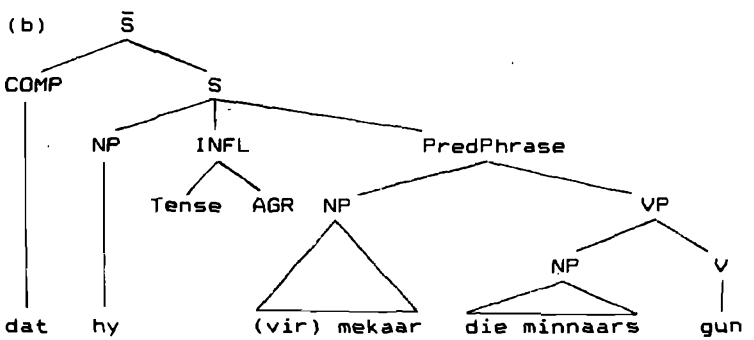
The problem which sentences such as (124)(a) pose with respect to the semantic interpretation of postposed QPs is also found with sentences containing "ordinary" overt anaphors like the reciprocal mekaar. This can be illustrated with the example in (126)(a), in which the direct object NP die minnaars occurs immediately after the regular indirect object NP (vir) mekaar. (126)(b) represents the structure underlying the embedded sentence in (126)(a). [132]

(126)(a) *Ek is seker dat hy (vir) mekaar die minnaars
I am sure that he (for) each-other the lover-PLU
gun.
grants



It was argued in par. 3.1 above that the semantic interpretation of the reciprocal mekaar is determined by the binding principle (9) and the GB interpretive devices associated with it. By the principle (9) mekaar must be bound in its governing category. S is the governing category for mekaar in (126)(b), since it is the minimal category containing mekaar, a governor of mekaar (i.e. the verb gun), and a SUBJECT accessible to mekaar (i.e. AGR). The only possible binder of mekaar is the direct object NP die minnaars. This NP occupies an A-position, it c-commands the reciprocal, and it satisfies the plurality requirement which mekaar imposes on its antecedent. Coindexing of mekaar and die minnaars will result in the reciprocal being bound in its governing category, in accordance with the principle (9). Hence it is predicted that (126)(a) will be acceptable with mekaar and the NP die minnaars interpreted corefer-

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entially. This prediction is incorrect: (126)(a) is in fact unacceptable, irrespective of whether mekaar and die minnaars are coreferential. This sentence therefore constitutes a potential counterexample for GB Binding Theory, specifically for the principle (9) and the devices associated with it.

It was proposed above that the unacceptability of the sentence in (124)(a) - with the QP almal coreferential with the NP die pasiënte - is due to a violation of an ordering constraint on postposed QPs and their binders. In terms of this constraint, a postposed QP may not precede its binder. One possible way of explaining the unacceptability of the sentence in (126)(a) is to generalise the proposed ordering constraint, so that it restricts all overt anaphors, including reciprocals, from occurring to the left of their binders. Such a constraint will rule out the possibility of the reciprocal mekaar in (126)(b) being bound by the direct object NP die minnaars which follows it. This means the reciprocal will be left without a binder in its governing category S, in violation of the principle (9). Hence the unacceptability of (126)(a). The sentence (127), by contrast, is acceptable with mekaar bound by the direct object NP die minnaars. In this case the reciprocal - which forms part of a strong vir-phrase - is preceded by its binder, in accordance with the proposed ordering constraint. [133]

(127) Ek is seker dat hy die minnaars vir mekaar gun.
I am sure that he the lover-PLU for each-other grants
"I'm sure he feels the lovers deserve each other"

The explanation that was given just now of the unacceptability of (126)(a) is certainly not the only possible one or even the most attractive one. It is in fact possible to explain the unacceptability of this sentence in terms of a general principle of GB Binding Theory, without recourse to a constraint on the linear ordering of reciprocals and their binders. This can be illustrated as follows. As was pointed out above, coindexing of the reciprocal mekaar and the direct object NP die minnaars in (126)(b) will result in the reciprocal being bound by this NP, in accordance with the binding principle (9) for anaphors.

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But notice that the reciprocal, in turn, is a possible binder of the NP die minnaars: it c-commands this NP, it is coindexable with this NP, and it occurs in an A-position. [134] Coindexing of these two categories will consequently result in die minnaars, an R-expression, being bound in S by mekaar. This is in violation of the binding principle for R-expressions, which stipulates that such expressions must be free. Hence the unacceptability of (126)(a), irrespective of whether die minnaars and mekaar are interpreted coreferentially. In short then, the binding principle for R-expressions provides a straightforward explanation of the unacceptability of (126)(a), one which does not require a special ordering constraint to the effect that a reciprocal may not precede its binder. However, as was pointed out in the discussion of the sentence (124)(a), the fact that a *postposed QP* may not precede its binder cannot be attributed to a violation of the binding principle for R-expressions. In such cases, then, it seems necessary to posit an ordering constraint on postposed QPs and their binders, as proposed above. It is of course possible that the proposed ordering constraint is actually a consequence of a general principle(s) of UG. An inquiry into the nature of such a general principle(s) remains a task for future research, however. In the present study it will simply be assumed that the proposed constraint represents some sort of filtering device in the LF component of Afrikaans grammar. [135]

We turn our attention now to a potential problem facing the proposed constraint on the ordering relation between postposed QPs and their binders. Consider the sentence in (128)(a). This sentence is ambiguous in that the QP albei can be interpreted as modifying either the subject NP hulle or the direct object NP die pasiënte. [136] (128)(b) represents the structure underlying the embedded sentence in (128)(a). Notice that albei in this structure is analysed as a *postposed* QP that is directly dominated by the VP. We will discuss the consequences of this analysis shortly below.

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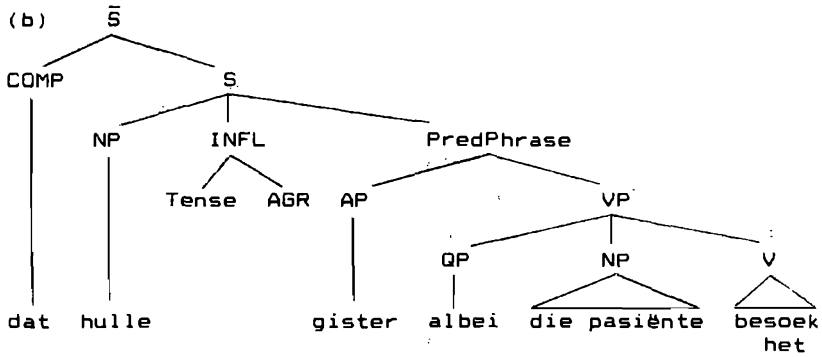
(128)(a) Hy sê dat hulle gister ALBEI die pasiënte
he says that they yesterday both the patient-PLU
besoek het.
visit have
"He says that they both visited the patients yesterday/that they visited both patients yesterday"

(b)



S in (128)(b) is the governing category for the QP albei in which it must be bound. There are two potential binders of albei in S, namely the subject NP hulle and the NP die pasiënte. Both these NPs occupy an A-position, both c-command the QP and both satisfy the plurality requirement imposed by albei. Note, however, that the NP die pasiënte occurs to the right of the QP. In terms of the proposed constraint on the linear ordering of postposed QPs and their binders, this NP is therefore ruled out as a possible binder of albei. This leaves the subject NP hulle as the only possible binder of albei in (128)(b). Coindexing of the QP and the NP hulle will be in accordance with the binding principle (9), so that it is predicted that (128)(a) has only one acceptable interpretation, namely with albei and hulle coreferential. The prediction that (128)(a) will be acceptable with albei and hulle coreferential is correct. But the prediction that this is the only acceptable interpretation is incorrect: (128)(a) is also acceptable with albei modifying the NP die pasiënte. This sentence thus constitutes a potential counterexample for the proposed ordering constraint.

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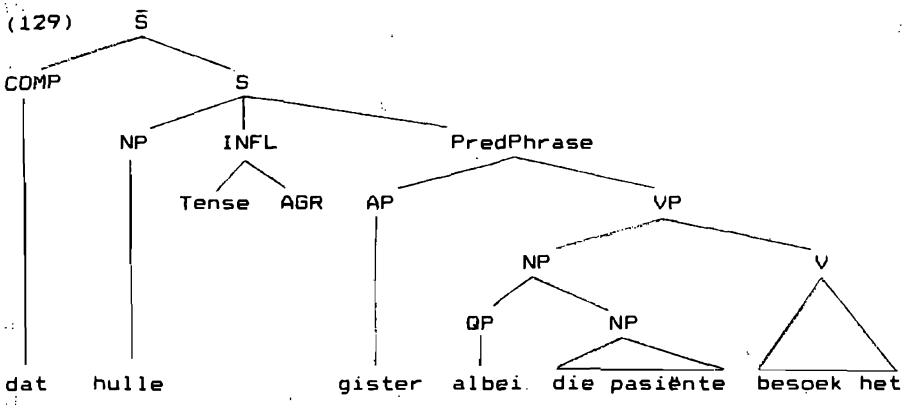
One possible way of overcoming the problem posed by the sentence (128)(a) is to deny albei the status of a *postposed* QP when it serves to modify the NP die pasiënte which follows it. More specifically, it could be proposed that albei represents a *non-postposed* QP in this case, forming part of the phrase containing the NP die pasiënte. In terms of this proposal, the structure underlying the embedded sentence in (128)(a) - with albei modifying the NP die pasiënte - will have roughly the following form. [137]



The OAH (51) holds that *postposed* QPs represent overt anaphors in Afrikaans; this hypothesis makes no reference to *non-postposed* QPs. Let us assume that non-postposed QPs do not represent overt anaphors. [138] Given this assumption, the modifying relation between the non-postposed QP albei in (129) and the NP die pasiënte which follows it will be left unaffected by the proposed ordering constraint, since this constraint has a bearing only on the linear ordering of *postposed* QPs and their binders. In other words, by analysing albei as a non-postposed QP - as in (129) - when it modifies the NP die pasiënte, (128)(a) can be denied the status of an actual counterexample for the proposed ordering constraint. When albei is interpreted coreferentially with the subject NP hulle, however, the structure underlying (128)(a) will be as in (128)(b), with albei analysed as a postposed QP.

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The non-postposed QP albei can occur in a partitive as well as a non-partitive construction: [NP albei van die pasiënte] and [NP albei die pasiënte] (as in (129)) are both grammatical. The QP almal, by contrast, must occur in a partitive construction in non-postposed position: [NP almal van die pasiënte] is grammatical, whereas *[NP almal die pasiënte] is not. It is for this reason that a sentence like (124)(a) - which is superficially identical to (128)(a), except that it contains the QP almal in place of albei - cannot be assigned an underlying structure along the lines of (129), that is, with almal analysed as a non-postposed QP. Hence the fact that the (postposed) QP almal in (124)(a) cannot be interpreted as modifying the NP die pasiënte which follows it, as is correctly predicted by the proposed ordering constraint. [139]

3.3.3.2 Conceptual problems

This section deals with an aspect of the proposed interpretive analysis of quantifier postposing that is potentially problematic from a conceptual point of view. This concerns the OAH (51), the hypothesis that postposed QPs in Afrikaans represent overt anaphors. The characterisation of overt anaphors given in (Chomsky 1982a:101-102, 153-156, 188-190, 207-209, 216-222, 330) and (Chomsky 1982b: 20-30, 78-85) incorporates two claims that could be problematic for the OAH. Both claims relate to overt NP anaphors, e.g. reciprocals. The first claim is that overt anaphors represent arguments. This is to say that these anaphors occupy A-positions, in which they must be assigned distinct θ-roles in accordance with the θ-criterion. [140] The second claim is that overt anaphors must be assigned Case in accordance with the Extended Case Filter. [141] The following two questions now arise:

(130)(a) Do postposed QPs in Afrikaans conform to the two claims just mentioned?

(b) Is conformance to these claims a necessary condition for overt anaphor status?

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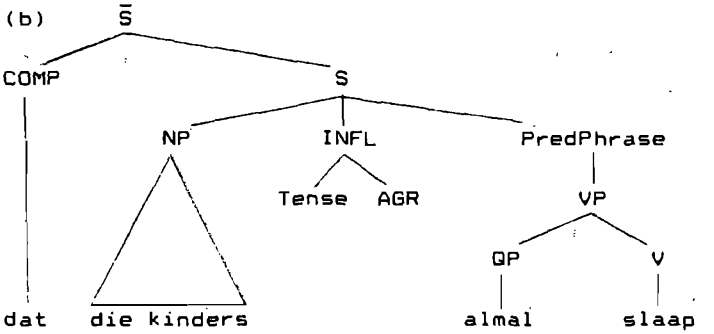
The question (130)(a) must be answered in the negative. This can be illustrated with the example in (52)(a) above, repeated here as (131)(a). (131)(b) [= (52)(c)] represents the structure underlying the embedded sentence in (131)(a).

(131)(a) Hy sê dat die kinders ALMAL slaap.
he says that the child-PLU all sleep
"He says that the children are all sleeping"



Consider, firstly, the claim that overt anaphors represent arguments. If the postposed QP almal in (131)(b) represents an argument occurring in an A-position, it must be assigned a distinct θ-role in accordance with the θ-criterion. The only potential θ-marker of almal is slaap, which is an intransitive verb. This verb does not assign a θ-role such as "goal of action", "theme of action", etc. to almal. Almal rather appears to "take over" the θ-role of its binder, that is, the θ-role that is assigned to the subject NP die kinders by means of the V-phrasal projection of which slaap is the head. [142] Thus almal appears to be without a distinct θ-role. This implies that almal in (131)(b) does not represent an argument occurring in an A-position. [143] Consider, secondly, the claim that overt anaphors must be assigned Case. In terms of Chomsky's (1982a: 170) Case-assignment rules, structural Case is assigned by a governing category β (where β = AGR, P, transitive V). The only category governing almal in (131)(b) is the verb slaap. But this verb is not a possible Case-assigner, since it is intransitive. As a consequence, almal is without Case in (131)(b). In short, then, the examples in (131) illustrate that

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Afrikaans postposed QPs do not conform to the two claims mentioned above.

This brings us to the question (130)(b), the question whether overt anaphors necessarily have to conform to the two claims under discussion. A positive answer to this question will have two important consequences. First, in view of the findings regarding the examples in (131), the OAH (51) will probably have to be rejected. This in turn will leave unaccounted the fact that postposed QPs in Afrikaans behave exactly like "ordinary" overt NP anaphors (e.g. the reciprocal mekaar) with respect to GB Binding Theory, as illustrated in par. 3.1 and 3.3.2. The second consequence relates to the category membership of overt anaphors. One of the claims that was mentioned above is that overt anaphors must be assigned Case. Since only NPs can be assigned Case in terms of GB Case Theory, a positive answer to the question (130)(b) will restrict overt anaphors to the category NP.[144] This will clearly rule out the possibility of analysing postposed QPs in Afrikaans as overt anaphors. A negative answer, by contrast, will not impose such a restriction, thus making it possible to retain the OAH (51) in Afrikaans core grammar.

The proper answer to (130)(b) is unclear at this point. But it should be noted by way of ending that Chomsky (1982a: 218-219) apparently does not exclude the possibility of extending the notion "anaphor" to include non-NP categories as well. Without going into any details, he (1982a:219) mentions so-called displaced quantifiers and the trace of extraposition as "elements that do not function as anaphors in the narrow sense that applies to NP-trace, *each other*, PRO, etc., but that fall under a somewhat looser characterization of the notion." Although it is far from clear what exactly is meant by the expressions "narrow sense" and "looser characterization", the remarks just quoted suggest that Chomsky's (1982a: 188) characterisation of anaphors as "NPs that have no capacity for 'inherent reference'" might have to be amended to make provision for non-NP anaphors. This is exactly what is argued for in terms of the proposed interpretive analysis of quantifier postposing in Af-

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rikaans. It remains to be clarified, however, what the general linguistic consequences would be of extending the class of possible anaphors to non-NP categories. As far as could be ascertained, a detailed and systematic account of such consequences has not been attempted in the available literature. Such an account falls outside the scope of the present study, and will not be attempted here either.

3.4 Q-Pro FLIP constructions

Par. 3.4 deals with quantifier postposing in Afrikaans Q-Pro FLIP constructions. "Q-Pro FLIP constructions" refers to those constructions in which the postposed QP forms part of the NP containing the modified constituent. In terms of the movement analysis set out in (Oosthuizen 1988:chapter 3) such construction are derived by means of an NP-internal quantifier movement rule of Q-Pro FLIP. Hence the convenient term **Q-Pro FLIP constructions.**

Par. 3.4 is organised into two main sections. The first section, par. 3.4.1, focusses on the empirical and the conceptual consequences of an interpretive analysis of Q-Pro FLIP phenomena in Afrikaans, more specifically an analysis which employs the Base Position Hypothesis (50) and the Overt Anaphor Hypothesis (51) to account for the syntactic distribution and the semantic interpretation of postposed quantifiers in Q-Pro FLIP constructions. It will become clear in the course of the discussion that such an analysis fails to provide an adequate description of quantifier postposing in these constructions. An attempt will subsequently be made in par. 3.4.2 to give the outline of an alternative interpretive analysis of the phenomena in question.

3.4.1 An analysis in terms of the BPH and the OAH

In this paragraph we examine whether the interpretive analysis that was proposed in par. 3.2 can provide an adequate descrip-

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tion of quantifier postposing phenomena in Afrikaans Q-Pro FLIP constructions. It is assumed as a point of departure that the relevant modifying constituent in these constructions is a *postposed QP*, rather than, say, an NP. This assumption is necessary because the two fundamental hypotheses of the interpretive analysis - i.e. the BPH (50) and the OAH (51) - have a bearing only on postposed QPs. In other words, the possibility of analysing the phenomena in question in terms of the BPH and OAH can be considered only if the above assumption about category membership is made. The consequences of this assumption, specifically with regard to the semantic interpretation of the modifying constituent in Q-Pro FLIP constructions, will become clear presently.

