PHRASAL COMPOUNDS IN AFRIKAANS: A GENERATIVE ANALYSIS*

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1 Introduction

The aim of this paper is twofold: to present the outlines of a theory of Afrikaans phrasal compounding and to discuss the consequences of this theory for the status of the No Phrase Constraint (henceforth: NPC) as a language-independent constraint on word formation rules (henceforth: WFRs).

Lexicalist morphologists like Aronoff (1976), Allen (1978), and Roeper and Siegel (1978), amongst others, accept the hypothesis that WFRs cannot take bases which are larger than words, that is, a WFR cannot form a morphologically complex word on the basis of, for example, a syntactic phrase. This restriction on WFRs is known as the NPC. While most morphologists accept this constraint, they do not all assign to it the same status. Roeper and Siegel (1978:202, 209, 211 and 213) and Allen (1978:4, 12, 253), it appears, accept the NPC as having a language-independent status. Selkirk (1982:8), on the other hand, views it as at least a constraint on bases of WFRs in English. That is, the NPC has a language-specific status. Whether she takes this constraint to generalize to other languages is not clear.1)

Botha (1981a:19) has recently described the NPC as a language-independent constraint which is "widely accepted but poorly motivated". He has argued that the NPC, as a language-independent constraint, is untenable in its most general form. He presents an analysis of Afrikaans synthetic compounds which requires that the NPC be reformulated so that WFRs can apply to a properly defined class of syntactic structures, viz. deep structure (henceforth: D-structure) phrases. This analysis is worked out as his Base Rule Theory.2)

In Afrikaans there exists another class of compounds which appear to violate the NPC. These compounds are formed, according to linguists
such as Kempen (1969:347, 352) and Botha (1981a:73-77), by adjoining a syntactic phrase to a noun. The following are examples of such compounds.3)

1. (a) God-is-dood-teologie
   God is dead theology
   "doctrine which claims that God is dead"

   (b) gou – baklei-spelers
   quickly fight players
   "players who are known to be free with their fists"

Forms such as those in (1) above have been called "phrasal compounds" by Botha (1981a:76). For the formation of these compounds it appears that WFRs must be able to take syntactic phrases as bases. Afrikaans, therefore, does not seem to obey the NPC. This constitutes negative evidence for the NPC if this constraint were to have a language-independent status.

We turn now to the generalizations which an analysis of the different types of phrasal compounds reveals, the outlines of a theory of phrasal compounding and the implications of this theory for the status of the NPC as a language-independent constraint on WFRs.

2 Generalizations for Afrikaans

An analysis of Afrikaans phrasal compounds reveals that these morphologically complex words can be divided into six types according to the syntactic phrase which constitutes the lefthand constituent of such a word.4) The syntactic phrase may be a NP, PP, AdvP, AP, VP or S as shown in (2)(a), (3)(a), (4)(a), (5)(a), (6)(a) and (7)(a). The syntactic phrase corresponds to an independently generated syntactic phrase in a grammatical sentence of Afrikaans as in (2)(b), (3)(b), (4)(b), (5)(b) and (6)(b), or to an independently generated sentence as in (7)(b). The relevant syntactic phrases are capitalized.
(2) (a) [ [mooi· weers] NP [godsdien] N ] N
     fair weather religion
     "religion which is practised only when the situation is favourable to the person practising it"

     (b) MOOI WEER maak 'n mens gelukkig.
     fair weather makes a person happy
     "Fair weather makes one happy."

(3) (a) [ [op 'n ry] pp [nestes] N ] N
     in a row nests
     "nests hanging in a row"

     (b) Die neste hang OP 'n RY.
     the nests hang in a row
     "The nests are hanging in a row."

(4) (a) [ [laat in die aand] AdvP [drankie] N ] N
     late in the evening drink
     "drink taken late in the evening"

     (b) Hulle wil altyd LAAT IN DIE AAND koffie drink.
     they want always late in the evening coffee drink
     "They always want to drink coffee late in the evening."

(5) (a) [ [vies vir die wêreld] AP [uitdrukking] N ] N
     cross for the world expression
     "disgruntled expression"

     (b) Sy is VIES VIR DIE WÊRELD.
     she is cross for the world
     "She is disgruntled."

(6) (a) [ [uit die bottel drink] VP [alcoholis] N ] N
     from the bottle drink alcoholic
     "alcoholic who drinks straight from the bottle"

     (b) Die vrou kla dat haar man UIT DIE BOTTEL DRINK.
     the woman complains that her husband from the bottle drinks
     "The woman complains that her husband drinks straight from the bottle."
The analysis of data such as those given above reveals certain generalizations which must be expressed by a descriptively adequate account of Afrikaans phrasal compounding.