The BPH (50) holds that Afrikaans postposed QPs are generated in their postposed positions in deep structure by means of the phrase structure rules. The question now arises: By means of which phrase structure rule(s) are postposed QPs generated in Q-Pro FLIP constructions? The claim (132) represents a possible answer to this question. This claim is made within the framework of the version of X-Theory that is set out in, among others, (Chomsky 1972). [145]

(132) A postposed QP in Afrikaans Q-Pro FLIP constructions is base-generated as the *complement* of the constituent that it *modifies* by *means* of the phrase structure *rule* for $\bar{N}$.

(132) can be illustrated with the sentence (133)(a). The postposed QP almal in (133)(a) modifies the pronoun hulle, which forms the head of the subject NP hulle almal. The structure underlying (133)(a) may be represented roughly as in (133)(b); the structure of the subject NP 'hulle almal' is in accordance with the claim (132). [146]

(133)(a) Hulle ALMAL het die boek gelees.
they all have the book PAST-read
"They all read the book"

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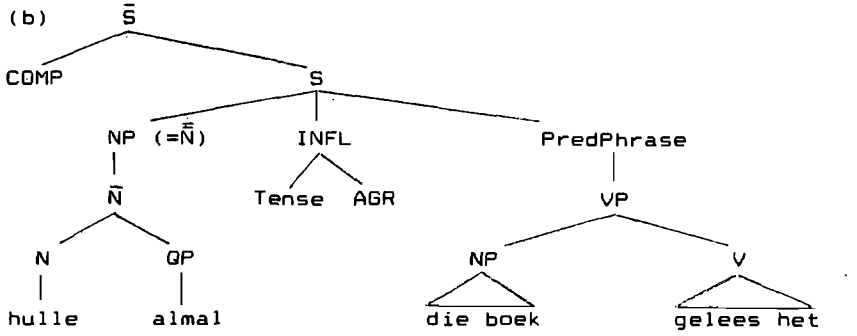

The postposed QP almal in (133)(b) represents an overt anaphor in terms of the OAH (51). The QP must consequently be bound in its governing category in accordance with the binding principle (9) for anaphors. S is the governing category for the QP almal in (133)(b), since it is the minimal category containing almal, a governor of almal (i.e. the pronoun hulle),[147] and a SUBJECT accessible to almal (i.e. AGR).[148] This leaves the question of a binder of almal in S. In terms of the definition (10) of X-bound in par. 2, a category β has to meet three requirements in order to qualify as an A-binder of a category α: (i) β must be coindexed with α, (ii) β must c-command α, and (iii) β must occur in an A-position. There are three potential binders of the QP in (133)(b), namely the direct object NP die boek, the pronoun hulle, and the subject NP (which contains as members the pronoun hulle and the QP almal). However, none of these constituents represents a possible binder of almal, for the following reasons. Firstly, the direct object NP die boek does not c-command the QP, and it also fails to meet the plurality requirement which almal imposes on its antecedent.[149] Secondly, the pronoun hulle does not occur in an A-position. Thirdly, the subject NP does not c-command the QP,[150] and coindexing of this NP and the QP will moreover violate the well-formedness condition formulated as (14) in par. 2. In terms of this condition, a category cannot be coindexed with one of its members. In short, S in (133)(b) does not contain a possible binder of the QP almal. This means that the QP is free in its governing category, in violation of the principle (9). It is accordingly predicted in terms of the interpretive analysis that (133)(a) will be unacceptable. This prediction is incor-

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rect: (133)(a) is in fact acceptable with almal interpreted coreferentially with the pronoun hulle. This sentence is thus a potential counterexample for the interpretive analysis.

It is uncertain whether the problem posed by sentences such as (133)(a) can be overcome in a non-ad hoc manner within an analysis *which incorporates the OAH (51). It could of course be* proposed that postposed QPs that occur in Q-Pro FLIP constructions (e.g. almal in (133)(b)) are excluded from the OAH. That is to say, it could be proposed that these QPs represent non-anaphors, so that their semantic interpretation is not determined by the binding principle (9). A consequence of this proposal is that the grammar of Afrikaans will have to make provision for two distinct types *of postposed QPs: (i) those re*presenting overt anaphors, occurring only in Q-FLOAT constructions and (ii) those representing non-anaphors, occurring only in Q-Pro FLIP constructions. However, there does not appear to be any independent justification for this distinction between anaphoric and non-anaphoric postposed QPs. Notice that such a distinction would require two different sets of devices to account for the semantic interpretation of postposed *QPs, clear*ly an undesirable consequence. Also, the interpretive devices *would presumably* have to be context-sensitive - in contrast to those of GB Binding Theory - in order to distinguish postposed QPs occurring in Q-FLOAT constructions from those occurring in Q-Pro FLIP constructions. In view of these problematic aspects the proposal in hand has to be rejected.

To sum up: it was illustrated in this section that an analysis *which incorporates* the OAH (51) fails to make the correct predictions about the semantic interpretation of the modifying constituent in Q-Pro FLIP constructions. It was furthermore argued that the proposal to analyse such a constituent as a postposed QP that is excluded from the OAH should be rejected. Against this background, it could be claimed that the modifying constituent in question represents neither an overt ana*phor nor a postposed QP.* The alternative analysis of Q-Pro FLIP phenomena that is set out in the following section incorporates this claim as one of its fundamental hypotheses.

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3.4.2 A possible alternative analysis of Q-Pro FLIP phenomena

3.4.2.1 Introduction

In par. 3.4.2 an attempt is made to give the outline of an alternative interpretive analysis of Q-Pro FLIP phenomena in Afrikaans, one which does not incorporate the BPH (50) and the OAH (51). As will become clear presently, the notion "predication" plays a central role in this alternative analysis. Hence we may call it "the predication analysis (of Q-Pro FLIP phenomena)" for ease of reference. It must be stressed from the onset, however, that the proposals made in this paragraph are presented as no more than suggestions.

The predication analysis is based on the following three fundamental hypotheses:

(134) The pronoun in Afrikaans Q-Pro FLIP constructions is modified by a non-anaphor constituent X.

(135) The modifying constituent X in Afrikaans Q-Pro FLIP constructions is base-generated as the complement of the modified pronoun by the phrase structure rule for $\bar{N}$.

(136) The modified pronoun and the modifying constituent X in Afrikaans Q-Pro FLIP constructions are coindexed by a rule of predication at the level of predicate structure/ LF^{1}.

The category of the modifying constituent X is deliberately left unspecified in the hypotheses (134) - (136). This matter will be taken up in par. 3.4.2.2 when we discuss the application and the consequences of the predication analysis. The rest of par. 3.4.2.1 is devoted to a brief explication of the notions "rule of predication" and "predicate structure/LF^{1}" in the hypothesis (136). The discussion of these notions is based on the proposals made in (Williams 1980) - in which the theory of predication was first systematically set out - and on the remarks in (Chomsky 1982b: 92 fn. 11).

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Williams (1980: 203) characterises the predicate structure (PS) of a sentence as "a level of representation in which the subject-predicate relation is indicated by indexing." [151] PS is derived by means of so-called rules of predication. An example of such a rule is given in (137)(a); X represents the predicate, and NP represents the subject/antecedent of X. [152] According to Williams (1980: 206), "any category can be a predicate." [153] Substituting AP for X, (137)(a) will account for the predication relation holding between the NP Bill and the AP sick in (137)(b). [154] The operation performed by (137)(a) in this case is illustrated by the schema (137)(c). [155]

(137)(a) Coindex NP and X

(b) John made Bill sick

(c) ... NP_i ... AP ... ⟶ ... NP_i ... AP_i ...

The relation between an antecedent and a predicate is subject to the structural condition of c-command. Specifically, the antecedent must c-command the predicate and vice versa. [156] This can be illustrated with the sentence in (137)(b). First, the NP Bill and the AP sick c-command each other, hence they can be coindexed at PS. Second, coindexing of the AP sick and the NP John is ruled out, since the AP does not c-command this NP. Third, the NP John and the VP made Bill sick c-command each other. These two categories can therefore be coindexed at PS, that is, the VP can be predicated of the NP John.

Williams (1980:206-207) distinguishes two kinds of predication environments, namely grammatically governed environments and thematically governed environments. The structural descriptions in (138) are all instances of grammatically governed environments. [157] In each case NP/$\bar{N}$/$\bar{S}$ represents the antecedent and X the predicate (where X = VP in (138)(a)). [158] When a sentence meets one of these structural descriptions, the two underlined phrases are coindexed at PS, provided that they c-command each other. Sentences illustrating the structural descriptions in (138) are given in brackets. [159]

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(138)(a) NP VP (e.g. John died/John made Bill sick)
(b) NP VP X (e.g. John left nude/John left singing)
(c) NP be X (e.g. John is sick /John is near Larry)
(d) X $\bar{S}$ (e.g. It is a problem that he is here)
(e) [$\bar{N}$ X]$_{\bar{N}}$ (e.g. A man to do the job)

Thematically governed environments all involve predicates that occur in the VP. Williams (1980: 212) characterises these environments as follows:

(139) "If X is in VP, and V specifies that X is a predicate, then the antecedent of X is the theme of V (or, in the worst case, V specifies which NP is the antecedent)."

The characterisation (139) can be illustrated with the following sentence: [160]

(140) John gave Bill the dog dead.

The VP in (140) contains a predicate in the form of the modifying AP dead, as well as two potential antecedents of this AP, viz. the NPs Bill and the dog. Both NPs c-command the AP and are c-commanded by it. The dog represents the Theme of the verb give, with Bill representing the Goal. [161] In terms of (139), the dog is thus the only possible antecedent of dead. Hence, the AP will correctly be coindexed with the NP the dog at PS, and not with the NP Bill.

This brings us to the question of the general linguistic status of the predication theory proposed in (Williams 1980). The brief discussion of relative clause interpretation in (Chomsky 1982b: 92 fn. 11) has a bearing on this question. Chomsky concludes the discussion with the remark that "there is some evidence for a principle of relative clause interpretation involving a kind of predication". [162] This remark suggests that UG should make provision for an interpretive device(s) of predication. As far as could be ascertained, a proper theory of predication has not yet been proposed within the GB framework. However, Williams' (1980) predication theory - which is pre-

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sented within the so-called OB framework, from which GB Theory was subsequently developed - does not seem to be incompatible with the concepts and principles of GB Theory. [163] It could therefore be claimed that the interpretive device(s) referred to by Chomsky (1982b:92 fn. 11) should be analysed in terms of Williams' proposals. This claim will be accepted here as a working hypothesis.

We turn next to the question of the input structures for the rules that derive PS. There are two proposals that may be mentioned in this regard. The first, due to Williams (1980: 237), is that PS is derived by rules of predication from the surface structure of a sentence; PS in turn forms the input to rules that derive LF representations. In other words, PS mediates in the derivation of LF representations from surface structures. The term **surface structure**, as it is used by Williams, denotes the level of representation that is derived by means of transformational rules from the deep structure of a sentence. [164] In the GB framework, by contrast, the term **S-structure** is used to refer to the output of the transformational component; the term **surface structure** denotes, in Chomsky's (1982a:18) words, "the actual labelled bracketing of an expression at the level PF." This latter use of the term **surface structure** is clearly not the one intended by Williams (1980: 236 - 237). Rather, it seems reasonable from the viewpoint of GB Theory to interpret Williams' proposal in terms of the notion "S-structure"; that is to say, PS mediates in the derivation of LF representations from S-structures. [165] The second proposal about the input structures for rules of predication is due to Chomsky (1982b: 93). According to Chomsky, predication devices may be thought of "as mapping LF representations into LF^1 representations by identifying indices." In other words, LF representations mediate in the derivation of LF^1 representations from S-structure. This proposal is similar to the one made by Williams (1980) in that it postulates a level of representation in which subject-predicate relations are indicated by indexing. A major difference between the two proposals revolves round the question of whether PS/LF^1 is derived from S-structure (Williams' "surface structure") or from LF. This question falls outside the scope

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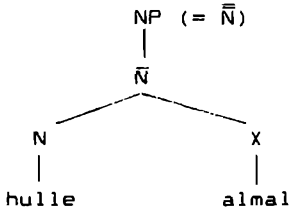
of the present study and will accordingly not be pursued here. Following Chomsky (1982b: 237), we will furthermore leave open the question of whether LF¹/PS "is actually at a new level of representation or whether it is simply a stage in the interpretation of LF, which may involve a number of steps." [166]

3.4.2.2 Application and consequences

Consider again the sentence (133)(a) Hulle almal het die boek gelees. In terms of the hypothesis (135), the subject NP hulle almal will be assigned the underlying structure (141).

(141)



It was pointed out in par. 3.4.1 that (133)(a) is acceptable with almal interpreted coreferentially with the pronoun hulle. The predication analysis provides the following explanation of this phenomenon. In terms of this analysis, there exists a predication relation between the modified pronoun hulle and the modifying constituent X almal in (141), with hulle representing the antecedent of the predicate almal. These two constituents c-command each other, hence they can be coindexed by the rule (137)(a) in PS/LF¹, in accordance with the hypothesis (136). Non-coindexing of hulle and almal is furthermore ruled out by Williams' (1980: 208) claim that "Every predicate must have an antecedent." Since (133)(a) contains no other possible antecedent of almal than the pronoun, coindexing of these two constituents is obligatory in PS/LF¹. [167] This explains the fact that almal in the sentence (133)(a) cannot be interpreted noncoreferentially with hulle.

The predication relation between hulle and almal in (133)(a) is not determined thematically, since the predicate almal does

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not form part of the VP. This indicates that the predication in question takes place in a grammatically governed environment. But the structure (141) does not conform to any of the grammatically governed environments specified in (138)(a)-(e). This problem can be overcome by adding the structural description (142)(a) to those in (138). Alternatively, the structural description (138)(e) could be generalised to (142)(b), with the superscript *n* representing the bar specification of N. Both (142)(a,b) make provision for (141) as an environment for predication.

(142)(a) $[\ \underline{N}\ \ \underline{X}\ ]_{\bar{N}}$

(b) $[\ \underline{N^n}\ \ \underline{X}\ ]_{N^{n+1}}$

Possible support for (142)(a)/(b) as a grammatically governed predication environment is provided by sentences such as those in (143). [168]

(143)(a) Hy wil met [$_{NP}$ julle kinders] praat.
he wants-to with you child-PLU talk
"He wants to talk to you children"

(b) Hy het [$_{NP}$ ons twee] herken.
he has us two recognise
"He recognised us two"

(c) [$_{NP}$ Die feit dat hy siek is] ontstel haar.
the fact that he ill is upsets her
"The fact that he's ill upsets her"

Each of the bracketed NPs in (143)(a)-(c) contains a head noun (i.e. julle, ons, feit) and a complement phrase (i.e. kinders, twee, dat hy siek is) which modifies this noun. In the terminology of Williams' (1980) predication theory, the complement phrases are predicated of the respective head nouns (or antecedents). Given that a head noun and its complement are both immediately dominated by a single-bar N-phrasal projection, at least in deep structure, the bracketed NPs in (143) presumably all have an underlying structure along the lines of (141).[169] In such a structure each complement phrase c-commands its antecedent (i.e. the head noun) and vice versa. Hence it is pos-

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sible to express the predication relation between the respective head nouns and complement phrases at PS/LF[1] by means of the predication rule (137)(a).[170] By implication, therefore, each of the relevant head-complement pairs in (143) occurs in a predication environment. The environment in question is the one specified by the structural description (142)(a)/(b). In short, the examples in (143) appear to provide independent motivation for (142)(a)/(b) as a grammatically governed predication environment.

We turn now to the question of the syntactic category to which the modifying constituent in Q-Pro FLIP constructions belongs, that is, the syntactic category of the X in structures such as (141). The proposal that X represents a (postposed) QP has already been ruled out by implication in par. 3.4.1. To recap briefly: given the BPH (50) and the OAH (51), it is required in terms of the binding principle (9) for anaphors that almal in (141), if it represents a postposed QP, has to be bound in its governing category. Since this is not the case, and since the relevant sentence (= (133)(a)) is acceptable, it could be concluded that the X almal in (141) does not represent a postposed QP. An alternative proposal is to analyse the modifying constituent in Q-Pro FLIP constructions as a (non-anaphor) NP, which amounts to saying that almal in (141) represents the NP complement of the pronominal head hulle. There are at least three considerations that have a positive bearing on this proposal. The first concerns the Phonological Identity Hypothesis (56) which holds that there exists a phonologically identical, non-anaphor NP for each postposed QP in Afrikaans. This hypothesis makes it possible to analyse the modifying constituent X almal in (141) - which phonologically resembles a postposed QP, but which does not behave like one with regard to the OAH (51) and the binding principle (9) - as a non-anaphor NP. The second consideration concerns the claim that a pronominal head - e.g. hulle in (141) - can have an NP complement. The sentences (143)(a,b) provide support for this claim. The bracketed NPs in these sentences each contain a pronominal head (julle, ons) that is modified by an NP complement (kinders, twee).[171] The third consideration concerns the phenomenon that the modi-

fied constituent in Afrikaans Q-Pro FLIP constructions has to be a pronoun, as is illustrated by the sentences in (144). In (144)(a) almal modifies the pronoun hulle, and in (144)(b) the noun kinders; the latter sentence is unacceptable.

(144)(a) Hy het met [$_{NP}$ hulle almal] gepraat.
he has with them all PAST-talk
"He talked to them all"
(b) *Hy het met [$_{NP}$ die kinders almal] gepraat.
he has with the child-PLU all PAST-talk

The fact that the modified constituent in Q-Pro FLIP constructions has to be a pronoun can be related to a more general co-occurrence phenomenon. In Afrikaans, NPs do not occur as complements to *nominal*, as opposed to *pronominal*, heads. That is, NPs do not enter into the subcategorisation frames of non-pronominal nouns. This is illustrated by the unacceptability of the sentences in (145). In each case the bracketed NP contains a non-pronominal head (kinders, meisies) that is modified by an NP complement (stouterds, twee).