The non-head of a well-formed phrasal compound corresponds to a well-formed syntactic surface structure phrase in a grammatical sentence of Afrikaans or a well-formed surface structure sentence of Afrikaans. The syntactic phrase may be generated by a rule/rules similar to that/those required to generate the corresponding syntactic phrase of Afrikaans.

The WFRs which adjoin the various syntactic phrases to nouns are extensions of the WFRs which adjoin non-phrasal constituents like nouns, adjectives and adverbs, for example, to nouns.

The noun to which the syntactic phrase is attached is a common noun or abstract noun.

Before turning to a discussion of the substance of the theory of Afrikaans phrasal compounding, it is necessary to consider the criteria which such a theory should satisfy. A theory of phrasal compounding, like grammatical theories in general, should satisfy the criteria enumerated in (9) below.

A theory of phrasal compounding must describe the formation of all possible, well-formed phrasal compounds in such a way that
(i) all the relevant, linguistically significant generalizations about the language are expressed;
(ii) no spurious generalizations about the language are expressed.

(b) In expressing the relevant language-specific generalizations the theory should NOT use formal devices such as (kinds of) rules, structures and conditions which

(i) violate well-motivated language-independent principles, conditions and constraints;
(ii) introduce conceptual redundancies into the general linguistic theory;
(iii) have obscure properties or are insufficiently constrained in regard to descriptive power.

3 A theory of Afrikaans phrasal compounding

3.1 Fundamental hypotheses of a theory of Afrikaans phrasal compounding

The generalizations formulated in (8) above can be accounted for by assuming a theory of phrasal compounding which includes the following two fundamental hypotheses.

(10) The Phrasal Constituent Hypothesis
Afrikaans phrasal compounds have as their bases phonetically interpreted surface structure phrases which are generated by independently motivated rules of the grammar.

(11) The Compounding Hypothesis
The rules by means of which syntactic phrases are adjoined to nouns are extensions of the rules of non-phrasal compounding where compounding rules are WFRs which adjoin two constituents.

The essence of the theory of phrasal compounding which incorporates the
hypotheses (10) and (11) can be illustrated with reference to the phrasal compounds (12)(a)-(d).

(12) (a) mooiweergodsiens
(b) gou-baklei-spelers
(c) op-h-ry-neste
(d) God-is-dood-teologie

In terms of the Phrasal Constituent Hypothesis, the phrasal compounds (12)(a)-(d) have as their underlying structures phonetically interpreted syntactic surface structures which may be represented as (13)(a)-(d) respectively.

(13) (a) \([\text{mooi}]_{\text{Adj}} [\text{weer}]_{\text{N}}]_{\text{NP}}
(b) \([\text{gou}]_{\text{Adv}} [\text{baklei}]_{\text{V}}]_{\text{VP}}
(c) \([\text{op} \text{~h~ry}]_{\text{P}} [\text{~n ry}]_{\text{NP}}]_{\text{PP}}
(d) \([\text{COMP} [\text{God is dood} - ]_{\text{S}}]_{\text{S}}\]

The syntactic phrases (13)(a)-(d) are adjoined to nouns by a rule of phrasal compounding in the lexicon to form (14)(a)-(d).

(14) (a) \([\text{mooi weer}]_{\text{NP}} [\text{godsiens}]_{\text{N}}]_{\text{N}}
(b) \([\text{gou baklei}]_{\text{VP}} [\text{spelers}]_{\text{N}}]_{\text{N}}
(c) \([\text{op} \text{~h~ry}]_{\text{PP}} [\text{~neste}]_{\text{NP}}]_{\text{N}}
(d) \([\text{God is dood}]_{\text{S}} [\text{teologie}]_{\text{N}}]_{\text{N}}

Afrikaans phrasal compounds are thus morphologically complex words formed by adjoining a well-formed syntactic surface structure phrase, generated by independently motivated rules of the grammar, to a noun. The phrasal compounds, like the products of other WFRs, are then available for lexical insertion into categorial structures.
3.1.1 The Phrasal Constituent Hypothesis

The Phrasal Constituent Hypothesis as formulated in (10) makes certain predictions about possible and impossible phrasal compounds of Afrikaans and about the correspondence of the phrasal constituents of such compounds with possible and impossible syntactic expressions of Afrikaans. As will be shown below, both the well-/ill-formedness of syntactic expressions and the well-/ill-formedness of certain phrasal compounds can be reduced to a well-/ill-formed syntactic expression of Afrikaans.

The Phrasal Constituent Hypothesis is partially justified by its ability to explain the well-formedness of certain phrasal compounds as opposed to the ill-formedness of others. This hypothesis, by attributing the well-/ill-formedness of a certain phrasal compound and the expression corresponding to the phrasal constituent to one underlying source, captures a linguistically significant generalization. In so doing the Phrasal Constituent Hypothesis uses the same formal device to account for the well-/ill-formedness of syntactic expressions and the corresponding phrasal compounds. This hypothesis thus avoids a conceptual redundancy in the general linguistic theory and satisfies the criterion given in (9)(b)(ii) above. 8) Note that the Phrasal Constituent Hypothesis does not provide a basis for explaining the ill-formedness of ALL phrasal compounds, nor does it enable us to distinguish between acceptable, marginally (un)acceptable and unacceptable phrasal compounds. We return to these problems in §§3.1.1.2 and 3.2 respectively.

3.1.1.1 Possible phrasal constituents

A first prediction of the Phrasal Constituent Hypothesis may be formulated as (15).

(15) No Afrikaans phrasal compound may have as its base a structure which is not a possible, well-formed syntactic surface structure phrase of Afrikaans.

The claim expressed in (15) is borne out by the data in (16)(a)-(d) and (17(a)-(d).
The forms (16)(a)-(d) are well-formed as each consists of a well-formed phonetically interpreted surface structure phrase adjoined to a noun. The forms (17)(a)-(d) are not well-formed as the syntactic phrase in each case is not a well-formed phonetically interpreted surface structure of Afrikaans but rather a D-structure.

The non-heads of (17)(a) and (b) are well-formed D-structures given the assumption that a categorial structure in Afrikaans does not include a node like ART or DET under which h/die is lexically inserted. I assume in this paper that h/die are overt realizations of the syntactic features <-def> / <+ def> of NPs like ry and aand. 9)

There are certain forms, such as those in (18)(a) and (b) below, which are problematic for the Phrasal Constituent Hypothesis and for the prediction (15).

(18) (a) tafel-en-bank-eenheid
    table and bench unit
    "unit consisting of a table and (a) bench"

    (b) been-rek-ruimte
    leg stretch space
    "space in which to stretch one’s legs"

Let us consider each phrasal compound in turn with respect to the Phrasal
Constituent Hypothesis and the claim expressed in (15). The Phrasal Constituent Hypothesis makes the claim that the syntactic phrase which is adjoined to a noun exists on the level of syntactic surface structure. The syntactic phrase in (18)(a) appears to be a D-structure rather than a surface structure phrase. A well-formed phonetically interpreted surface structure phrase corresponding to the non-head of (18)(a) could be either (19)(a) or (b). That is, in each case the phrase includes an article die or 'n.

(19)  
(a) die-tafel-en-die-bank  
(b) 'n-tafel-en-'n-bank

(20)(a) and (20)(b) in which (19)(a) and (19)(b) are adjoined to the noun eenheid should constitute well-formed phrasal compounds of Afrikaans. This is not the case. Both (20)(a) and (b) are unacceptable to fluent speakers of Afrikaans.

(20)  
(a) *n/die [die-tafel-en-die-bank-eenheid]  
(b) *n/die [n-tafel-en-'n-bank-eenheid]

(21)(a) and (b) in which the articles preceding the nouns tafel and bank are absent, are acceptable to fluent speakers of Afrikaans.

(21)  
(a) die [tafel-en-bank-eenheid]  
(b) 'n [tafel-en-bank-eenheid]

We have an apparent contradiction here. The Phrasal Constituent Hypothesis expresses the claim that only a well-formed phonetically interpreted surface structure may form a base of a phrasal compound. However, (20)(a) and (b) in which such a phrase has been adjoined to a noun are unacceptable to fluent speakers of Afrikaans. (21)(a) and (b) are, however, acceptable to fluent speakers. The question which now arises is how the data can be accounted for given the Phrasal Constituent Hypothesis. To exclude forms such as (20)(a) and (b) we can include a filter in the grammar. This filter excludes, as ill-formed, any sequence in which two articles are adjacent. Hence, the filter will mark both
(20)(a) and (b) as ill-formed. By accounting for these forms with recourse to a filter, the Phrasal Constituent Hypothesis can be maintained in its most general form (10). No independent motivation exists for this filter. The absence of articles preceding nouns in other morphologically complex words which include syntactic phrases is accounted for in the following way. Afrikaans synthetic compounds, like phrasal compounds, take syntactic phrases as bases. The syntactic phrase leeu-byt in the synthetic compound (22) corresponds to the VP die leeu byt in the sentence (23). 10

\[(22) \quad \text{die/n [leeu - byt - er]}\]

the a lion bite er

"the/a person who bites lions"

\[(23) \quad \text{Hy droom dat Jaws die leeu byt.}\]

he dreams that Jaws the lion bites

"He dreams that Jaws is biting the lion."