(145)(a) *Hy wil met [$_{NP}$ die kinders stouterds] praat.
he wants-to with the child-PLU rascal-PLU talk
(b) *Hy het [$_{NP}$ die meisies twee] herken.
he has the girl-PLU two recognise

By analysing the modifying constituent in Afrikaans Q-Pro FLIP constructions as an NP, it is thus predicted that this constituent should co-occur only with pronominal head nouns, because non-pronominal nouns do not subcategorise for NPs. To put it differently, it is predicted that the modified constituent in such constructions will always be a pronoun. The prediction is correct, as is illustrated by the sentences in (144). [172]

The proposal to analyse the modifying constituent in Afrikaans Q-Pro FLIP constructions as an NP has at least one potentially problematic aspect that should be noted here. This relates to the Extended Case Filter, a device of GB Case Theory.[173] Consider in this connection the sentence (133)(a) Hulle almal het

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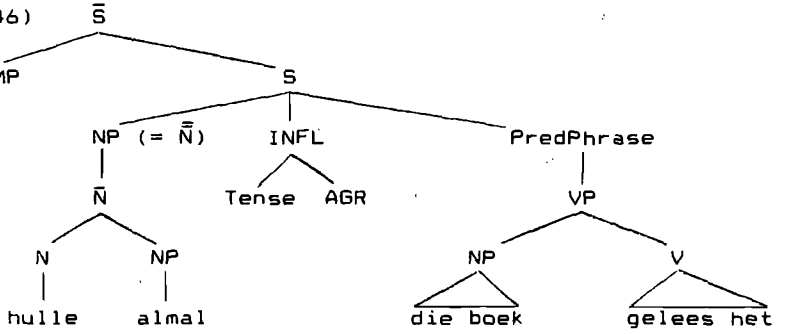
die boek gelees. The underlying structure of this sentence may be represented roughly as in (146). This structure conforms to the proposal under discussion in that the modifying constituent almal is analysed as the complement of the pronoun hulle.

(146)



As an overt NP, almal in (146) must be assigned Case in accordance with the Extended Case Filter. The structure (146) contains two potential Case-assigners, namely AGR and the transitive verb lees. AGR assigns nominative Case to the subject NP hulle almal, while the verb lees assigns objective Case to the direct object NP die boek. However, neither AGR nor the verb governs the NP almal, hence they cannot assign Case to this NP. [174] Almal thus appears to be without independent Case in (146). (133)(a) is nevertheless an acceptable sentence, that is, it is not ruled out by the ECF. A possible conclusion then, is that almal in (133)(a) does not represent an NP. It is important to note at this point that the findings regarding Case-assignment in (146) also hold for sentences like those in (143)(a,b). As the complements to pronominal heads, the items kinders and twee in these sentences both occupy a non-Case-assignment position. It seems implausible, though, that either item belongs to a category other than NP.

There are at least two proposals that could be suggested in connection with Case-assignment in sentences like (133)(a) and (143)(a,b). On the one hand, it could be proposed that GB Case Theory should be amended in some way to make provision for assigning Case to the NP complement of a pronominal head. This would make it possible to account for the acceptability of the

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sentences in question. On the other hand, it could be proposed that the putative NP complements in these sentences actually form part of "reduced" relative clauses, with such a clause presumably containing a proper Case-assigner for the overt NP. For example, in terms of this proposal, kinders in (143)(a) would be the predicate nominal NP of a relative clause that may be construed as *wat kinders is* ("who are children"). [175] This would of course still leave the question of how/whether Case is assigned to a predicate nominal NP, a matter that has apparently not yet been addressed within Case Theory. The two proposals just outlined are intended to be suggestive at most, and will not be explored further here.

To sum up: it was illustrated with the sentence (133)(a) that the coreferential relation between the modified pronoun and the modifying constituent X in Afrikaans Q-Pro FLIP constructions can be accounted for straightforwardly in terms of the proposed predication analysis, provided that the grammatically governed predication environments (138) presented in (Williams 1980: 212, 223, 230) are extended to include the environment (142)(a)/(b) as well. [176] Independent justification for this extension is provided by the examples in (143)(a)-(c). It was furthermore argued that the modifying constituent X should be analysed as a (non-anaphor) NP. Such an analysis makes it possible to explain why the modified constituent X in Q-Pro FLIP constructions has to be a pronoun. Finally, it was illustrated that the proposal to analyse the modifying constituent X as an NP is potentially problematic in that such an NP cannot be assigned Case in terms of the devices of Case Theory. It remains to be clarified whether this problem, which is also found with the NP complements in sentences like (143)(a,b), can be solved in a non-ad hoc manner.

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4. Summary

This study focussed on two problematic aspects of the phenomenon of quantifier postposing in Afrikaans. These two aspects were formulated in the general terms (6)(a) and (b) in par. 1, repeated here as (147)(a) and (b).

(147)(a) Which positions can be occupied by a postposed QP in surface structure?
(b) With which constituent(s) can a postposed QP be associated semantically?

The analyses of quantifier postposing that have been presented in the literature on generative grammar during the past twenty years have generally focussed on the question (147)(a). With a few recent exceptions, these analyses have taken the fundamental assumption (148) as a point of departure in attempting to account for the syntactic distribution of postposed QPs. [177]

(148) A floating QP is base-generated to the left of the constituent it modifies, and can be moved to a position to the right of this modified constituent by means of a transformational rule(s).

A detailed movement analysis of quantifier postposing in Afrikaans - i.e. one which incorporates the assumption (148) - was set out and subjected to critcal scrutiny in (Oosthuizen 1988: chapter 3). It was argued that such an analysis should be rejected on both empirical and conceptual grounds. On empirical grounds, because it makes a large number of incorrect predictions about the surface distribution of Afrikaans postposed QPs. On conceptual grounds, because it requires various movement devices with formal properties that are incompatible with the concepts and principles of the GB Theory of core grammar.

An attempt was made in the present study to construct, within the GB framework, an alternative analysis of Afrikaans quantifier postposing. This alternative analysis - which we referred to as "the interpretive analysis (of quantifier postposing)" -

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differs in two important respects from the movement analysis set out in (Oosthuizen 1988: chapter 3). Firstly, the interpretive analysis does not employ any quantifier movement rules to account for the surface distribution of postposed QPs. [178] Instead, in answer to the question (147)(a), it is claimed on this analysis that the surface positions occupied by postposed QPs reflect the positions in which they are generated in deep structure. Thus, in contrast to the movement analysis, the interpretive analysis does not incorporate the assumption (148). Secondly, the interpretive analysis explicitly addresses the question (147)(b) about the semantic interpretation of postposed QPs. In terms of this analysis, postposed QPs represent overt anaphors that are coreferentially related (or *bound*) to appropriate antecedents by the devices of GB Binding Theory. The aim of the present study was to determine whether such an interpretive analysis has any merit as an alternative approach to the description of quantifier postposing in Afrikaans core grammar. To this end, the empirical and the conceptual consequences of the proposed interpretive analysis were examined in par. 3. Three general findings emerged from the investigation. The first two relate to the syntactic distribution and the semantic interpretation of postposed QPs in so-called Q-FLOAT constructions, and the third to the syntactic distribution and the semantic interpretation of postposed QPs in so-called Q-Pro FLIP constructions. [179] These three findings may be summarised as follows.

(149) The interpretive analysis does not require any movement devices to express the various generalisations about the surface distribution of Afrikaans postposed QPs. [180] In terms of this analysis, the positions occupied by postposed QPs in surface structure represent the positions in which they are base-generated by the phrase structure rules for S, PredPhrase, and VP. The claim that these three phrase structure rules should be expanded to make provision for postposed QPs is supported by several empirical considerations, as illustrated in par. 3.3.1.

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(150) The interpretive analysis gives an empirically adequate account of the semantic relation between postposed QPs and the constituents with which they are associated in a variety of Q-FLOAT constructions. This represents an advantage over the movement analysis in which the question of the semantic interpretation of postposed QPs is not explicitly addressed. The interpretive analysis moreover does not require any special types of semantic interpretation device, employing instead the devices of GB Binding Theory, specifically, the binding principle for anaphors and the devices associated with it. Also, it was illustrated in par. 3.1 that there is independent empirical justification for incorporating these devices into the core grammar of Afrikaans --- they are required to explain the coreferential relation between "ordinary" overt anaphors (e.g. the reciprocal mekaar) and their antecedents. By employing the devices of GB Binding Theory, the interpretive analysis thus makes it possible to give a unifying account of the semantics of "ordinary" overt anaphors and postposed QPs.

(151) The interpretive analysis gives an empirically adequate account of the syntactic distribution of postposed QPs in Q-Pro FLIP constructions: in terms of this analysis, the postposed QP is base-generated as the complement of the constituent that it modifies by means of the phrase structure rule for N. However, the interpretive analysis fails to account for the semantic interpretaion of postposed QPs in Q-Pro FLIP constructions.

An attempt to overcome the problem noted in (151) was made in par. 3.4.2. In that paragraph I outlined a possible alternative interpretive analysis of Afrikaans Q-Pro FLIP phenomena within the framework of Williams'(1980) theory of predication. On this analysis - which was called "the predication analysis (of Q-Pro FLIP phenomena)" - the modifying constituent in Q-Pro FLIP constructions is denied the status of a postposed QP. Instead, this constituent is analysed as a non-anaphor NP that is base-generated as the complement of the constituent with

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which it is associated, and that is coreferentially related to this constituent by means of a rule of predication. Rules of predication serve to derive the predicate structure of a sentence, in Williams' (1980: 203) words, "a level of representation in which the subject-predicate relation is indicated by indexing."

In discussing the content and the consequences of the predication analysis of Afrikaans Q-Pro FLIP phenomena, various non-trivial issues of theoretical principle and empirical detail were left open, issues that would have to be explored in order to determine fully the merit of this analysis. Nevertheless, even in its rudimentary form the predication analysis exhibits a number of attractive aspects. For one thing, it can account for the syntactic distribution and the semantic interpretation of the modifying constituent in Q-Pro FLIP constructions. For another, it can explain why the modified constituent in these constructions can only be a pronoun, a fact that is left unexplained in the movement analysis set out in (Oosthuizen 1988: par. 3.3). It was furthermore illustrated that there is independent justification for the descriptive devices required by the predication analysis. In short, there seems to be ample empirical support for analysing the modifying constituent in Afrikaans Q-Pro FLIP constructions as a non-anaphor NP that is coreferentially related to the modified pronoun by means of a rule of predication. Obviously, by adopting such an analysis, the potential problem for the interpretive analysis of quantifier postposing that was noted in (151) above can be overcome.

As regards the general-linguistic status of Williams' predication theory - which forms the specific framework in which the Afrikaans predication analysis of Q-Pro FLIP phenomena is presented - it appears that this theory is compatible, at least in principle, with the concepts and principles of GB Theory. It is moreover clear from Chomsky's (1982b: 92, fn. 11) brief discussion of relative clause interpretation in English that GB Theory should make provision for a principle(s) of predication as a component part of UG. As far as I know, (Williams 1980) represents the only systematic attempt at developing a

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theory of predication within the framework of Chomskyan generative grammar. An inquiry into the merit of Williams' proposals remains, however, a topic for future research.

The preceding summary focussed only on the attractive aspects of the interpretive analysis of quantifier postposing, and the predication analysis of Q-Pro FLIP phenomena. In fact, though, both analyses exhibit a number of potentially problematic aspects, from an empirical as well as from a conceptual point of view. This was made clear throughout the discussion in par. 3. A brief summary of some of the more important potential problems facing the two analyses is given below.

(152) The interpretive analysis employs the phrase structure rules of the base component to account for the surface distribution of postposed QPs: the positions occupied by these QPs in surface structure reflect the positions in which they are generated in deep structure. The crucial question, of course, is whether it is possible to give a principled explanation of why postposed QPs occupy the deep structure positions that they apparently do. In the absence of such an explanation, the account given in the interpretive analysis of the surface distribution of Afrikaans postposed QPs is clearly not very attractive, lacking as it does in explanatory power.

(153) It is claimed in terms of the interpretive analysis that a postposed QP can be base-generated under the VP. As was illustrated in par. 3.3.3.1, this claim gives rise to three incorrect predictions about the surface distribution of postposed QPs relative to phrases functioning as instrumental adverbials, manner adverbials, and regular indirect objects. It is not clear whether/how these incorrect predictions can be accounted for in a non-ad hoc manner.

(154) It is a fundamental hypothesis of the interpretive analysis that postposed QPs represent overt anaphors in Afrikaans. The characterisation of overt anaphors given in

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(Chomsky 1982a; 1982b) incorporates two claims that are problematic for this Overt Anaphor Hypothesis. The first claim is that overt anaphors represent arguments, which amounts to saying that such anaphors occupy A-positions in which they are assigned distinct θ-roles. The second claim is that overt anaphors must be assigned Case. Afrikaans postposed QPs do not conform to either of these claims, as was illustrated in par. 3.3.3.2. The claim about Case-assignment moreover implies that overt anaphors must belong to the category NP, since only NPs can be assigned Case in terms of GB Case Theory. Apparently, then, GB Theory does not make provision for non-NP anaphors. This clearly constitutes a major obstacle for the interpretive analysis of quantifier postposing.

(155) Various auxiliary hypotheses are required to make the Overt Anaphor Hypothesis compatible with the facts of Afrikaans, e.g. the Phonological Identity Hypothesis (cf. par. 3.2); the hypothesis that the formative vir represents a Case marker when it co-occurs with a direct object NP, and with an indirect object NP in double object constructions (cf. par. 3.3.2.2); and the hypothesis that a postposed QP must occur to the right of its binder (cf. par. 3.3.3.1). Although these auxiliary hypotheses were shown to have a measure of independent support, various questions of principle and of empirical detail had to be left open for reasons relating to the scope of this study. These questions would have to be addressed in order to assess fully the merit of the relevant auxiliary hypotheses. Should any of these hypotheses turn out to be objectionable, this will obviously have an adverse effect on the merit of the OAH, hence on the merit of the interpretive analysis.

(156) It is claimed in terms of the predication analysis that the modifying constituent in Afrikaans Q-Pro FLIP constructions represents a non-anaphor NP. However, such an NP cannot be assigned Case in terms of the devices of GB Case Theory, in violation of the Extended Case Filter.

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(This problem is not restricted to the modifying NP in Q-Pro FLIP constructions, as was illustrated in par. 3.4.2.2.)

A few remarks about the potential problems mentioned in (152) and (154) are in order here. Firstly, lexical items in Afrikaans are not subcategorised for *postposed* QPs. The positions occupied by these QPs in deep (hence, surface) structure thus cannot be regarded as being projected from the lexicon. GB Theory apparently contains no other principles and/or parameters from which the specific positions that are available for postposed QPs can be derived. It was accordingly assumed that the positions that are available for these QPs have to be stipulated in the phrase structure rules. As was pointed out in par. 3.3.1, this assumption is in accordance with Chomsky's (1982a: 31) claim that phrase structure rules serve to express language-particular idiosyncracies that are "not determined by lexical properties and other principles of grammar." Turning next to the potential problem in (154), it was pointed out in par. 3.3.3.2 that Chomsky (1982a:218-219) does *not* exclude the possibility of extending the notion "anaphor" to include non-NP categories. He specifically mentions "displaced quantifiers" as elements that might fall under "a somewhat looser characterization of the notion ['anaphor' --- J.O.]." This is what is argued for in terms of the proposed interpretive analysis of quantifier postposing in Afrikaans. It remains to be clarified, however, (i) exactly what such a "looser characterization" of the notion "anaphor" would entail, and (ii) what the general-linguistic consequences would be of extending the class of possible anaphors to non-NP categories.

To end, there is one further potential problem that should be noted. This concerns the semantic interpretation of so-called non-postposed QPs, e.g. albei in the sentence Albei kinders slaap ("Both children are sleeping"). As pointed out in par. 1, the interpretive analysis is presented in an attempt to describe the syntactic distribution and the semantic interpretation of *postposed* QPs in Afrikaans. This analysis does not, and is not intended to, deal with any aspect of *non-postposed*

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QPs. [181] In fact, it was illustrated in note 138 that the semantic interpretation of non-postposed QPs cannot be accounted for in terms of the interpretive analysis. Apparently, then, the grammar of Afrikaans has to make provision for two types of QP, namely those that behave like overt anaphors with respect to the binding principle for anaphors (i.e. postposed QPs) and those that do not (i.e. non-postposed QPs). One possible way of expressing such a distinction is by means of lexical features. For example, it could be proposed that QPs are marked [+ anaphoric] or [- anaphoric] in the lexicon, and that only those marked [+ anaphoric] (i.e. postposed QPs) are subject to the binding principle (9) for anaphors. This would of course still leave the question of how to account for the semantic relation between a non-postposed QP and the constituent with which it is associated. An alternative possibility is to deny "non-postposed QPs" the syntactic status of QPs, and to analyse such a constituent as a pronominal head noun that is coreferentially related to its NP complement (e.g. kinders in the above example) by means of a predication rule. This possibility was briefly discussed in note 176. The two alternative proposals just outlined are intended to be suggestive at most; an inquiry into their merit is a task for further research.

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Appendix 1

Four Afrikaans phrase structure rules

In order to describe the syntactic distribution of Afrikaans postposed QPs, it is necessary to determine the linear and the hierarchical relations holding between the different constituents of a sentence. That is, it is necessary to determine the sentence internal structures in terms of which the positions in which a postposed QP may (not) occur can be specified. In (Oosthuizen 1988: par. 2.3.2) I proposed four phrase structure rules in an attempt to express the underlying regularities of Afrikaans sentence internal structure that have a bearing on the description of the syntactic distribution of postposed QPs. These rules - the rules for expanding $\bar{S}$, S, PredPhrase, and VP - are summarised and briefly explicated in (I)-(IV) below, as background to the interpretive analysis presented in par. 3 of the present study.

As far as could be ascertained, a detailed and systematic account of Afrikaans phrase structure rules has not been attempted in the literature on generative grammar. Such an account was certainly not attempted in (Oosthuizen 1988) - the set of phrase structure rules (I)-(IV) that was proposed in that work represents no more than a working hypothesis, a first approximation of the linear and the hierarchical relations that hold between some of the constituents of Afrikaans sentences at the deep structure level. Many potentially interesting questions - e.g. questions about the nature and the structural position of the categories COMP and INFL(ECTION) - were left unexplored, because they do not enter into the analysis of the phenomenon of *quantifier postposing*. *Obviously, these questions, and the* question of the merit of the proposals that are made in terms of the rules (I)-(IV), have to be addressed in a proper theory of deep structure constituent membership in Afrikaans, e.g. a theory developed within an X-bar framework. The development of such a theory is, however, a task for further research.