The absence of the article die preceding leeu in (22) is accounted for by assuming that synthetic compounds are formed on the basis of D-structure phrases in which features like \(+\text{def}\) have not yet been overtly realized as the article die. The filter proposed above is therefore only required for excluding a limited number of phrasal compounds and is thus ad hoc. 11

We turn now to the form beenrekuimte given as (18)(b) above. Given the Phrasal Constituent Hypothesis, the forms (24)(a)-(c) should be acceptable to fluent speakers of Afrikaans as each is formed by adjoining a surface structure phrase to a noun. 12 This is, however, not the case.

\[(24)\]

(a) \*\text{h/die [h/die beenrekuimte]}

(b) \*\text{h/die [benerekuimte]}

(c) \*\text{h/die [(die) benerekuimte]}

In contrast to (24)(a)-(c), the form (25) below is acceptable to fluent speakers of Afrikaans. The non-head in (25) corresponds to a well-formed
D-structure phrase, unlike the non-heads of (24)(a)-(c) which correspond to surface structure phrases.

(25) 'n/die [beenrekuimte]

The unacceptability of (24)(a)-(c) vis-à-vis the acceptability of (25) must be accounted for. (24)(a) would be excluded by the filter proposed on p. 45 above. The form (24)(b) could also be excluded by this filter although there is another cause of unacceptability, viz. the plural form bene. The unacceptability of (24)(b) can also be attributed to the plural form of the noun bene in the non-head. Let us now examine several other ways in which we could attempt to account for the unacceptability of the forms (24)(a)-(c) vis-à-vis the acceptability of (25).

Firstly, we could restrict the possible bases to which the rules of phrasal compounding apply, that is, not all bases of phrasal compounds are syntactic surface structures, some are D-structures. To include beenrek as a possible base, the Phrasal Constituent Hypothesis would have to be restricted to include, as bases, D-structure VPs where the VP consists of a NP and a verb and to exclude such surface structure VPs. The prediction is that forms such as (26)(a)(i) and (b)(i) in which the VP corresponds to a surface structure phrase should be unacceptable to fluent speakers of Afrikaans. Forms such as (26)(a)(ii) and (b)(ii) in which the VP corresponds to a D-structure phrase should be acceptable. This is indeed the case.

(26) (a) (i) *die [die tone-druk - skoene]
    the the toes press shoes
    "the shoes which press the toes"

    (ii) die [toon-druk - skoene]
    the toe press shoes
    "the shoes which press one's toes"

(b) (i) *die [die-truie - brei - sessie]
    the jerseys knit session
    "the session at which the jerseys are knitted"
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(ii) die [trui-breisessie]
the jersey knit session
"the session at which jerseys are knitted"

It would, however, seem unwise to restrict the generality of a fundamental hypothesis of the theory of phrasal compounding in order to account for one sub-type of VP+N phrasal compounds.

A second possibility is the analysis of beenrek as a N+V compound of the type liplees (= "lip read"). However, from a comparison of beenrek with liplees it is evident that the individual constituents of beenrek do not exhibit the same properties as liplees does when used in a grammatical sentence of Afrikaans. Rather, the individual constituents of beenrek exhibit the same characteristics as the direct object and verb of a grammatical sentence of Afrikaans. That is, the noun been like the noun kat in Sy sê dat hy die groot kat slaan (= "She says that he is hitting the big cat.") may be preceded by an article 'n (= "a") or die (= "the") and may be preceded by a modifying adjective like groot (= "big"). Thus, beenrek must be analyzed as a syntactic phrase and not as a compound of the type N+V where the compound as a whole is a verb. An alternative would be to analyze beenrek as a noun derived from the verb beenrek by zero affixation as represented in (27).

(27) \[
\begin{array}{c}
\text{been} \quad \text{N} \\
\text{ruimte} \quad \text{N} \\
\end{array}
\]

If beenrek were analyzed in this way, beenrekruië is analyzed as a nominal compound of the type N+N as represented in (28).

(28) \[
\begin{array}{c}
\text{beenrek} \quad \text{N} \\
\text{ruimte} \quad \text{N} \\
\end{array}
\]

This analysis has certain unacceptable consequences. Firstly, the analysis of beenrek as a noun presupposes that beenrek is a possible compound of the type N+V. As noted above, beenrek does not share characteristics with N+V compounds like liplees. Instead, the characteristics of beenrek correspond to those of a syntactic phrase like (die) kat slaan. This constituted evidence for analyzing beenrek as a
syntactic phrase, a VP, rather than as a compound. It was concluded that beenrek is not a possible compound of Afrikaans. This, in turn, constitutes negative evidence against the analysis of beenrek as a possible derivative, a noun, derived by zero affixation from the verb beenrek. Finally, if it is found that the rule of zero-affixation is not well-motivated, this would constitute further negative evidence against the analysis of beenrek as a noun.

It appears that beenrekruiuite should be analyzed as a phrasal compound consisting of a syntactic phrase, a VP, and a noun. Given the limited occurrence of phrasal compounds like beenrekruiuite, it seems unwise to restrict the generality of the Phrasal Constituent Hypothesis in any way. Forms such as beenrekruiuite may be taken to be exceptions.