The discussion of the rules (I)-(IV) in (Oosthuizen 1988: par. 2.3.2) was based on aspects of the theory of phrasing presen-

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ted in (Williams 1977). This theory also forms the basis of De Haan's (1979: 21-48) discussion of the phrase structure rules for $\bar{S}$, S, PredPhrase, and VP in Dutch, a language that is historically and grammatically closely related to Afrikaans. Central to Williams' theory is the thesis that, in De Haan's (1979: 21) words, "constituents immediately *dominated* by VP, PredPhrase, S, and S^1 (which will be called VP, PredPhrase, S, and S^1 constituents, respectively) behave systematically different with respect to a number of criteria". The criteria for constituent membership employed by Williams (1977) and De Haan (1979: 21-48) were explicated in (Oosthuizen 1988:par. 2.3.2). Cf. also par. 3.3.1 above for some of these criteria.

A few clarifying remarks are required about the category PredPhrase. In the literature on GB Theory the maximal projection of V is generally denoted with the term **VP** - or alternatively V^n, with the superscript n representing the number of bars (or primes) that are associated with maximal projections within a given version of X-bar Theory. Chomsky (1982a: 51-52), for example, uses **VP** for referring to "the maximal projection of V, a constituent of S." It is in this sense that the term **PredPhrase** is used in the present study. By contrast, the term **VP** is used in this study to denote a *non-maximal* projection of V, a constituent of PredPhrase that directly dominates the V. It must however be stressed that the use of **PredPhrase** to denote the maximal projection of V, instead of **VP** as in for example (Chomsky 1982a), does not have any effect on the argumentation in par. 3.

This brings us to the conventions which are used in the formulation of the phrase structure rules (I)-(IV). First, the bar notation, a variant of the prime notation, is employed in this study for expressing the various projection levels of syntactic categories. Hence $\bar{S}$ is used in the rules (I) and (IV), not S^1 as in for example (De Haan 1979: 21-48). Second, the rules (II)-(IV) contain a *number* of constituents enclosed in braces. Two obvious questions arise in connection with these constituents: What is the maximal number of each constituent, and how are the constituents ordered with respect to each other? These

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questions do not enter into the interpretive analysis of quantifier postposing set out in par. 3 above, and are accordingly left unexplored. Instead, the rules (II)-(IV) incorporate the so-called "star" convention employed by Jackendoff (1972: 68). In terms of this convention the constituents within the braces are unrestricted with regard to number and relative order. And finally, it must be noted that the numerical subscripts in the rules (II)-(IV) serve no other purpose than to facilitate reference to the relevant constituents.

(I) S ⟶ COMP ... S ...

(II) S ⟶ NP_1 - ($\left\{ \begin{matrix} AP \\ NP_2 \\ PP \end{matrix} \right\}^*$) - PredPhrase

where

- NP_1 represents the position for subject NPs;
- AP, NP_2, and PP represent the position for weak *vir*-phrases [cf. note 66] and for phrases functioning as sentence adverbials.

(III) PredPhrase ⟶ ($\left\{ \begin{matrix} AP \\ NP_1 \\ PP_1 \end{matrix} \right\}^*$) - ($\left\{ \begin{matrix} NP_2 \\ PP_2 \end{matrix} \right\}^*$) - VP

where

- AP, NP_1, and PP_1 represent the position for phrases functioning as manner, time, and instrumental adverbials;
- NP_2 and PP_2 represent the position for regular indirect object NPs with or without the preposition *aan*/*vir* [cf. note 70].

(IV) VP ⟶ (NP_1) - ($\left\{ \begin{matrix} AP \\ NP_2 \\ PP \end{matrix} \right\}^*$) - V - ($\bar{S}$)

where

- NP_1 represents the position for (i) an irregular indirect object NP [cf. note 70], (ii) a direct object NP (in structures not containing an irregular indirect object NP), and (iii) a predicative nominal NP (in

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structures not containing a direct object NP);

- **AP** represents the position for a predicate adjective AP;
- **PP** represents the position for prepositional object NPs, and also for directional and place adverbials;
- **NP_2** represents the position (i) for a direct object NP (in structures that contain an irregular indirect object NP), and (ii) for a predicate nominal NP (in structures that contain a direct object NP;
- **$\bar{S}$** represents the position for sentential complements of verbs (e.g. direct object sentences and prepositional object sentences).

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Appendix 2

Generalisations about the surface distribution of postposed QPs in Afrikaans

In (Oosthuizen 1988:par. 3.2) an attempt was made to determine the various surface positions in which an Afrikaans postposed QP may (not) occur, that is, its distribution relative to specific constituents in surface structure. In this, the constituents generated by the proposed phrase structure rules for S, PredPhrase, and VP (presented as (II)-(IV) respectively in Appendix 1 above) were taken as point of departure. The findings that were made in this regard are summarised in the schema (i) below in the form of fifteen generalisations. These generalisations must be expressed by a descriptively adequate analysis of quantifier postposing in Afrikaans. It was argued in (Oosthuizen 1988: par. 3.2) that this requirement is not met by an analysis that incorporates the assumption (3) in par. 1 above, specifically, an analysis that employs the movement rule of Q-FLOAT to explain the surface distribution of postposed QPs. By contrast, it is argued in par. 3 of the present study that the interpretive analysis succeeds in capturing the relevant generalisations. On this analysis, the positions that are occupied by postposed QPs in surface structure represent the positions in which they are generated by the phrase structure rules proposed in par. 3.3.1.

The generalisations in the schema (i) are grouped into the two categories of "broad generalisations" and "restricted generalisations". These two categories are given in columns A and B, respectively. The broad generalisations are formulated without reference to a specific modified NP, that is to say an NP with which the postposed QP is associated semantically. In this way expression is given to those aspects of surface distribution that are common to QPs that serve to modify NPs functioning as subject, direct object, indirect object and predicate nominal. (These are the only NPs in Afrikaans with which a postposed QP can be associated semantically; cf. Oosthuizen 1988: par. 3.2 for discussion.) The restricted generalisations express those aspects of surface distribution that are not commonly shared

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by postposed QPs, in other words those aspects of distribution that are idiosyncratic to QPs that serve to modify an NP with a specific grammatical/semantic function. As a matter of fact, these generalisations all deal with the syntactic distribution of postposed QPs that modify subject NPs. It must be stressed, however, that the distinction between broad and restricted generalisations is one of convenience, made only to facilitate the presentation of the various generalisations.

Three further points about the schema (i) require clarification. Firstly, the generalisations are all formulated in positive terms, in other words, they refer only to those positions in which a postposed QP *may* occur. The positions in which a postposed QP may *not* occur are by implication those that are not mentioned in the schema. The second point concerns the demarcation of the various generalisations. For the sake of convenience, this is based on the proposed phrase structure rules for S, PredPhrase and VP in Appendix 1 above. As a rule, each generalisation refers to one of the constituents generated by the three phrase structure rules. In some cases, however, two or more of these constituents are grouped together in the formulation of a single generalisation. In this I have followed the ordering relations specified by the relevant phrase structure rules. For example, Generalisation III refers to two types of constituent, namely weak vir-phrases and phrases that function as sentence adverbials. This is in keeping with the phrase structure rule (II) for S in Appendix 1, in which these constituents are grouped together under the "star" convention. However, this approach is followed only when there is the same distributional relation between the postposed QP and each of the relevant constituents. Thus the fact that two or more constituents are grouped together in a phrase structure rule does not necessarily imply that they will also be grouped together in the formulation of a generalisation. Generalisation VI, for example, refers only to time adverbials, even though these adverbials are grouped together with manner and instrumental adverbials in the phrase structure rule (III) for PredPhrase in Appendix 1. The reason for this is that a postposed QP may oc-

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cur to the left or the right of time adverbials, but only to the left of manner and instrumental adverbials.

Finally, it is important to note that the generalisations in the schema *collectively* express the surface positions in which a postposed QP may occur. Care should thus be taken not to interpret a given generalisation in isolation from the others. Take Generalisation VI for example. In terms of VI a postposed QP may occur (directly) before or after a time adverbial. Contrary to this generalisation, a postposed QP may not occupy either of these positions when the time adverbial is preceded by a manner or instrumental adverbial. This however, is a consequence of Generalisation V, which implies that a postposed QP may not occur to the right of manner or instrumental adverbials.

(i)

GENERALISATIONS ABOUT THE SURFACE DISTRIBUTION OF POSTPOSED QPs RELATIVE TO S, PREDPHRASE, AND VP CONSTITUENTS IN AFRIKAANS

A. BROAD GENERALISATIONS

I A postposed QP may occur (directly) to the right of the modified NP. [Cf. also Generalisation XII]

II A postposed QP may occur (directly) to the left of the PredPhrase.

III A postposed QP may occur (directly) to the left or to the right of
- weak vir-phrases [cf. note 66];
- phrases functioning as sentence adverbials.

IV A postposed QP may occur (directly) to the left of the VP.

V A postposed QP may occur (directly) to the left of phrases functioning as manner and instrumental adverbials.

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VI A postposed QP may occur (directly) to the left or to the right of phrases functioning as time adverbials.

VII A postposed QP may occur (directly) to the left of
- strong vir-phrases;
- regular indirect object NPs (with or without the preposition aan).

[Cf. notes 66 & 70; cf. also Generalisation XIII]

VIII A postposed QP may occur (directly) to the left of the sentential complement of a verb.

IX A postposed QP may occur (directly) to the left of the verb. [Cf. also Generalisation XIV]

X A postposed QP may occur (directly) to the left of
- predicate adjective APs;
- predicate nominal NPs;
- prepositional object NPs;
- phrases functioning as directional and place adverbials.

XI A postposed QP may occur (directly) to the left of
- direct object NPs;
- irregular indirect object NPs.

[Cf. note 70; cf. also Generalisation XV]

B. RESTRICTED GENERALISATIONS

XII A postposed QP which modifies a subject NP may occur *directly* to the right of this NP only in subordinate clauses.

XIII A postposed QP which modifies a subject NP may occur (directly) to the right of
- a strong vir-phrase or
- a regular indirect object NP (with/without aan),

in constructions where the vir-phrase/indirect object NP precedes the direct object NP. [Cf. notes 66 & 70]

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XIV A postposed QP which modifies a subject NP may occur (directly) to the right of the finite verb in main clauses.

XV A postposed QP which modifies a subject NP may occur (directly) to the right of

- a direct object NP, in constructions where this NP occurs on its own, or where it precedes an irregular indirect object NP [cf. note 70];
- an irregular indirect object NP, in constructions where this NP is followed by the direct object NP.

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Footnotes

1. The term **quantifier** is conventionally used to denote items which co-occur with nouns (on a par with determiners and adjectives), and which specify the number or the quantity of the referents designated by these nouns. As Lyons (1977: 455) puts it, "a quantifier tells us how many entities or how much substance is being referred to."

Quantifiers can be divided into several types, including for example "universal quantifiers" and "existential quantifiers" (cf. for example Booij *et al.* 1975: 96 and Klenk 1983: 215-225 for these and further types of quantifiers). A universal quantifier (e.g. all, both, each in English) signifies that a given proposition applies to any instance and all instances of *the* set of referents designated by the noun with which this quantifier is associated. Hence in a sentence like (i)(a) the universal quantifier all signifies that the property of being optional holds for all of the entities referred to by the noun rules. An existential quantifier, by contrast, signifies that a proposition applies to at least one, but not to all, instances of the set of referents designated by a particular noun. For example, the existential quantifier some in (i)(b) signifies that there is at least one instance of the set of entities referred to by the noun rules which has the property of being optional.

(i)(a) All rules are optional.
(b) Some rules are optional.

Some universal quantifiers (e.g. all, both, each in English) can occur either to the left or to the right of the nouns with which they are associated. This is illustrated below in the text with the sentence pairs in (1),(2). These quantifiers are referred to as *floating* universal quantifiers. Existential quantifiers may occur only to the left of the nouns with which they are associated (at least in English), as is illustrated by the difference in acceptability between (i)(b) and (ii) below. This restriction also holds for certain universal quan-

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tifiers, e.g. any and every in English. This is illustrated by the difference in acceptability between (iii)(a) and (b). (Cf. Baltin 1978: 52-61 for a possible explanation of why only certain quantifiers can "float".)

(ii) *(The) rules are some optional.

(iii)(a) Every rule is optional.
(b) *(The) rule is every optional./
*(The) rules are every optional.

The present study is concerned with aspects of the syntactic distribution and the semantic interpretation of *floating universal quantifiers* (in Afrikaans). A brief exposition of the lexical and syntactic properties of the various floating universal quantifiers in Afrikaans is given in (Oosthuizen 1988: par. 2.3.3). For a discussion of some of the lexical properties of these quantifiers in English, cf. for example Carden 1976; Hogg 1972; Jackendoff 1968; and McCawley 1979: 179-190.

Following for example (Baltin 1980); (Jackendoff 1977:103-114, 141-143); and (Selkirk 1977: 288 - 302), it is assumed in the present study that a quantifier forms the head of a quantifier phrase in syntactic representations. Unless otherwise specified, the term **QP** will henceforth be used as a convenient abbreviation for "phrase containing a floating universal quantifier as its head". An expression like "the QP all" accordingly denotes a phrase which contains the floating universal quantifier all as its head.

2. This phenomenon is found in a variety of other languages, including for example Persian and Rumanian (cf. Baltin 1978: 32-35), and French (cf. Kayne 1975; Quicoli 1976). Baltin (1978: 64-65) also refers to studies of this phenomenon in Cebuano, Maori, Tongan, Samoan, and Japanese. In the literature on generative grammar, however, most of the studies of the phenomenon in hand have focussed on English - cf. note 4 below for references.

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3. The term **modify** is used here and in the rest of this study in a non-technical sense to indicate that there is some sort of semantic relation between a given QP and the constituent with which it is associated.

4. Cf. for example Baltin 1978: 171 - 192; Baltin 1982: 5-10; Emonds 1976: 239-241; Fiengo and Lasnik 1976: 182-191; Maling 1976: 708-718; Postal 1974: 109 - 118; Postal 1976: 151 - 182; and Williams 1977: 104-106.

5. An analysis which does not incorporate the assumption (3) is presented in (Nakamura 1983). Cf. par. 3.2 for a brief discussion of this analysis.

6. The following conventions will be observed in presenting the Afrikaans data for this study. An acceptable Afrikaans sentence - as in (4)(a) for example - is followed immediately by a morpheme-for-morpheme literal translation into English, given in italics. This literal translation is in turn followed by a more idiomatic translation enclosed in double inverted commas. If the Afrikaans sentence is unacceptable, however, the idiomatic translation is omitted. In the Afrikaans sentences the relevant quantifiers are indicated by means of capital letters. Capital letters are also used in the literal translations to indicate inflectional morphemes associated with properties such as number, tense, etc.

7. This rule has variously been called QUANTIFIER POSTPOSING, QUANTIFIER POSTPOSITION and Q(UANTIFIER)-FLOATING in the literature. **Q-FLOAT**, which seems to be the most widely used term now, will be used in the present study.

8. Q-Pro FLIP was first proposed in (Maling 1976). Cf. (Oosthuizen 1988: par. 2.2.3.2 and 3.3.3) for a discussion of this rule.

9. Baltin's (1978: 66 - 69) brief discussion of the semantic interpretation of postposed QPs deals only with QPs that have been postposed by means of Q-FLOAT. It is not clear whether

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the proposals that Baltin makes in this regard also hold for QPs that have been postposed by means of the NP-internal rule of Q-Pro FLIP.

10. Baltin does not address the question of the semantic relation between the *trace* of a postposed QP and the constituent with which the postposed QP is associated. For a discussion of some of the conceptual implications of the interpretation device which he (1978: 68) proposes to account for the semantic relation between a postposed QP and its trace, cf. (Oosthuizen 1988: par. 3.2.3.3.1).

11. The only other non-superficial movement analysis of quantifier postposing in Afrikaans is the one presented in (Grieshaber 1977: chapter 5). This analysis is developed within the framework of Perlmutter and Postal's Relational Grammar, as it is set out in (Botha 1974).

12. The GB ("Government-Binding") Theory represents the most recent theory of Universal Grammar (UG) within the Chomskyan generative approach to the study of language. Cf. for example Chomsky 1982a; Chomsky 1982b; Chomsky 1986; Jacobsen 1986; Van Riemsdijk & Williams 1986 for the concepts and principles of GB Theory. A detailed and systematic exposition of the conceptual foundations of Chomsky's transformational generative approach to language study is given in (Botha 1987).

A few remarks are in order here about the distinction that is made in GB Theory, as a theory of UG, between the *core* and the *peripheral* parts of the grammar of a particular language. The core, on the one hand, consists of a set of simple, unmarked devices (rules, structures, etc.) that are determined by fixing, on the basis of primary linguistic evidence, the values for a finite number of open parameters in the fundamental principles of UG. UG (hence the principles of UG) represents, in Chomsky's (1982a:8) words, "an element of shared biological endowment". The devices of the core are restricted in their descriptive power, describing only the basic system of struc-

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tures in a particular language. The peripheral part of a particular grammar, on the other hand, consists of a set of marked devices, i.e. devices which depart from the parameters for core grammar specified by UG, and which have to be learned on the basis of negative evidence. These devices are necessary to account for what Chomsky (1978: 13) calls "the full wealth of language". In addition to specifying the fundamental principles and associated open parameters for *core grammar*, UG ostensibly also specifies the ways in which the devices of peripheral grammar could depart from these parameters. It must be noted, however, that a proper theory of peripheral grammar, and a (markedness) theory relating the devices of peripheral grammar to those of core grammar, have yet to be devoloped - work within the framework of GB Theory appears at present to be almost exclusively concerned with the development of the theory of core grammar.

13. Briefly, GB Binding Theory contains the principles which determine the (non-)coreferential relations between NPs. The relevant devices of GB Binding Theory, specifically the version of the theory presented in (Chomsky 1982a: 209-222), will be set out and illustrated in par. 2 below. At the time of writing the present study I unfortunately did not have access to Chomsky's latest work on GB Theory, viz. **Knowledge of language: its nature, origin and use**, New York: Praeger (1986). In this work Chomsky proposes certain modifications to some of the devices set out in (Chomsky 1982a) and (Chomsky 1982b), including for example the devices of GB Binding Theory set out in par. 2 below. The relevant modifications to GB Binding Theory do not appear to affect the proposals presented below about the semantic interpretation of Afrikaans "postposed" QPs, although the mode of executing these proposals would have to be adapted somewhat.

14. In this respect the interpretive analysis is analogous to the various movement analyses of quantifier postposing that have been presented in the literature on generative grammar. A few suggestions that might prove useful in an investigation of

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the syntax and semantics of "non-postposed" QPs are presented in note 176 below.

15. Cf. for example Chomsky 1982a: 185-187, 285-289; and Van Riemsdijk and Williams 1986: 188-190, 198-200, 205 for aspects of the GB Theory of indexing.

16. Cf. also for example Chomsky 1982a:23,331; Chomsky 1982b: 5 for this assumption. Chomsky (1982a:186) mentions the possibility that traces and moved constituents are freely/randomly indexed at S-structure.

17. Cf. for example Chomsky 1982a:187,192,331 for the convention of free/random indexing, and for the application of this convention at S-structure.

18. Cf. for example Chomsky 1982a: 186 for this point.

19. Cf. for example Chomsky 1982a: 74-79, 303-306; Van Riemsdijk and Williams 1986: 129-138, 164ff, 203-204 for aspects of Control Theory.

20. The earliest version of Binding Theory - generally known as the "OB Binding Theory" - was presented by Chomsky in his article *On Binding*, which is referred to as (Chomsky 1981a) in the present study. This article was written in 1978 and first published in 1980 in **Linguistic Inquiry**, Vol. 11, pp. 1-46. GB Binding Theory was developed in an attempt to overcome the empirical and conceptual problems of OB Binding Theory. The use of the term **GB Binding Theory** must not be taken to imply that only one version of a government-binding theory has been presented in the literature, however. Successive versions of GB Binding Theory have in fact been proposed in (Chomsky 1979), (Chomsky 1981b), and (Chomsky 1982a). A systematic exposition and comparison of OB Binding Theory and the various versions of GB Binding Theory is given in (Sinclair 1985: chapters 5 and 6). The exposition in par. 2 focusses on the version of GB Binding Theory that is set out in (Chomsky 1982a: 209 - 222). This version differs from its precursors in that it incorpor-

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ates a definition of the notion "governing category" which has as a key concept the notion "accessible SUBJECT". The notions "governing category" and "accessible SUBJECT" will be explicated shortly in the text below. Cf. also notes 32 and 39. As pointed out in note 13, certain modifications are proposed to the devices of GB Binding Theory by Chomsky in his recent work **Knowledge of Language: its nature, origin and use**, New York: Praeger (1986). This work was unfortunately not available at the time of writing the present study.

Chomsky (1982a: 102) informally characterises pronominals as elements that have "the features gender, number and person, and perhaps other grammatical features, but not those of overt anaphors or R-expressions." Pronominals include pronouns, which have a phonological matrix. R-expressions, according to Chomsky (1982a:102), include "noun phrases with heads that are in some intuitive sense 'potentially referential' (e.g. John, wood, sincerity, book, etc.) and variables". Cf. also Chomsky 1982a: 20, 61, 115, 193, 330-331; and Chomsky 1982b:20 for the notions "pronominal" and "R-expression". For the notion "variable", cf. for example Chomsky 1982a: 22-23, 44, 68, 102, 185.

21. Cf. Chomsky 1982a:188, and Chomsky 1982b:20 for the principle (9), as well as for the binding principles for pronominals and R-expressions. The latter two principles are formulated as follows by Chomsky (1982a: 188):

(i) "A pronominal is *free* in its governing category"
(ii) "An R-expression is free"

The notion "free" in (i) and (ii) is defined as in (iii) by Chomsky (1982a: 185). This definition is given in terms of his (1982a: 184) definition of "X-bound". The latter definition is presented as (10) in the text below.

(iii) "*a* is X-*free* if and only if it is not X-bound"

Cf. also Chomsky 1982b: section 5 for the possibility of dispensing with a distinct binding principle for R-expressions.

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22. Chomsky (1982a: 35) uses the term **argument** to denote constituents that are assigned θ-roles such as "agent of action", "goal of action", etc. Arguments include names (e.g. the man, John), anaphors (e.g. each other, himself), pronouns (e.g. he) and variables (e.g. the trace of a wh-phrase). Idiom chunks and elements that are inserted to occupy obligatory positions of syntactic structure (e.g. impersonal it and existential there) do not represent arguments. For the concepts and principles of θ-Theory, cf. for example Chomsky 1982a: par. 2.2, 2.6, 3.2.2; and Van Riemsdijk and Williams 1986: chapter 15. For an explication of θ-roles/thematic relations, cf. Jackendoff 1972: par. 2.2 and the references cited there.

23. Cf. for example Chomsky 1982a:47 for the notions "A-position" and "$\bar{A}$-position".

24. (11) is based on the structure (4) presented in (Chomsky 1982a: 184). Notice that the $\bar{S}$-to-S rule discussed in (Chomsky 1982a:303) has been applied in the derivation of the structure (11). Notice also that the wh-phrase who has been (Chomsky-) adjoined to the main clause COMP as part of the operation performed by Wh-MOVEMENT.

25. As was noted above, the coindexing of a moved constituent and its trace is, by convention, part of the rule Move α.

26. The notion "c-command" was first proposed in (Reinhart 1976). Various definitions of this notion have since been presented in the literature - cf. for example Chomsky 1982a: 36; May 1977: 9; Reinhart 1983: par. 1.2. Chomsky (1982a: 166) presents the following definition of "c-command":

(A) " α c-commands β if and only if
  (i) α does not contain β
  (ii) Suppose that $\gamma_1, \ldots, \gamma_n$ is the maximal sequence such that
    (a) $\gamma_n = \alpha$
    (b) $\gamma_i = \alpha^j$
    (c) γ_i immediately dominates γ_{i+1}

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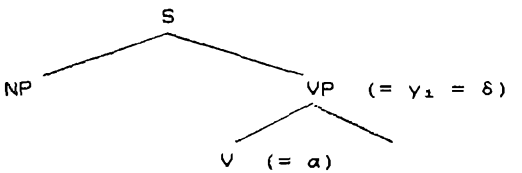
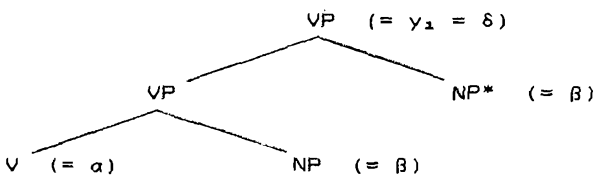
> Then if δ dominates α, then either (I) δ dominates β, or (II) δ = y_1 and y_1 dominates β "

This notion "c-command" can be illustrated with the structures (B) and (C). (These structures are based on the examples given in (Chomsky 1982a: 166.)

(B)



(C)



V does not c-command NP in (B), since VP (= y_1 = δ) does not dominate NP. V c-commands NP* in (C). In terms of the definition (A), a category α can thus c-command any category β within the *domain* of its *maximal projection* α_n, as is illustrated by the structure (C).

27. Chomsky (1982a:185) provides the following formal definitions of the notions "locally bound" and "locally X-bound":

(i) "α is locally bound by β if and only if α is X-bound by β, and if γ Y-binds α then either γ Y-binds β or γ = β"

(ii) "α is locally X-bound by β if and only if α is locally bound and X-bound by β"

X and Y may be independently replaced by A or $\bar{A}$ in (i). In (ii) X may be replaced by A or $\bar{A}$.

28. Cf. for example Chomsky 1982a: 184 for this point.

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29. Cf. for example Chomsky 1982a: 105f, 109f; and Van Riemsdijk and Williams 1986: 323-327 for an exposition of "small clauses".

30. Cf. Chomsky 1982a: 211 for this point.

31. The example (16) is taken from (Chomsky 1982a: 212).

32. It was pointed out in note 20 that there are several versions of GB Binding Theory. The version presented in (Chomsky 1982a: 183-209) incorporates the definition (i) of the notion "governing category"; cf. Chomsky 1982a: 188 for this definition.

(i) "α is the governing category for β if and only if α is the minimal category containing β and a governor of β, where α = NP or S "

Chomsky (1982a: 209-216) subsequently argues for a reformulation of GB Binding Theory in terms of the notion "accessible SUBJECT", specifically, for the replacement of the definition (i) of governing category by the definition formulated as (13) in the text above. According to him, such a reformulation can overcome a conceptual problem of the earlier versions of GB Binding Theory, as well as the majority of the empirical problems faced by these earlier versions. The conceptual problem relates to the question of why S and NP represent the governing categories, a claim that is merely noted in the definition (i). This problem can be solved in terms of the notion "accessible SUBJECT". It follows from the definition (13) that β is a governing category for α only if it has a SUBJECT that is accessible to α. Thus, as was explained above in the text, S must be a governing category because it always contains a SUBJECT, in the form of either the structural subject or AGR; and NP can be a governing category when it has a subject (hence, a SUBJECT). The empirical problems faced by the earlier versions of GB Binding Theory relate to arguments in NPs. An explication of these problems, and of the manner in which they can be solved by a binding theory that is formulated in terms of the

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notion "accessible SUBJECT", is given in (Sinclair 1985: par. 6.2.5.3, 6.5, 6.6). Cf. also note 39 below for a brief discussion of one of the empirical problems in question.

Chomsky's (1982a:212) definition of the notion "accessibility" was given as (15) above in the text. He (1982a: 216) comments as follows on this notion:

(ii) "It is quite possible that the notion 'accessibility' admits some degree of parametric variation, and that other factors intervene (e.g., the agentive character of the subject...). Furthermore, it may be that this entire discussion properly belongs to the theory of markedness rather than of core grammar, and that the phenomena we have been discussing reflect marked properties of English."

It will be argued in par. 3.1 below that the binding principle for overt anaphors in Afrikaans should be formulated in terms of the notion "accessibility". More specifically, it will be argued that the definition of governing category which Chomsky (1982a: 211) proposes with reference to local A-binding phenomena in English - the definition (13) in the text above - holds for Afrikaans as well. The question of whether those phenomena in which the notion of accessible SUBJECT enters reflect marked properties of Afrikaans (as might conceivably be the case in English), and the question of whether "accessibility" admits a degree of parametric variation (as suggested by Chomsky's remarks quoted in (ii)) fall outside the scope of the present study, and will accordingly be left unexplored.

33. Chomsky (1982a: 175) formulates the Extended Case Filter (ECF) as follows:

(i) " *$[_{NP}\ \alpha]$ if α has no Case and α contains a phonetic matrix or is a variable "

The following elements must be assigned Case in terms of (i): (a) NPs with phonetic content, e.g. nominals, pronouns, reci-

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procals, and reflexives; (b) variables (i.e. elements bound by an operator - cf. note 20 for references), e.g. wh-traces.

34. Cf. for example Chomsky 1982a: par. 3.2.2; Radford 1981: chapter 10; Van Riemsdijk and Williams 1986: chapter 14 for the concepts and principles of GB Case Theory. Chomsky (1982a: 170) proposes the following Case-assignment rules for English:

(i)(a) "NP is nominative if governed by AGR"
(b) "NP is objective if governed by V with the subcategorization feature: ——— NP (i.e. transitive)"
(c) "NP is genitive in $[_{NP}$ ——— $\bar{X}]$"
(d) "NP is inherently Case-marked as determined by properties of its [-N] governor"

35. Cf. Chomsky 1982a: 153-154, 189 for these constructions.

36. Cf. Chomsky 1982a: 154 for the example in (20), and also for the examples in (21) - (24) below.

37. Cf. Chomsky 1982a: 154, 207 for these constructions.

38. Cf. Chomsky 1982a: 154 for the examples in (27)-(29). The bracketing has been added to (27). Cf. also Chomsky 1982a:207f for a discussion of further examples of binding within NPs.

39. The version of GB Binding Theory under discussion incorporates the definition (13) of governing category; this definition has as one of its key concepts the notion "accessible SUBJECT". Chomsky (1982a: 209-216) argues that this version of GB Binding Theory overcomes the majority of the empirical problems faced by the earlier versions of the theory, specifically by the version that incorporates the definition (i) of governing category given in note 32 above. The latter definition does not involve the notion "accessible SUBJECT". Let us call the version of GB Binding Theory which incorporates the definition (i) the "GB Governor Binding Theory" to distinguish it from the version which incorporates the definition (13).

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One of the empirical problems faced by the GB Governor Binding Theory can be illustrated with the examples in (27) - (29). In terms of the definition (i) in note 32, NP* is the governing category for each other in these examples: in each case NP* is the minimal category containing each other and a governor of each other (i.e. the preposition about). NP* in (27), on the one hand, contains a possible antecedent for each other in the form of the subject NP their. Given that each other is coindexed with their, each other will be bound in NP*. The binding principle (9) accordingly marks (27) as well-formed. NP* in (28) and (29), on the other hand, does not contain a possible antecedent for each other: his in (28) does not meet the plurality requirement of each other, and some in (29) is not a (subject) NP. Each other is consequently not bound in NP* in either (28) or (29), in violation of the principle (9). It is thus predicted in terms of the GB Governor Binding Theory that (28) and (29) are both unacceptable. This prediction is incorrect as far as (29) is concerned. By contrast, the acceptability of (29) is correctly predicted by the version of GB Binding Theory which incorporates the definition (13) of governing category, as was made clear in the text above.

40. Cf. Chomsky 1982a:208 for the examples in (30) and (31).

41. Although each other is the subject, hence the SUBJECT, of NP*, it is *not* accessible to itself, because of the c-command requirement in the definition (15) above. The governor of each other in (30) and (31) is the noun books: this noun c-commands each other in terms of the definition (A) of c-command given in note 26, and the noun is *furthermore* not separated from each other by an intervening maximal projection.

42. According to Chomsky (1982a: 222 fn.3, 228 fn.57), the Dutch analogue to (31) is grammatical. Afrikaans examples that are analogous to (31) will be discussed in par. 3.1 below.

43. It is assumed in the present study that the *underlying* order of the major syntactic constituents of Afrikaans is subject-object-verb (SOV), with the finite verb in final posi-

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tion. This assumption is based on the findings in (Lubbe 1983: 21-33) and (Oosthuizen 1985). Subordinate clauses reflect this underlying SOV order in surface structure. This is illustrated by the sentence (i)(a), in which the finite verb jaag in the subordinate clause is preceded by the subject NP die honde and the direct object NP die kat. In main clauses, however, the surface order is subject-verb-object (SVO), with the finite verb in second position. This is illustrated by the sentence (i)(b).

(i)(a) Hy sê dat die honde die kat jaag.
he says that the dog-PLU the cat chase
"He says that the dogs are chasing the cat"
(b) Die honde jaag die kat.
the dog-PLU chase the cat
"The dogs are chasing the cat"

It will be assumed in this study that the surface SVO order of Afrikaans main clauses is derived by a rule of VERB PLACEMENT which moves the finite verb into the second position in such clauses. For an account of how VERB PLACEMENT functions in the syntax of Afrikaans cf. Waher 1982.

44. (32) and (33) are based on the constructions presented as (17) and (18), respectively, in par. 2. Chomsky (1982a: 153-170, 183-222) employs the latter two constructions in his discussion of local A-binding phenomena in English. Notice that (32) and (33) reflect the underlying SOV word order of Afrikaans (cf. note 43). These constructions furthermore comply with the proposals made in (Oosthuizen 1988: par. 2.3.2.2) about the internal structure of the VP in Afrikaans (cf. Appendix 1): the NP and PP complements of the verb in (32), and the AP and $\bar{S}$ complements of the verb in (33) each occupy the position in which it is base-generated by the proposed phrase structure rule for VP. It is argued in (Oosthuizen 1988: par. 2.3.2.3) that the VP is generated by the phrase structure rule for PredPhrase. However, the presence of a PredPhrase node between the VP and the S* in (32) and (33) does not have a bearing on the binding of α_n in these constructions. To facilitate

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the discussion the PredPhrase has therefore been omitted from (32) and (33).

Om and te are grouped together under the [-Tense,INFL] node in (33). This is purely a matter of convenience. It is possible, for example, that om is actually generated under the COMP of the infinitival clause, a possibility discussed for Dutch in (De Haan and Scholten 1984-5). The item te, if it is generated under [-Tense, INFL], is probably adjoined to the main verb at a later stage of the derivation. The device by which such an adjunction could be effected in Afrikaans remains to be clarified, however. The INFL nodes in (32) and (33) are furthermore all positioned under the S between the subject NP and the VP. Again, this is purely for the sake of convenience. Cf. for example Waher 1982 and the references cited there for proposals about the internal structure, as well as the linear position under S, of this node in Afrikaans, Dutch, and German.

There is one point in connection with the application of the binding principle (9) in Afrikaans clausal constructions that must be mentioned here. This concerns the construction (19) in par. 2, which Chomsky (1982a:154, 189) presents with reference to English. Constructions of the form (19) will not be discussed here, since they apparently do not occur in Afrikaans. That is, Afrikaans does not appear to have a marked category of verbs - the equivalents of want and prefer in English - which trigger the $\bar{S}$-to-S rule proposed by Chomsky (1982a: 303-308) and which allow Case-assignment across clause boundaries. This point is made by Le Roux (1980: 89 fn. 30) in her discussion of control phenomena in Afrikaans.

45. The constructions (41) and (42) are identical to (26) and (25), respectively, in par. 2. Chomsky (1982a:154,207) employs the latter two constructions in his discussion of the application of GB Binding Theory within NPs in English.

46. Mekaar is the subject, hence the SUBJECT, of NP* in (43)-(46). Mekaar is not accessible to itself, however, because of the c-command requirement in the definition (15) above of the

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notion "accessible SUBJECT". The governor of mekaar in (43)-(46) is the noun briewe: this noun c-commands mekaar in terms of the definition (A) of c-command in note 26, and the noun is furthermore not separated from mekaar by an intervening maximal projection.