A second prediction of the Phrasal Constituent Hypothesis concerns the types of linguistic units which the phrasal constituent constituting the non-head of a phrasal compound may incorporate.

(29) Each kind of linguistic unit which may occur in a phonetically interpreted surface structure may be incorporated in the phrasal constituent which constitutes the non-head of a phrasal compound.

All morphologically simple and complex words such as simple derivatives, primary compounds, synthetic compounds, and even phrasal compounds, which are listed in the lexicon or formed by WFRs may be lexically inserted into a categorial structure and may therefore occur in a phonetically interpreted surface structure. Such words may thus also be incorporated into the phrasal constituent of a phrasal compound. This claim is borne out by the data in (30)(a)-(f). The relevant constituents are enclosed in parentheses.

(30) (a) Simple lexical items

(i) (gou) - (baklei) - spelers
(ii) (tafel) - (en) - (bank) - eenheid
(b) Derived words

(i) (huisie) - in - die - berge - voorkoms

little house in the mountains appearance

"appearance similar to that of a little house in the mountains"

(ii) klein - (seuntjie) - glimlag

little (little) boy smile

"smile of a little boy"

c) Primary compounds

(i) (speelgoed) - optel - kameraad

toys up pick companion

"companion who helps to pick up and put away toys"

(ii) (troetelmeisie) - van - die - jaar - wedstryd

playgirl of the year competition

"competition to choose the playgirl of the year"

d) Idioms

(i) soggens - vroeg-(uit -die-vere) - huisvrou

in the morning early from the feathers housewife

"housewife who rises early each day"

(ii) ek-het - nog -(n-kaart-in-die-mou) - waarskuwing

I have still a card in the sleeve warning

"warning by someone that he still has a card up his sleeve"

e) Synthetic compounds

(i) (leeubyter) - van-die-jaar - kompetisie

lion biter of the year competition

"competition to choose the lion-biter of the year"

(ii) (vyfweekliks) - kom - belofte

five weekly come promise

"promise to come every five weeks"
3.1.1.2 **Ill-formed phrasal constituents**

The Phrasal Constituent Hypothesis does not make the following prediction about ill-formed phrasal compounds of Afrikaans.

(31) The deviance of every ill-formed phrasal compound can be attributed to the ill-formedness of the phrasal constituent.

The Phrasal Constituent Hypothesis does not make the claim expressed in (31), that is, it does not claim that surface structure is the only factor which determines the well-/ill-formedness of Afrikaans phrasal compounds. The hypothesis does not exclude the possibility that there exist phrasal compounds which are formed by adjoining a well-formed syntactic surface structure to a noun, but which are nevertheless ill-formed. Consider in this regard the examples in (32).

(32) (a) *soggens - en - smiddae - byeenkoms*  
    in the morning and in the afternoon meeting  
    "meeting which takes place every morning and afternoon"

(b) *verdraaiing - van - die - feite - kwaadheid*  
    distortion of the facts anger  
    "anger that the facts have been distorted"

(c) *hoom - skuldig - bevind - skok*  
    him guilty find shock  
    "shock that someone has been found guilty"
In each case the phrasal constituent corresponds to a well-formed syntactic surface structure but the phrasal compound is ill-formed. Since the Phrasal Constituent Hypothesis does not make the prediction (31), the ill-formed phrasal compounds are only apparent, not real, counterexamples to this hypothesis. The theory of phrasal compounding consists of two fundamental hypotheses, the Phrasal Constituent Hypothesis and the Compounding Hypothesis. The ill-formedness of the phrasal compounds (32)(a)-(c) may therefore also be attributed to the Compounding Hypothesis. The ill-formedness of phrasal compounds such as (32)(a)-(c) may be the result of the violation of some constraint on the rules of phrasal compounding. We return to this question in §3.1.2 below.

3.1.2 The Compounding Hypothesis

We turn now to the prediction of the Compounding Hypothesis. The first prediction of this hypothesis may be formulated as (33).

(33) For every rule of phrasal compounding there is a corresponding rule of non-phrasal nominal compounding.

In essence, the prediction (33) expresses the following claim. If there is a rule of phrasal compounding which adjoins a NP to N noun, there is a corresponding rule of non-phrasal compounding which adjoins a noun to a noun. The data in (34)-(37) bear out this claim.

(34) (a) NP - N (b) N - N

tafel - en - bank - eenheid
tafel - doek
table cloth "tablecloth"

(35) (a) AP - N (b) Adj - N

vies-vir-die-wêreld-uitdrukking
vuil - goed
dirty things "rubbish"
The only type of phrasal compound which does not have a corresponding non-phrasal compound is the phrasal compound of the type \( S + N \) exemplified in (38) below.\(^{14}\)

(38)  \text{God - is - dood - teologie}

A second prediction of the Compounding Hypothesis, may be formulated as (39).