47. It should be noted, though, that the acceptability judgements of many fluent speakers of Afrikaans are unclear about sentences like (46). Apparently, some speakers find such sentences marginally acceptable.

The matrix verb belowe in (45) and (46) is a verb of subject control. Consider by contrast the examples (i) and (ii), which contain the object control matrix verb dwing; (ii) is analogous to the English sentence (31) discussed in par. 2.

(i) Sy het hulle gedwing [PRO om [$_{NP*}$ mekaar
she has them PAST-force each-other
se briewe te lees]].
POSS letter-PLU to read
"She forced them to read each other's letters"

(ii) ?*Hulle het haar gedwing [PRO om [$_{NP*}$ mekaar
they have her PAST-force each-other
se briewe te lees]].
POSS letter-PLU to read

The governing category for mekaar in (i) and (ii) is the infinitival clause, with the subject NP PRO representing the accessible SUBJECT. PRO is a possible antecedent for mekaar in (i), since it is controlled by the plural count matrix object NP hulle. Given that mekaar is coindexed with PRO, the anaphor will be bound in its governing category. It is thus predicted in terms of the binding principle (9) that (i) will be acceptable with mekaar and PRO (hence hulle) coreferential. The predicion is correct. PRO in (ii), by contrast, is not a possible antecedent for mekaar: PRO is controlled by the matrix object NP haar, so that it has the number feature [-plural]. Mekaar is therefore free in its governing category. The principle (9) accordingly predicts that (ii) will be unacceptable. This cor-

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diction is correct, although it must be noted that many fluent speakers seem to find sentences like (ii) at least marginally acceptable with mekaar interpreted coreferentially with the matrix subject NP. It remains to be clarified how/whether the judgements of speakers who find sentences like (46) and (ii) (marginally) acceptable can be accounted for in the framework of GB Binding Theory.

48. One of the empirical problems faced by the GB Governor Binding Theory was illustrated in note 39 above with reference to the English examples (27)-(29) in par. 2. Cf. also note 32 for a brief explication of a conceptual problem faced by the GB Governor Binding Theory.

49. Further support for this claim is provided by the examples in (43) and (45) above in the text. In terms of the definition (i) in note (32), NP* is the governing category for mekaar in these examples: in both cases NP* is the minimal category containing mekaar and a governor of mekaar (i.e. the noun briewe). NP* does not contain a possible antecedent for mekaar in (43) and (45), however, so that mekaar is free in its governing category in both cases. The GB Governor Binding Theory thus predicts that (43) and (45) will be unacceptable. This prediction is incorrect. By contrast, as was illustrated above, the version of GB Binding Theory that incorporates the definition (13) of governing category - i.e. the version that is formulated in terms of the notion "accessible SUBJECT" - correctly predicts the acceptability of (43) and (45).

Chomsky (1982a:216), in his discussion of local A-binding phenomena in English, remarks that "it may be" that the phenomena in which the notion "accessible SUBJECT" enters reflect marked properties of English. He also notes that "It is quite possible that the notion 'accessibility' admits some degree of parametric variation". As was pointed out in note 32 above, the question of whether these possibilities hold for Afrikaans as well falls outside the scope of the present study and will not be explored further here.

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50. A detailed exposition of the conceptual and the empirical consequences of the BPH (50) and the QAH (51) will be given in par. 3.3 and 3.4 below.

51. It will be argued in par. 3.3.1 that postposed QPs can be directly dominated by the VP, the PredPhrase, or the S in Afrikaans deep structure. The relevant phrase structure rules for generating postposed QPs will be formulated and justified in that paragraph. It is assumed in (52)(c) that the QP almal is directly dominated by the VP. This assumption is made for expository purposes only. The interpretive analysis will also make the correct predictions about the interpretation of almal in (52)(c) if the QP is directly dominated by the S or by the PredPhrase. These remarks hold for the underlying structures in (53)(b) and (61)(b) below as well. In (52)(c), as in the other underlying structures that are presented below, the INFL node is positioned under the S between the subject NP and the PredPhrase. This is purely a matter of convenience. Cf. Waher 1982 for proposals about the structural position of this node in Afrikaans.

52. Almal can only be used to modify a plural count NP that refers to three or more entities. Cf. Oosthuizen 1988: par. 2.3.3 for an exposition of some of the lexical properties of almal, and of the various other floating universal quantifiers in Afrikaans.

53. (53)(a) is ambiguous. If the verb skiet is used intransitively, on the one hand, almal represents a postposed QP that is interpreted coreferentially with the subject NP die soldate of the subordinate clause. This is the interpretation that is associated with the underlying structure (53)(b). If skiet is used transitively, on the other hand, almal represents an NP that functions as the direct object complement of the verb, and that is interpreted non-coreferentially with the NP die soldate. This latter interpretation will be discussed shortly below.

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It is not clear exactly where in a structure modal and auxiliary verbs should be generated. Since this issue falls outside the scope of the present study, these elements are simply grouped together with the main verb under the V node, as is the case with the main verb geskiet and the past tense auxiliary het in (53)(b).

54. If almal can be used on its own as an NP, as is claimed here, it should be possible for this formative to be affected by a rule such as NP MOVEMENT. This consequence is borne out by the examples in (i) and (ii). The sentences (i)(b) and (ii)(b) have been derived by means of NP MOVEMENT from the underlying passive construction (i)(a) and the underlying raising construction (ii)(a), respectively. In both cases almal was moved into an empty NP position. (The verb is in (i)(a,b) has been moved into second position under the S by the VERB PLACEMENT rule referred to in note 43.

(i) (a) [$_S$[$_{NP}$ e] is almal deur die soldate geskiet].
e be all by the soldier-PLU PAST-shoot
(b) Almal is deur die soldate geskiet.
all be by the soldier-PLU PAST-shoot
"Everyone was shot by the soldiers"

(ii)(a) [$_S$[$_{NP}$ e] blyk [$_S$ almal ongelukkig te wees]].
e seem all unhappy to be
(b) Almal blyk ongelukkig te wees.
all seem unhappy to be
"Everyone seems to be unhappy"

55. Cf. note 21 for the binding principles for non-anaphors. The question of whether almal in (53)(a) - with almal analysed as a direct object NP - represents an R-expression or a pronominal will be left open here.

56. The binding principles proposed in, e.g., (Chomsky 1981a) and (Chomsky 1982a) set limits on the domain in which an anaphor may or must find an antecedent, that is to say the domain in which an anaphor may or must be bound. A domain in which an

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anaphor must be bound is characterised as "opaque". Thus, the idea that the relation between a postposed QP and the NP which it modifies "is subject to opacity" amounts to saying that the semantic interpretation of such QPs is subject to some version of the binding principle for anaphors. The proposed interpretive analysis of quantifier postposing in Afrikaans represents one attempt at realising this idea.

It has since come to my attention that Jaeggli's work has been published in 1982 under the title **Topics in Romance Syntax** by Foris Publications Holland, Dordrecht. This work was unfortunately not available at the time of writing the present study.

57. It is not clear which specific version of UG theory Nakamura takes as the framework for his proposed analysis of quantifier postposing phenomena in English. Although his analysis deals with an aspect of semantic interpretation, Nakamura does not employ (or refer to) any of the interpretive devices associated with the OB Theory set out in (Chomsky 1981a), or with the GB Theory set out in (Chomsky 1982a). The works which Nakamura refers to, and the types of formal devices which he employs, suggest that his analysis is presented within a framework which pre-dates both the OB and the GB Theories.

58. Nakamura (1983:3 - 4) argues that postposed Q(P)s in English can be directly dominated by the phrasal projections V^n (= VP, the maximal projection of V) and V^1 in deep structure, but not by the S.

59. The only other semantic interpretation device which Nakamura refers to is the Unique Binding Principle. He (1983: 6) formulates this principle as follows:

(i) "*The Unique Binding Principle*
A variable may not be bound by more than one operator"

According to Nakamura (1983: 6), the principle (i) is a "general, probably universal, condition on logical form." Nakamura unfortunately fails to clarify the notions "bound", "variable"

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and "operator" in (i). He only points out that this principle serves to rule out unacceptable sentences like the following (cf. Nakamura 1983: 3 for these examples):

(ii)(a) *All (of) the kids were each given some candy.
(b) *The kids all were each given some candy.

Cf. par. 3.3.2.5 below for a discussion of Afrikaans sentences that are similar to those in (ii), that is sentences with more than one QP.

60. Nakamura does not explicate the notions "c-command" and "*immediately c-command*" in the interpretation rule (60). His (1983: 4 - 6) discussion of the empirical consequences of rule (60) suggests, however, that these notions might be defined as in (i) and (ii), respectively. (For want of an explication by Nakamura, it is assumed here that (i) and (ii) are essentially the definitions which he employs.)

(i) Node A c-commands node B if A does not dominate B, and if the first branching node dominating A also dominates B.

(ii) Node A *immediately* c-commands node B if A is the minimal node (that is, the node nearest to B in structural terms) which c-commands B.

The definition (i) of c-command is essentially the one that is proposed in (Reinhart 1976); cf. note 26 above for further references. The definition (ii) is based on the discussion of the notion "minimally c-command" in (Radford 1981: 314-318).

61. As far as could be ascertained, a critical appraisal of Nakamura's (1983) analysis of quantifier postposing in English has not yet been attempted in the available literature. Such an appraisal falls outside the scope of the present study, and will not be attempted here either.

62. It should be noted, though, that not all of the criteria set out in (Oosthuizen 1988: par. 2.3.2) are applicable for [illegible] structure constituent membership of post-

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posed QPs. For example, following Williams (1977:19-23) and De Haan (1979: 22-23), it is claimed in (Oosthuizen 1988: par. 2.3.2.2.1 that a constituent should be directly dominated by the VP in deep structure if it satisfies the subcategorisation frame of a verb. However, no verb in Afrikaans is subcategorised for a postposed QP. The specific claim in (63) that postposed QPs can be generated by the phrase structure rule for VP thus cannot be justified with reference to the subcategorisation features of verbs. We return to this matter below when we discuss the Afrikaans phrase structure rule for VP.

63. Cf. (Oosthuizen 1988:par. 2.3.2.4) for a brief discussion of the Afrikaans phrase structure rule for S. Cf. Appendix 1 below for a formulation of the proposed rule.

64. The AP time adverbials vandag and onmiddellik in (64) are generated by the proposed phrase structure rule for PredPhrase (cf. Appendix 1 below). This rule also generates the VP. The VP in the first PredPhrase conjunct in (64) contains the verbal sequence moet inskryf and the prepositional object NP die kursus; in the second conjunct the VP consists of the verbal sequence moet staak and the direct object NP hulle studies.

65. Cf. Oosthuizen 1988: par. 2.3.2.3.2 and 2.3.2.3.5 for the use of PREDPHRASE PREPOSING and PREDPHRASE DELETION as diagnostics for PredPhrase constituency in Afrikaans deep structure. The preposed constituents in (65)(a) are underlined, while the position from which they were moved are indicated by a solid line; in (65(b) the broken line through the sequence met die nuwe masjien werk indicates that the sequence has been deleted. These conventions will henceforth be used with all Afrikaans sentences that serve to illustrate the effect of the rules of PREDPHRASE PREPOSING/DELETION. In works in which the VP is taken as the maximal projection of the verb, these two rules are referred to as VP PREPOSING and VP DELETION. Cf. for example Akmajian, Steele and Wasow 1979: 21-33; Baltin 1982: 9, 33; and Radford 1981: 66-68.

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66. Cf. Oosthuizen 1988: par. 2.3.2.3.1 for the distinction between weak and strong vir-phrases in Afrikaans. Both phrases occur in combination with verbs that are agentive in the sense that they require the presence of an NP functioning as Agent (cf. for example Jackendoff 1972: 32 for an explication of the thematic relation of Agent). With strong vir-phrases the verb must also be of the possessional/creative class. In such cases there is a semantic relation between the direct object NP, X, and the vir-phrase, Y, which can be characterised as "the X is for Y". Weak vir-phrases, by contrast, do not require the verb to be possessional/creative. In such cases there is a semantic relation between the subject NP, X, and the vir- Y phrase that can be characterised as "X has done something for the sake of Y". In short, weak vir-phrases place weaker thematic requirements on the verb than strong vir-phrases - they only require the verb to be agentive. The distinction between the two types of vir-phrases can be illustrated with the sentences in (i). (i)(a) contains a strong vir-phrase: the verb gun is both possessional and agentive, and it allows an interpretation whereby the semantic relation between the direct object NP die geld and the vir-phrase is understood as "the money is for her". (i)(b) contains a weak vir-phrase: the verb opgee is agentive but not possessional, and it allows an interpretation whereby the relation between the subject NP hy and the vir-phrase is understood as "he has done something for her sake".

(i)(a) Hy gun die geld vir haar.
he grants the money for her
"He grants her the money"
(b) Hy sal vir haar die rokery opgee.
he has for her the smoking up-give
"He will quit smoking for her sake"

67. As was made clear in (Oosthuizen 1988: par. 3.2.2.2.2), a movement analysis of quantifier postposing requires a rule for relocating sentence adverbials and weak vir-phrases under the PredPhrase in order to account for the distributional facts in (66). The proposed interpretive analysis does not require such a relocation rule.

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68. Cf. Oosthuizen 1988: par. 2.3.2.3 for a discussion of the Afrikaans phrase structure rule for PredPhrase. Cf. Appendix 1 below for a formulation of the proposed rule.

69. As is illustrated by the sentence in (i) below, postposed QPs may also occur in the relative clause part of pseudo-cleft constructions in Afrikaans. This could be taken as further support for the claim that postposed QPs can be base-generated outside of the PredPhrase, that is, under the S. (The relative clause part in (i) is underlined.)

(i) Wat die mans ALMAL gedoen het, was om vir die
what the man-PLU all PAST-do have PAST-be for the
meisie 'n present te gee.
girl a present to give
"What the men all did, was to give the girl a present"

70. Cf. Oosthuizen 1988: par. 2.3.2.2.1 for the distinction between regular and irregular indirect object NPs in Afrikaans. This distinction is based on the semantic relation between the NPs expressing the thematic relations of Theme and Goal in so-called double object constructions. If this relation is *regular*, that is, if the relation signifies actual transfer of objects or messages, the Goal is expressed either by an indirect object NP with the preposition aan or vir, or by an indirect object NP without an accompanying preposition. These NPs are *referred* to as ***regular indirect object NPs***. (Regular *indirect* object NPs with the preposition vir are also referred to as **strong vir-phrases** to distinguish them from **weak vir-phrases**; cf. note 66.) In the sentence (i), for example, die meisie is a regular indirect object NP expressing the Goal. In this case the relation between the Theme (expressed by the direct object NP 'n boek) and the Goal is semantically regular. The indirect object NP can optionally be accompanied by the preposition vir or aan in (i).

(i) Hy het (aan/vir) die meisie 'n boek gegee.
he has (to/for) the girl a book PAST-give
"He gave the girl a book"

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If the relation between the Theme and the Goal is semantically *irregular*, that is, if it does not signify actual transfer of objects or messages, the Goal can only be expressed by an indirect object NP without a preposition. Such an NP is referred to as an **irregular indirect object NP**. In (ii), for example, the Goal is expressed by the irregular indirect object NP my motor. In this case the relation between the Theme (expressed by the direct object NP 'n duik) and the Goal is semantically irregular. Notice that (ii) is unacceptable if the indirect object NP is accompanied by vir/aan.

(ii) Hy het (*aan/*vir) my motor 'n duik gegee.
*he has (*to/*for) my car a dent PAST-give*
"He gave my car a dent"

Cf. Jackendoff 1972: 30-31 and the references cited there for an explication of the thematic relations of Theme and Goal.

71. As was pointed out in (Oosthuizen 1988: par. 3.2.2.2.3), a movement analysis of quantifier postposing requires certain relocation rules to account for the distribution of postposed QPs relative to time adverbials, strong vir-phrases, and regular indirect object NPs in Afrikaans. The proposed interpretive analysis does not require such relocation rules.

72. Cf. Oosthuizen 1988: par. 2.3.2.2 for a discussion of the Afrikaans phrase structure rule for VP. Cf. Appendix 1 below for a formulation of the proposed rule.

73. The first VP conjunct in (71) also contains the PP place adverbial by die huis and the verbal sequence moet bly, while the second one contains the verbal sequence kan gaan fliek and the PP saam met hom (hom = *prepositional object* NP). All these constituents are generated by the proposed phrase structure rule for VP. The AP time adverbial vanaand, which occurs outside of the initial coordinate construction, is generated by the proposed phrase structure rule for PredPhrase.

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74. Cf. note 70 for a characterisation of irregular indirect object NPs.

75. As was pointed out in (Oosthuizen 1988: par. 3.2.2.2.4), a movement analysis of quantifier postposing in Afrikaans requires a rule for the relocation of direct object NPs and irregular indirect object NPs to account for the distributional facts in question. The interpretive analysis does not require such a relocation rule.

76. Cf. Oosthuizen 1988: par. 3.2.2.2.2, 3.2.2.3.2, 3.2.2.4.2 and 3.2.2.5.2 in this connection. Cf. also the Broad Generalisations II and III in Appendix 2 below.

77. Cf. Jackendoff 1972: 68 for the star convention. Cf. also Appendix 1 below.

78. Cf. Oosthuizen 1988: par. 3.2.2.2.3, 3.2.2.3.3, 3.2.2.4.3 and 3.2.2.5.3 in this connection. Cf. also the Broad Generalisations IV, V, VI, and VII, and the Restricted Generalisation XIII in Appendix 2 below.

79. Cf. Oosthuizen 1988: par. 3.2.2.2.4, 3.2.2.3.4, 3.2.2.4.4 and 3.2.2.5.4 for illustration. Cf. also the Broad Generalisations VIII, IX, X, XI, and the Resticted Generalisations XIV and XV in Appendix 2 below.

80. Cf. par. 3.3.3 below for a further potentially problematic aspect of the claim that postposed QPs can be generated under the VP by means of the phrase structure rule (75).

81. Cf. for example Chomsky 1982b: 6ff for the relevant subsystems of principles of UG. These subsystems are: θ-Theory, X-bar Theory, Case Theory, Binding Theory, Bounding Theory, Control Theory, and Government Theory.

82. Cf. Oosthuizen 1988: par. 3.2.2.5.1 for a discussion of Afrikaans sentences in which a postposed QP serves to modify a

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predicate nominal NP. In such cases the QP occurs in a position directly after the modified NP.

83. Extragrammatical principles - that is, principles falling outside formal grammar proper - include principles relating to perceptual psychology, learning and concept formation, pragmatics, etc. Cf. for example Newmeyer 1983: 2-34 for a critical discussion of the use of such principles in grammatical explanations.

84. Since the type of Q-FLOAT construction represented by the examples in (52) and (53) has already been discussed in par. 3.2, it will not be considered again in par. 3.3.2.

85. Cf. Oosthuizen 1988: par. 2.3.2.3 for arguments that time and manner adverbials represent PredPhrase constituents in Afrikaans deep structure.

86. The verb slaap governs the QP almal in terms of the definition of government in (Chomsky 1982a: 250); cf. par. 2 above for an explication of this definition. In (77)(b) slaap is the head of the V-phrasal projection PredPhrase (V^o in the terminology of X-bar Theory); it is not separated from the QP by an intervening maximal projection; and it c-commands the QP in terms of the definition (A) of c-command in note 26.

87. Cf. Oosthuizen 1988: par. 2.3.2.3 & 2.3.2.4 for arguments that phrases functioning as sentence adverbials are base-generated under the S in Afrikaans.

88. The verb slaap is not a possible governor of the QP almal in (78)(c). The reason for this is that the verb is separated from the QP by the intervening maximal projection PredPhrase. For this same reason the verb also fails to c-command the QP. It is assumed in (Chomsky (1982a: 51-52, 140 fn. 20 & 24) that INFL is the head of $\bar{S}$, S. Hence AGR is a possible governor in terms of the definition of government in (Chomsky 1982a: 250). Cf. also par. 2 above in connection with this definition.

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89. Chomsky (1982a: 187) raises this point in connection with the indexing of NPs in LF. The unacceptability of (78)(a) - with almal coreferential with both hulle and die kinders - can also be accounted for in terms of the Bijection Principle, a general principle of LF. According to Chomsky (1982b: 12), the Bijection Principle "stipulates that each operator must bind one and only one variable" in LF. Consider in this connection the relevant LF representation of (78)(a), taken to be roughly along the following lines:

(i) "for all persons x,y, x = they and y = children; x says y probably slept"

(i) contains one operator, viz. "for all persons x, y", which binds two distinct variables. This is in violation of the Bijection Principle, so that (i) is correctly ruled out as ill-formed at the LF-level.

90. Cf. note 21 above for the binding principle for R-expressions.

91. Cf. Oosthuizen 1988: par. 2.3.2.2 for arguments that direct object NPs are base-generated under the VP.

92. The phenomenon of vir co-occurring with direct object NPs in Afrikaans is discussed in, for example, (Den Besten 1978: par. 3) and (Raidt 1976: 72-101).

93. Given that direct object NPs are base-generated under the VP (cf. note 91), then the phrase representing the direct object in (81)(a) was presumably moved by means of some sort of relocation device to a position under the PredPhrase (or possibly the S) in the derivation of the sentence. Such a device - referred to as NP PLACEMENT - is discussed in (Oosthuizen 1988: par. 3.2.2.2.4). Cf. Oosthuizen 1988: par. 3.2.3.4 for some of the conceptual problems facing this device. A similar device for Dutch is discussed in (De Haan 1979: 58-73, 154-6).

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94. Chomsky (1982a: 77, 225 fn.37, 229 fn.64, 289f) mentions several empirical problems facing GB Binding Theory. Many of these problems are similar to the one posed by (81)(a) in that they involve constructions containing an overt anaphor - or a proximate pronoun - which has as its only possible binder an argument occurring in the NP position of a PP. Consider for example the following English sentences, provided by Chomsky (1982a: 77, 225 fn.37).

(i) The rumours about each other... were annoying to the men.

(ii) I spoke to the men about each other.

In both sentences the reciprocal each other must be bound by the object NP of the preposition to, that is, the NP the men. But this NP does not c-command each other in either sentence. Chomsky (1982a:229 fn.64) suggests that cases such as (i) "may require a slight modification of binding theory, relaxing the notion of c-command." He does not provide any further detail, however. As regards sentences such as (ii), Chomsky (1982a:225 fn. 37) suggests that a rule of reanalysis might have applied to speak to, resulting in the men c-commanding each other. He concludes however, that "It is not clear whether this approach is on the right track."

95. For a characterisation of regular indirect object NPs cf. note 70. Cf. Oosthuizen 1988: par. 2.3.2.2.1 & 2.3.2.3 for arguments that regular indirect object NPs (with or without vir/aan) are base-generated under the PredPhrase. The phrase that represents the direct object in (83)(a) - i.e. vir hulle - was presumably relocated under the PredPhrase, or possibly the S, in the derivation of the sentence; cf. note 93 in this regard. It is irrelevant for the present discussion whether the (relocated?) phrase vir haar in (83)(a) is taken to be directly dominated by the PredPhrase, as in (83)(b), or by the S.

96. Cf. also Den Besten 1978: par. 3 for considerations supporting the proposal in hand.

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97. Cf. for example Hornstein and Weinberg 1981; Van Riemsdijk and Williams 1986: 146-149 for the phenomenon of preposition stranding in English.

98. The finite verbs het in (85)(b,c) and wil in (86)(b,c) were both moved into second position by means of the rule of VERB PLACEMENT referred to in note 43. This rule has also applied in the derivation of the (b) and (c) sentences in (87)-(89) below.

99. The prepositions met and vir obligatorily take the forms mee and voor, respectively, when stranded. This is presumably brought about by some sort of (morpho-)phonological rule, the nature of which is unclear at present.

100. Cf. Oosthuizen 1988:par. 2.3.2.2 for arguments that predicate nominal NPs are base-generated under the VP.

101. Cf. Oosthuizen 1988: par. 2.3.2.2 for arguments that irregular indirect object NPs are base-generated under the VP. For the distinction between regular and irregular indirect object NPs in Afrikaans, cf. note 70 above.

102. For the distinction between strong and weak vir-phrases in Afrikaans, cf. note 66. Cf. Oosthuizen 1988: par. 2.3.2.2.1 and 2.3.2.3 for arguments that strong vir-phrases are base-generated under the PredPhrase.

103. Cf. note 94 above for similar problems facing GB Binding Theory.

104. The term **double object construction** refers to constructions like those in (92)(a) and (93)(a), i.e. constructions in which the phrase functioning as indirect object precedes the one functioning as direct object. The proposal to analyse the formative vir which may accompany the indirect object NP in such constructions as a Case marker is also made by Den Besten (1978: par. 3).

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105. Cf. Den Besten 1978: par. 3 for further considerations supporting the proposal under discussion.

106. The VERB PLACEMENT rule referred to in note 43 above was also applied in the derivation of (97)(a,b).

107. The acceptability judgements of many fluent speakers of Afrikaans are unclear about sentences like the one in (97)(c). Still, it seems that most speakers find such sentences, if not unacceptable, at least considerably less acceptable than those in (86)(c).

108. It could be argued that the direct object NP was moved from its deep structure position under the VP into a position under the PredPhrase/S in the derivation of (98). Cf. notes 93 and 95 above in this regard.

109. It is assumed in (99)(b) that the postposed QP almal and the direct object NP 'n uitnodiging are both directly dominated by the PredPhrase. This assumption is not crucial for explaining the unacceptability of (99)(a), and is made only to facilitate the discussion below.

110. Phrases functioning as instrumental adverbials are generated by the phrase structure rule (74) for PredPhrase. Arguments to this effect are presented in (Oosthuizen 1988: par. 2.3.2.3). It is irrelevant for the present discussion whether the QP in (100)(a) is dominated by the VP, as in (100)(b), or by the PredPhrase.

111. It is assumed in (102)(c) - and also in (103)(c), (104)(c) and (105)(c) below - that the postposed QP almal is dominated by the VP of the infinitival clause. This assumption is made for expository purposes only.

112. Cf. Le Roux 1980: 56ff for a discussion of control phenomena in Afrikaans. Cf. for example Chomsky 1982a:74-79, 303-306; and Van Riemsdijk and Williams 1986: 129-138, 164ff, 203-204 for aspects of GB Control Theory.

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113. Cf. Le Roux 1980: par. 3.4 for a discussion of control phenomena in Afrikaans constructions like (105)(a).

114. The sentence (106)(a) and the structure (106)(b) were also presented in par. 3.2 - as (61)(a,b) respectively - when we discussed Nakamura's (1983) analysis of quantifier postposing phenomena in English.

115. The possibility of the QP almal in (106)(a) being interpreted coreferentially with both hulle and die meisies is also ruled out by the Bijection Principle (cf. note 89). In terms of this principle, an operator can only bind one variable in LF. The relevant LF representation of (106)(a) will presumably be along the lines in (i). The operator "for all persons x, y" in (i) binds two distinct variables, thereby violating the Bijection Principle.

(i) "for all persons x,y, x = they, y = girls; x recognised y"

116. The binding principle for R-expressions was given above in note 21.

117. PRO is [+plural] by virtue of being controlled by the main clause plural object NP hulle.

118. (111)(a) contains the sequences *direct object NP + postposed QP* (= die meisie almal), and *AP time adverbial + postposed QP* (= gister elkeen). These sequences are generable by the phrase structure rules (75) for VP and (74) for PredPhrase respectively.

119. The sequences *postposed QP + AP sentence adverbial* (e.g. elkeen waarskynlik in (111)(b)), and *regular indirect object NP + postposed QP* (e.g. haar almal) can be generated by the phrase structure rules (73) for S and (74) for PredPhrase, respectively.

120. Cf. for example May 1977: 11 for the notion "scope".

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121. Chomsky (1982a:36) provides the following initial formulation of the θ-criterion:

(i) "Each argument bears one and only one θ-role, and each θ-role is assigned to one and only one argument."

A revised version of the θ-criterion is presented in (Chomsky 1982a: 335). Cf. also note 22 for references for the concepts and principles of θ-Theory.

122. These remarks about the binding principle for R-expressions not being violated in the construction (116)(b) hold for all similar constructions presented below in the text, that is constructions in which an R-expression is coindexed with and c-commanded by a postposed QP.

123. The direct object NP die meisies in (119)(b) c-commands the QP albei in terms of the definition (A) in note 26.

124. The remarks made here in connection with albei also hold for the quantifiers beide and altwee. Cf. Oosthuizen 1988:par. 2.3.3.3 for some of the differences and similarities between these quantifiers.

125. This assumption is due to Williams (1977: 19-28), whose theory of deep structure phrasing formed the basis of the discussion in (Oosthuizen 1988:par. 2.3.2) of the Afrikaans rules for expanding $\bar{S}$, S, PredPhrase and VP.

126. Empirical considerations supporting the claim that Afrikaans postposed QPs can be base-generated under the VP were presented in par. 3.3.1 above.

127. It should be noted, though, that the interpretive analysis makes the correct predictions about the semantic interpretation of the postposed QPs in (122)(a,b). This can be illustrated as follows. By the OAH (51) and the binding principle (9) for anaphors a postposed QP must be bound in its governing category. The governing category for the QP almal in (122)(a,

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b) is the embedded S: it is the minimal category containing the QP, a governor of the QP (= AGR), and a SUBJECT accessible to the QP (= AGR). Assuming coindexing, the QP will be bound in both cases by the subject NP die kinders of the embedded S, in accordance with the binding principle (9). It is thus predicted that the only acceptable interpretation of (122)(a) and (b) will be with the QP coreferential with the NP die kinders. The prediction is correct. In short, then, the unacceptability of the sentences (122)(a,b) cannot be ascribed to a violation of the binding principle (9) for anaphors. Rather, the problem with these sentences relates to the position that the QP occupies relative to the manner/instrumental adverbial.

128. It was argued in par. 3.3.2.2 above that the formative vir which may optionally accompany regular indirect object NPs should be analysed as a lexically realised Case marker, rather than as the head of a PP.

129. The interpretive analysis makes the correct predictions about the semantic interpretation of the postposed QP almal in (123)(b,c). By the principle (9) the QP must be bound in its governing category. In both (123)(b,c) the governing category for almal is the embedded S. Assuming coindexing, the QP will be bound by the subject NP hulle in (123)(b), and by the indirect object NP (vir) die meisies in (123)(c). As in the case of (122)(a,b), then, the unacceptability of (123)(b,c) cannot be ascribed to a violation of the binding principle (9). (Cf. note 127 for the semantic interpretation of the postposed QPs in (122)(a,b).)

130. This is not to say, of course, that the sequence *regular indirect object NP - direct object NP - postposed QP* is necessarily *base*-generated, as is claimed on an analysis which incorporates the phrase structure rules (74) for PredPhrase and (75) for VP. Clearly, if the QP is not base-generated in final position in this sequence, it must be moved there by means of some sort of quantifier postposing rule. However, it is argued in (Oosthuizen 1988:par. 3.2) that an analysis which employs

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such a rule should be rejected on both empirical and conceptual grounds.

131. Cf. par. 3.3.2.4 for a discussion of sentences such as the one in (118), that is, sentences in which a postposed QP can be bound either by the subject NP or by the direct object NP of a finite clause. For many fluent speakers the preferred interpretation of (125) appears to be with almal coreferential with the direct object NP die pasiënte.

132. In view of the argumentation in par. 3.3.2.2 above the formative vir in (126)(a) is taken to be a lexically realised Case marker.

133. Vir represents the head of a PP in constructions such as (127), that is to say constructions in which the direct object NP precedes the phrase functioning as the indirect object. Cf. par. 3.3.2.2 in this regard. The direct object NP die minnaars in (127) was presumably moved by some sort of relocation device to a position directly under the PredPhrase or the S in the derivation of the sentence. Such a device, the rule of NP PLACEMENT, is discussed in (Oosthuizen 1988: par. 3.2.2.2.4). For a discussion of some of the conceptual problems facing this rule, cf. Oosthuizen 1988: par. 3.2.3.4.

134. The verb gun is subcategorised for a phrase functioning as direct object as well as for one functioning as indirect object. The sentence (i), for example, is unacceptable because it lacks a phrase functioning as indirect object.

(i) *Ek is seker dat hy die minnaars gun.
I am sure that he the lover-PLU grants

The fact that the indirect object NP (vir) mekaar in (126)(b) enters into the subcategorisation frame of the verb gun means that this NP occupies a θ-position, hence an A-position. For the relation between θ-positions, A-positions, and subcategorisation, cf. the discussion of the sentence (116)(a) in par. 3.3.2.5 above.

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135. Cf. Klein 1980 for a discussion of a similar ordering constraint in Dutch.

136. This same ambiguity is found with the QPs altwee or beide in place of albei. *Indeed, all the remarks that are made* below in connection with albei also hold for beide and altwee.

137. The exact internal structure of the containing NP albei die pasiënte in (129) does not have a bearing on the present discussion. For suggestions regarding the internal structure of such NPs in English, cf. for example Baltin 1980; Emonds 1976: 239-241; *Jackendoff 1968*; *Jackendoff* 1977: 103-114, 141-143; and Selkirk 1977: 288-296. Cf. also Oosthuizen 1988: par. 3.3.3, and note 176 below.

138. This assumption obviously serves to protect the ordering constraint against the potential counterexample (128)(a). This does not imply, of course, that the assumption is necessarily without any merit. Consider the sentence (i)(a) below in this connection. The structure underlying (i)(a) may be represented roughly as in (i)(b). In this structure the noun kinders is analysed as the head of the containing NP albei kinders, with the apparent non-postposed QP albei representing the specifier of the N projection (cf. also note 176 below). The structure of the containing NP in (i)(b) conforms to the proposals about X-bar Theory in (Chomsky 1972); cf. also Oosthuizen 1988: par. 3.3.3 in this regard.

(i) (a) ALBEI kinders slaap.
both child-PLU sleep
"Both children are sleeping"

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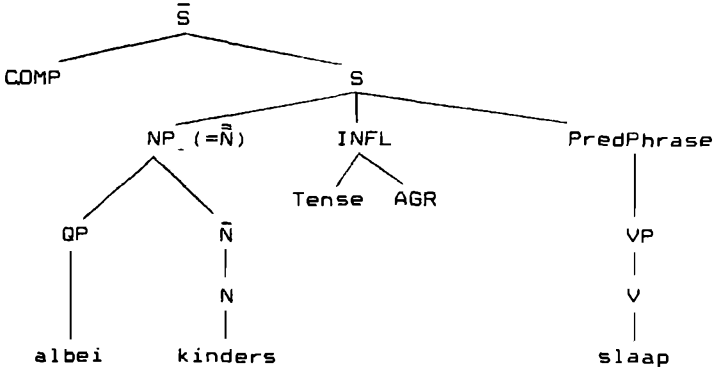
(b)



Suppose that non-postposed QPs, e.g. albei in (i)(b), are analysed as overt anaphors, contrary to the assumption made just now in the text. As a consequence, these QPs should be subject to the binding principle (9), that is, they should be A-bound in their governing categories. S is the governing category for albei in (i)(b): it is the minimal category containing albei, a governor of albei (i.e. the noun kinders), and a SUBJECT accessible to albei (i.e. AGR). The only potential binder of albei in (i)(b) is the noun kinders, the head of the containing NP. But albei cannot be A-bound by kinders, since the latter does not occur in an A-position (cf. par. 2 for the notions "A-bound" and "A-position"). Albei is thus free in its governing category, in violation of the principle (9). The sentence (i)(a) is nevertheless acceptable, with albei interpreted coreferentially with the noun kinders. This could be taken as an indication that the binding principle (9) does not enter into determining the coreferential relation between a non-postposed QP and the constituent it modifies, and that non-postposed QPs accordingly do not represent overt anaphors, as was assumed in the text above.

The question now arises: Given that non-postposed QPs are analysed as non-anaphors, how can the coreferential relation between these QPs and the constituents they modify be accounted for? As was pointed out in par. 1, this question falls outside the scope of the present study. In note 176 we will nevertheless briefly consider the semantic interpretation of non-postposed QPs against the background of Williams' (1980) theory of

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predication. The relevant aspects of Williams' theory will be set out and illustrated in par. 3.4.2.1.