(39)  Restrictions which limit the productivity of a rule of non-phrasal compounding will also limit the productivity of the corresponding rule of phrasal compounding.

This prediction may be illustrated with reference to the forms below. (39) implies, in abstract terms, that, if it is impossible to form a non-phrasal compound \( \text{Adv}_X + N \) with \( \text{Adv}_X \) as its head, it will also be impossible to form a phrasal compound \( [\text{Adv}_X + Y] + N/[Y + \text{Adv}_X] + N \) on the basis of a syntactic phrase which contains \( \text{Adv}_X \) and one or more additional constituents \( Y \). Forms such as those in (40) indicate that the prediction (39) is probably correct.
(40) (a) \[ \text{Adv}_x \quad \text{Adv}_x + N \]

soggens
in the morning
"in the morning"

\[ [\text{Adv}_x + \text{Y}] + N \]

soggens - en - smiddae - byeenkoms
in the morning and in the afternoon meeting
"meeting held every morning and afternoon"

(b) \[ \text{Adv}_x \quad \text{Adv}_x + N \]

dikwels
often
"often"

\[ [\text{Y} + \text{Adv}_x] + N \]

dikwels-vergaderings
often meetings
"meetings which are held often"

(c) \[ \text{Adv}_x \quad \text{Adv}_x + N \]

naby
near
"near"

\[ [\text{Y} + \text{Adv}_x + \text{Y}] + N \]

naby-leeu
near lion
so near that you every hair

kans-sien-leeu
hair can see lion
"lion which is standing so near to a person that he can see each hair on the lion's body"

A third prediction which follows from the Compounding Hypothesis may be formulated as (41).

(41) The morphological representation assigned to a phrasal compound is subject to the same general conditions as the morphological representations assigned to non-phrasal compounds.

Percolation and the Compositionality Constraint have been proposed as general conditions to which the representation of morphologically com-
plex words are subject. The former is a well-formedness condition proposed by Selkirk (1982:21) while the latter is formulated by Botha (1982:1). These conditions are not included in all recent theories of morphology and are used here only to elucidate the content of (41).

The representations assigned to morphologically complex words like the non-phrasal (nominal) compounds (42)(a) and (b) are, according to Selkirk (1982:21), subject to a well-formedness condition, Percolation, given in (43).

\[(42)\]
\[\begin{align*}
(a) & \quad \text{sake} \, - \, \text{brief} \\
& \quad \text{business} \, \text{letter} \\
& \quad \text{"business letter"}
\end{align*}\]

\[\begin{align*}
(b) & \quad \text{staal} \, - \, \text{masjien} \\
& \quad \text{steel} \, \text{machine} \\
& \quad \text{"machine made of steel"}
\end{align*}\]

\[(43)\] Percolation

If a constituent \(\alpha\) is the head of a constituent \(\beta\), \(\alpha\) and \(\beta\) are associated with an identical set of features (syntactic and diacritic).

Phrasal compounds like (44)(a) and (b), being morphologically complex words, should also be subject to this constraint.

\[(44)\]
\[\begin{align*}
(a) & \quad \text{"hoe} \, - \, \text{gaan} \, - \, \text{dit} \, - \, \text{nog}" \, \text{brief} \\
& \quad \text{"how goes it still letter"}
\end{align*}\]

\[\begin{align*}
(b) & \quad \text{op} \, - \, \text{die} \, - \, \text{plek} \, - \, \text{draf} \, - \, \text{masjien} \\
& \quad \text{on the spot jog machine} \\
& \quad \text{"exercise=machine which makes a person run on the spot"}
\end{align*}\]

The nominal compounds (42)(a) and (b) are formed by adjoining a noun to another noun and are assigned the structures (45)(a) and (b) respectively.
The phrasal compounds (44)(a) and (b) are formed by adjoining a syntactic phrase to a noun and are assigned the structures (46)(a) and (46)(b) respectively.

Selkirk (1982:20) defines the head of a morphologically complex word as follows:
(47) **Righthand Head Rule (revised)**

In a word internal configuration,

\[
\begin{align*}
X^n & \quad \vdash P \\
& \quad \vdash Q \\
& \quad \vdash X^m
\end{align*}
\]

where \(X\) stands for a syntactic feature complex and

where \(Q\) contains no category with the feature complex \(X\),

\(X^m\) is the head of \(X^n\).  

Given the RHR, the righthand constituent of each nominal compound, viz. **brief** and **masjien**, is the head of that compound. According to the well-formedness condition (47) the syntactic and diacritic features of the head must percolate to the node dominating the compound as a whole. The compounds then bear the same syntactic features as their heads and should be able to appear in the same syntactic environments as their heads. The same should be true of the corresponding phrasal compounds. These claims are borne out by the data in (48)-(51) below.

(48) (a)  
\[
\begin{align*}
\text{h/die brief} \\
\text{a/the letter}
\end{align*}
\]

"a/the letter"

(b)  
\[
\begin{align*}
\text{h/die sake - brief} \\
\text{a the business letter}
\end{align*}
\]

"a/the business letter"

(c)  
\[
\begin{align*}
\text{h/die "hoe-gaan-dit-nog" - brief} \\
\text{a the how goes it still letter}
\end{align*}
\]

"a/the 'how are you' letter"

(49) (a)  
\[
\begin{align*}
\text{in die brief} \\
\text{in the letter}
\end{align*}
\]

"in the letter"

(b)  
\[
\begin{align*}
\text{in die sake - brief} \\
\text{in the business letter}
\end{align*}
\]

"in the business letter"
It has recently been argued that morphologically complex words like nominal compounds are subject to a general linguistic condition on morphological representation, the Compositionality Condition. Botha (1982:1) formulates this condition as follows:

(52) **The Compositionality Condition**
The morphological representation assigned to a complex word must provide a formal basis which will allow the semantic interpretation of the word as a whole to be specified as a simple function of the meanings of its constituents. [1]
A pound should be formed in such a way that its labelled bracketing will provide a formal basis for assigning the correct semantic interpretation to such a compound. The morphological representations assigned to (42) (a) and (b) may be represented as (53)(a) and (b) respectively.

\[(53) \begin{align*}
(a) & \quad \left[ \left[ \text{sake} \right]_N \left[ \text{brief} \right]_N \right]_N \\
(b) & \quad \left[ \left[ \text{staal} \right]_N \left[ \text{masjien} \right]_N \right]_N
\end{align*}\]

The labelled bracketing in (53)(a) correctly denotes the two constituents, sake and brief, which will represent elements in the "composition" of the meaning of the compound as a whole: "business letter". Similarly, in (53)(b) the labelled bracketing indicates the two constituents, staal and masjien, which will represent elements in the "composition" of the meaning of the compound: "machine made of steel".

The phrasal compounds (44)(a) and (b), being morphologically complex words, are also subject to the Compositionality Condition. The phrasal compounds should be formed in such a way that the labelled bracketing provides a formal basis for assigning the correct semantic interpretation to each compound. The morphological representations assigned to (44)(a) and (b) may be represented as (54)(a) and (b) respectively.

\[(54) \begin{align*}
(a) & \quad \left[ \left[ \text{op die plek draf} \right]_V \left[ \text{masjien} \right]_N \right]_N \\
(b) & \quad \left[ \left[ \text{hoe gaan dit nog} \right]_V \left[ \text{brief} \right]_N \right]_N
\end{align*}\]

The labelled bracketing in (54)(a) correctly indicates the two constituents, op die plek draf and masjien, which will represent elements in the "composition" of the meaning of the phrasal compound as a whole: "exercise machine which makes a person run on the spot". Similarly, in (54)(b) the labelled bracketing indicates the two constituents, hoe gaan dit nog and brief, which will represent elements in the "composition" of the meaning of the phrasal compound: "how are you' letter".

An incorrect labelled bracketing of the forms (44)(a) and (b) would be any bracketing that incorrectly indicated the constituents which represent elements in the composition of the meaning of the phrasal compound.
as a whole. Such a labelling is represented in (55)(a) and (b).

(55)  
(a)  *[[op-die-plek]_{PP} [drafmasjien]_{N}]_{N}
(b)  *[[hoe-gaan]_{S} [dit-nog-brief]_{N}]_{N}

Given the bracketing in (55)(a), op-die-plek-draf-masjien would incorrectly be assigned the meaning "exercise-machine forcing/enabling one to run, which moves on the spot", rather than the more natural meaning "exercise-machine which makes a person run on the spot". In the case of (55)(b), the labelled bracketing is incorrect as hoe-gaan does not constitute a well-formed sentence of Afrikaans, and dit-nog-brief does not constitute a well-formed morphologically complex word of Afrikaans. No meaning can be assigned to the form as a whole.

3.2 Extra-grammatical constraints on phrasal compounding

The Phrasal Constituent Hypothesis, as formulated in (10) on p. 41 above, provides a basis for explaining the well-formedness/ill-formedness of certain Afrikaans phrasal compounds on the basis of the well-/ill-formedness of the non-head. The Compounding Hypothesis provides a basis for explaining the ill-formedness of phrasal compounds which correspond to ill-formed non-phrasal compounds. These hypotheses do not, however, provide a basis for explaining the differences in acceptability between the well-formed phrasal compounds discussed above and those given in (56) and (57) below.