139. The QP elk(een), like almal, has to occur in a partitive construction in non-postposed position (cf. Oosthuizen 1988: par. 2.3.3.4 in this connection). It is accordingly predicted that a sentence such as (123)(a) - with elk(een) in place of almal - will have only one acceptable interpretation: elk(een) can be interpreted coreferentially with the subject NP hulle, but it cannot be interpreted as a non-postposed QP modifying the direct object NP die pasiënte which follows it. This prediction is correct.

140. Cf. note 121 above for the θ-criterion as formulated in (Chomsky 1982a: 36).

141. Cf. note 33 for the ECP.

142. In the terminology of (Chomsky 1982a:38), the verb slaap in (131)(b) "indirectly θ-marks" the subject NP die kinders.

143. Cf. also par. 3.3.2.5 for a discussion of the question whether postposed QPs represent arguments in Afrikaans.

144. The Case-assignment rules that are presented in (Chomsky 1982b: 170) relate exclusively to NPs. Cf. note 34 above for these rules.

145. Various different versions of $\bar{X}$-Theory have been presented in the literature. Cf. for example Bresnan 1976; Emonds 1976; Jackendoff 1977; Selkirk 1977; Stuurman 1985; Van Riemsdijk 1978. The version that is proposed in (Stuurman 1985) differs from the others in that it provides only for a single recursive projection X^1 of the head category X^0. In terms of this version the head X^0 can thus be directly dominated by its maximal projection.

146. VERB PLACEMENT (cf. note 43) was applied in the derivation of (133)(a). This rule moved the finite verb het in (133)

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(b) to the second position in the sentence. Incidentally, (133)(a) cannot be analysed as a Q-FLOAT construction, i.e. as a construction in which the postposed QP is directly dominated by the S/PredPhrase/VP. The reason for this is that a postposed QP which modifies the subject NP of a main clause, as is the case with almal in (133)(a), may not occur directly after this NP in Q-FLOAT constructions. This is illustrated by the unacceptability of the sentence (i); cf. Oosthuizen 1988: par. 3.2.2.2.2 for a discussion of this phenomenon.

(i) *Die studente ALMAL lees die boek.
the student-PLU all read the book

147. In terms of Chomsky's (1982a: 250) definition of government, α governs y if (i) $\alpha = X^0$ or is coindexed with y, (ii) α and y are not separated by an intervening maximal projection $\emptyset$ and (iii) α c-commands y. The pronoun hulle in (133)(b) satisfies all three these requirements.

148. Chomsky's (1982a:212) definition of the notion "accessible SUBJECT" was given as (15) in par. 2. In that paragraph we also briefly discussed the distinction between the notions "SUBJECT" and "subject of NP/S". It was assumed above that the modifying constituent in Q-Pro FLIP constructions - e.g. almal in (133)(a) - represents a postposed QP. Hulle in (133)(a) accordingly cannot be analysed as the subject of the containing NP, hence as an accessible SUBJECT for almal, since this would leave the containing NP without a head.

149. The NP die boek is also ruled out as a possible binder of almal by the ordering constraint proposed in par. 3.3.3.1. In terms of this constraint, a postposed QP must occur to the right of its binder.

150. In terms of the definition (A) of c-command presented in note 26, a category β cannot c-command one of its members.

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151. Williams (1980: 205) characterises the indexing that is associated with predication as "referential", in the sense of (Chomsky 1981a).

152. Cf. Williams 1980:206 for the rule (137)(a).

153. Williams (1980: 206, 229, 230) discusses AP, NP, PP, VP, $\bar{S}$ and S as possible predicates.

154. Cf. Williams 1980: 206 for the example (137)(b).

155. Cf. Williams 1980: 205 for the schema (137)(c).

156. Cf. Williams 1980: 204, fn.1 for this requirement. Cf. also note 26 above for Chomsky's (1982a: 166) definition of c-command.

157. Cf. Williams 1980: 212, 223, 230 for the structural descriptions in (138).

158. In the case of cleft constructions, X in (138)(d) represents the subject/antecedent and $\bar{S}$ the predicate. Cf. Williams 1980: 229 in this connection.

159. Cf. Williams 1980: 206 - 207, 220, 230 for the sentences in (138).

160. Cf. Williams 1980: 207 for this sentence.

161. For an explication of the thematic relations of Goal and Theme, cf. Jackendoff 1972: par. 2.2 and the references cited there.

162. According to Chomsky (1982b:93) "Similar arguments apply to left dislocation (in English) and clefts". Cf. also Chomsky 1982a: 148, fn. 109 for further examples "involving some kind of predication in the sense of Williams (1980a)".

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163. Cf. notes 20 and 32 above for references regarding the OB ("On Binding") framework.

164. Cf. Williams 1980: 236-237 in this regard.

165. Of course, this is not to say that **surface structure**, as it is used by Williams (1980: 236-237), is necessarily equivalent to **S-structure**, as it is used in the GB framework. After all, Williams' proposals are presented within the framework of OB Theory (cf. note 20 above), a theory of UG that predates GB Theory. Thus, substituting a term that is used by Williams for one that is used in the GB framework could amount to more than a mere terminological adjustment.

166. Cf. Chomsky 1982b: 94-95 for a brief discussion of some of the properties of LF^1.

167. It is not clear whether the principles of GB Binding Theory are applicable at the level of LF^1/PS. If they are, it could be objected that coindexing of the N hulle and the X almal in (141) will result in a violation of the binding principle for pronominals, which holds that pronominals must be free in their governing categories (cf. note 21 above). The governing category for the N hulle in (133)(a) is the S of which the NP hulle almal forms the structural subject: the S is the minimal category containing the N hulle, a SUBJECT accessible to hulle (i.e. AGR), and a governor of hulle (i.e. the X almal, provided it is coindexed with hulle; cf. note 147 above for the notion "government". The X almal in (141) is a potential A-binder of hulle, since it occupies an A-position and it c-commands the N. If almal and hulle are coindexed, as is argued above in the text, the N will accordingly be A-bound in its governing category, in violation of the binding principle for pronominals. Hence it is predicted that (133)(a) will be unacceptable with hulle and almal interpreted coreferentially. The prediction is incorrect. Given the binding principle for pronominals, and given that this principle is applicable at the level of LF^1/PS, it could therefore be claimed that the semantic relation between the pronoun and the modifying constituent

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X in Q-Pro FLIP constructions cannot be accounted for in terms of coindexing. This amounts to saying that the proposed predication analysis of Q-Pro FLIP phenomena should be rejected.

One solution to the potential problem just outlined is to add a special stipulation, at least to the grammar of Afrikaans, to the effect that the principles of GB Binding Theory are not applicable at the level of LF^{+}/PS. This will then ensure that coindexing of hulle and almal in (133)(a) is not ruled out by the binding principle for pronominals. The use of such a special stipulation is obviously not very attractive from a metascientific point of view. A closer look at the relevant binding principle suggests, however, that we are probably dealing with a *quasi-problem* in the case of sentences like (133)(a). As far as could be ascertained, this principle only relates to pronominal *NPs*. That is, the binding principle for pronominals seems to hold that pronominal *NPs* must be A-free in their governing categories, but does not seem to apply to the *heads* of such NPs. This interpretation - which is ostensibly the only one employed in the literature; cf. for example Chomsky 1982a: 183-193, Radford 1981: chapter 11, Van Riemsdijk and Williams 1986: chapter 12 - implies that coindexing of the pronoun and the modifying constituent X in Q-Pro FLIP constructions falls outside the purview of the binding principle for pronominals. Hence coindexing of the pronoun hulle and the X almal in (133)(a) will not constitute a violation of the principle in question. Against this background, the proposed predication analysis cannot be regarded as objectionable from the viewpoint of GB Binding Theory.

It will be argued shortly below in the text that the modifying constituent X in Afrikaans Q-Pro FLIP constructions should be analysed as a non-anaphor lexical NP. Given this analysis, it could be objected that coindexing of this modifying NP and the pronoun it modifies - e.g. almal and hulle, respectively, in the case of (133)(a) - will result in the NP, an R-expression, being A-bound by the pronoun; this will be in violation of the binding principle for R-expressions (cf. note 21) which states that these expressions must be free. The objection has to be

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rejected, however, because the modified pronoun in Q-Pro FLIP constructions does not represent a possible A-binder. In terms of the definition (10) of A-bound in par. 2 a category β qualifies as an A-binder of a category α if (i) α and β are coindexed, (ii) β c-commands α and (iii) β occupies an A-position. The modified pronoun in Q-Pro FLIP constructions does not meet the requirement (iii): as the head of the containing NP, it is in an $\bar{A}$-position (cf. par. 2 in this regard). Coindexing of this pronoun and the modifying NP will therefore not result in a violation of the binding principle for R-expressions.

168. (143)(a,b) are ambiguous. On the one hand, julle/ons can be interpreted as possessive pronouns modifying the elements kinders/twee (i.e. "your children"/"our two"). Interpreted in this way, julle/ons will be assigned genitive Case by the rule for genitive Case-assignment proposed in (Chomsky 1982a: 170). On the other hand, julle/ons can be interpreted as the pronominal heads of the bracketed NPs, modified by the elements kinders/twee. It is in this second interpretation that (143)(a) and (b) should be understood here and in the rest of par. 3.4.2.2.

169. In the case of (143)(c) the structure (141) would have to be adapted to make provision for the determiner die.

170. Actually, (137)(a) will have to be modified to make provision for N - and $\bar{N}$; cf. (138)(e) - as a subject/antecedent for the predicate X. Such a modification, which does not seem to be objectionable in principle, could be along the following lines (the superscript *n* represents any of the bar specifications of N):

(i) Coindex N^n with X

171. There are at least two considerations providing support for the claim that the numeral twee in (143)(b) represents an NP rather than, say, an AP. First, twee in (143)(b) can be modified by an attributive adjective like praqtiqe as in (i)(a). The adjectival numeral twee can also co-occur with an attribu-

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tive adjective, but in such cases it must be accompanied by a determiner. This is illustrated in (i)(b). Second, twee in (143)(b) can be inflected for diminution (e.g. -tjie) and for number (e.g. plural -s), as is illustrated by the sentence in (ii). These inflections are restricted to nouns in Afrikaans.

(i) (a) [$_{NP}$ julle pragtige twee].
you lovely two
(b) [$_{NP}$ *(die) pragtige twee kinders].
**(the) lovely two child-PLU*

(ii) [$_{NP}$ julle tweetjies].
you two-DIM-PLU (where DIM = diminutive affix)

172. In this respect, the predication analysis has a definite advantage over an analysis which employs a movement rule of Q-Pro FLIP. (Cf. Oosthuizen 1988: par. 3.3 for such a movement analysis.) On the latter analysis, the fact that the modified constituent must be a pronoun is left unexplained - this fact is merely stipulated in the structural description of the rule of Q-Pro FLIP.

173. Cf. note 33 above for the ECP. The Case-assignment rules that are proposed in (Chomsky 1982a:170), and further references for the concepts and principles of Case Theory are given in note 34.

174. Lees in (126)(b) does not c-command almal, hence it does not represent a governor of almal. AGR is ruled out as a governor of almal, because it is separated from almal by the maximal projection NP (= $\bar{\bar{N}}$).

175. The "reduced" relative clause in (143)(a) will thus consist of only one overt element, viz. the NP kinders, with both the wh-phrase wat and the copular verb is having being deleted /omitted.

176. As was pointed out in par. 1, the question of the semantic relation between a *non-postposed* QP and the constituent it

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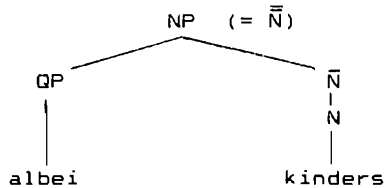
modifies falls outside the scope of the present study. A few remarks in this connection are nevertheless in order at this point. It must be stressed from the onset, however, that these remarks are intended to be suggestive at most.

Consider the sentence in (i)(a); the structure underlying the containing NP albei kinders may be represented roughly as in (i)(b). It is assumed in this structure that the noun kinders represents the head of the containing NP and that albei represents a non-postposed QP functioning as the specifier of this NP. We will return to this assumption below.

(i)(a) ALBEI kinders slaap.
both child-PLU sleep
"Both children are sleeping"

(b)



The QP albei in (i)(a) is interpreted coreferentially with the noun kinders. It was illustrated in note 138 above that this coreferential relation cannot be accounted for in terms of the binding principle (9) for anaphors. This was taken as an indication that non-postposed QPs do not represent overt anaphors in Afrikaans. The question now arises as to whether Williams' (1980) predication theory that was set out in par. 3.4.2.1 could provide a possible framework for describing the coreferential relation between a non-postposed QP and the constituent it modifies. A cursory investigation of sentences like (i)(a) suggests a positive answer to this question. In terms of Williams' theory, there exists a predication relation between the noun kinders and the QP albei in (i)(b), with kinders representing the subject/antecedent of the predicate albei. These two constituents c-command each other, so that they can be coindexed by the rule (137)(a) - modified as (i) in note 170 - at the level of PS/LF[1]. In view of Williams' (1980:208) claim

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that "Every predicate must have an antecedent", coindexing of albei and kinders will be obligatory: the sentence (i)(a) contains no other possible antecedent of albei than the noun kinders. Hence the fact that albei cannot be interpreted non-coreferentially with kinders.

The predication relation between albei and kinders in (i)(a) is not determined thematically since neither constituent forms part of the VP. The predication in question thus has to take place in a grammatically governed environment. The structure (i)(b) does not conform to any of the grammatically governed environments specified in (138) and (142), however. One way of overcoming this problem is to propose the structural description (ii) below as an additional environment for predication. The proposal does not appear to be objectionable in principle. For one thing, (ii) is identical to the structural description (138)(e), except for the linear ordering of the subject/antecedent $\bar{N}$ and the predicate X. For another, the structural description (138)(d) already makes provision for a predicate X occurring to the left of its subject/antecedent.

(ii) $[\ X \quad \bar{N}\ ]_{\bar{\bar{N}}}$

Possible support for (ii) as a grammatically governed predication environment comes from examples such as the following:

(iii)(a) $[_{NP}$ Stout kinders] moet slae kry.
naughty child-PLU must hiding get
"Naughty children must be given a hiding"

(b) Hy wil met $[_{NP}$ die mooi meisie] praat.
he wants-to with the pretty girl talk
"He wants to talk to the pretty girl"

The bracketed NPs in (iii)(a,b) both contain a head noun (i.e. kinders, meisie) that is modified by an attributive AP (stout, mooi). Put differently, the APs in the bracketed NPs are predicated of the respective head nouns (or antecedents). Given that attributive APs occupy the specifier position of an NP/$\bar{\bar{N}}$-projection, the bracketed NPs in (iii)(a) and (b) will presum-

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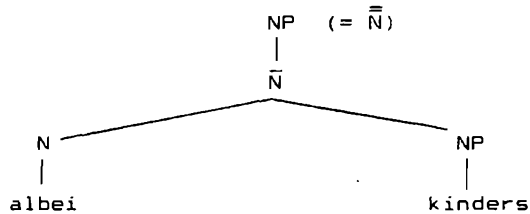
ably both have an underlying structure along the lines of (i)(b) above (although provision will have to be made for the determiner die in the case of (iii)(b)). The AP and its antecedent, the head noun, c-command each other in such a structure. It could therefore be proposed that the predication relation between these constituents is expressed at the LF¹/PS-level by means of the predication rule (i) in note 170. But this proposál can of course only be accepted if the *AP-head noun* pairs in (iii)(a,b) occur in a predication environment. The relevant environment is the one specified by the structural description (ii). Apparently then, this structural description is required for predication phenomena that are unrelated to the semantic relation between a non-postposed QP and the constituent it modifies.

Returning to the sentence in (i)(a), it was assumed above that the noun kinders represents the head of the containing NP albei kinders, and that albei represents a non-postposed QP. An alternative approach is to analyse the NP albei kinders as in (iv), with albei representing the head of this NP and kinders functioning as the NP complement of albei. (It is illustrated in (Oosthuizen 1988:par. 2.3.3.3) that the formative albei can be used as the head of an NP.) Notice that albei in (iv) will have to be analysed as a pronoun: as pointed out above in the text, non-pronominal nouns in Afrikaans are not subcategorised for NP complements.

(iv)



Albei and kinders c-command each other in (iv), and the structure furthermore conforms to the grammatically governed predication environment specified in (142)(a)/(b). Hence these two constituents can be coindexed at PS/LF¹, with albei representing the antecedent of the predicate kinders.

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In short, then, it appears that the coreferential relation between albei and kinders in (i)(a) can be accounted for within the framework of Williams' predication theory, irrespective of whether the containing NP albei kinders is analysed as in (i)(b) or as in (iv). It must again be stressed at this point, however, that the proposals made above in connection with the example (i)(a) are intended to be suggestive at *most*. Clearly, it cannot be concluded on the basis of a cursory investigation of this one sentence that the predication devices set out in (Williams 1980) represent an adequate framework for describing the semantic relation between a so-called non-postposed QP and the constituent that it modifies. Such a conclusion requires positive evidence derived from a variety of constructions involving a variety of non-postposed QPs. (Cf. Oosthuizen 1988: par. 2.3.3 for some of the constructions in which Afrikaans non-postposed QPs may occur.) An inquiry into the merit and the exact nature of the relevant predication devices is, however, a task for further research. Hopefully, the proposals outlined in this note will prove useful in such an inquiry.

177. The assumption (148) was presented as (3) above. References for analyses that incorporate this assumption were given in notes 2 and 4. Cf. par. 3.2 for a brief discussion of analyses that do not incorporate (148).

178. The term **postposed QP** is used in the interpretive analysis without the accompanying connotation of movement; cf. par. 1 in this regard.

179. Cf. par. 3.3 and 3.4 respectively for the terms **Q-FLOAT construction** and **Q-Pro FLIP construction.**

180. Cf. Appendix 2 for a summary of these generalisations.

181. This holds also for the movement analysis discussed in (Oosthuizen 1988: chapter 3).

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