(56)  
(a)  *bevestiging - dat - Richard Clayderman - nie - meer -
    confirmation that Richard Clayderman not more
    gaan - speel - nie - berig
    go - play - not - report
    "report confirming that Richard Clayderman is not going
    to play anymore"

(b)  *twintig - voet - van - die - huis - boom
    twenty - foot - from - the - house - tree
    "tree which stands twenty feet from the house"
The question to which we must now turn is the following: How can the differences in acceptability between the various well-formed phrasal compounds be accounted for? The unacceptability/marginal (un)acceptability of well-formed phrasal compounds such as those in (56) and (57) cannot be attributed to the ill-formedness of the non-head as the non-head in each case corresponds to a well-formed syntactic phrase in a grammatical sentence of Afrikaans, nor to the violation of some restriction on compounding. In each case the unacceptability/marginal (un)acceptability appears to be the result of some factor for which the grammar cannot account. For example, the unacceptability of (56)(a) and the marginal (un)acceptability of (57)(a) appears to be the result of the complexity of the non-head and hence the complexity of the phrasal compound as a whole. This results in the phrasal compound being difficult to process perceptually. In cases like (56)(b) and (57)(b) the unacceptability/marginal (un)acceptability appear to be the result of the impossibility of assigning an appropriate meaning to the entity denoted by the phrasal compound.

Given the limited scope of this study, I was unable to empirically determine the factor/factors responsible for the unacceptability/marginal (un)acceptability of forms like (56)(a)-(c) and (57)(a)-(c). As the unacceptability/marginal (un)acceptability cannot be attributed to the ill-formedness of the forms I have tentatively concluded that the unacceptability is the result of some extra-grammatical constraint. An
in-depth study of such constraints is required before a more detailed account can be given of the unacceptability/marginal (un)acceptability of (56) and (57) and other similar forms.¹⁶

3.3 The nature of the rules generating the non-head

We turn now to a discussion of the nature of the rules which generate the non-head of a phrasal compound. The Phrasal Constituent Hypothesis as formulated in (10) expresses the claim that the phrasal constituent which constitutes the non-head of a phrasal compound is generated by independently motivated rules of the grammar of Afrikaans. That is, the phrasal constituent is generated by the rules of the syntactic, Logical Form (henceforth: LF) and Phonetic Form (henceforth: PF) components. For example, a base rule generates a syntactic phrase NP into which morphologically simple or complex items from the lexicon are inserted. Rules of the syntactic, LF- and PF-components may or may not then apply to such an NP. The NP is fed back into the lexicon where it is adjoined to a noun by a rule of phrasal compounding. The phrasal compound is then available for lexical insertion into a categorial structure underlying a grammatical sentence of Afrikaans. On this analysis there is no duplication of the functions of rules of the grammar. Already existing, independently motivated rules of the grammar generate the syntactic phrases which constitute bases for the rules of phrasal compounding. This proposal which does not cause a redundancy in the grammar and which allows for the capturing of linguistically significant generalizations about the similarities between the non-head of a phrasal compound and the corresponding syntactic phrase satisfies criterion (9)(a)(i) given on pp. 40 - 41 above.

There are two other ways in which the formation of the non-head of a phrasal compound could possibly be accounted for. A first possibility is that the lexicon may contain a set of rules similar to those in the syntactic, LF- and PF-components. These rules would then generate phrasal structures like NPs, for example, in the lexicon. A WFR would then adjoin such a NP to a noun to form a well-formed phrasal compound of Afrikaans. This proposal is, however, unacceptable as it causes a redundancy in the grammar of Afrikaans. That is, it fails to satisfy the criterion (9)(a)(ii) on p. 41 above. If the phrasal constituent which constitutes
the non-head were generated by rules similar to those of the syntactic, LF- and PF-components, there would be an unnecessary duplication of the function of the rules which generate the corresponding phrases. Such a duplication is undesirable and should, if possible, be avoided. In addition, the similarity/similarities between the non-head of a phrasal compound and the corresponding syntactic phrase is/are left unexpressed. Criterion (9)(a)(i) is not satisfied.

A second possibility is that the syntactic phrases which constitute the non-heads of phrasal compounds may be listed in the lexicon. This is, however, not acceptable. The rules of phrasal compounding are productive rules, and, as such, can adjoin almost any syntactic phrase to a noun to form a phrasal compound. The number of syntactic phrases which may form bases for rules of phrasal compounding is therefore infinite. An infinite number of syntactic phrases cannot be stored in a finite list in the lexicon.

In order to express the linguistically significant generalizations about phrasal compounding we must assume that the non-head of a phrasal compound is generated by independently motivated rules of the grammar of Afrikaans.

A question which has not yet been discussed is whether there are formal restrictions on the class of possible phrases which may constitute the non-head of a well-formed phrasal compound. If the class of syntactic phrases is not restricted in any way, any well-formed surface structure phrase can be adjoined to a noun to form a phrasal compound. Unacceptable/ill-formed phrasal compounds formed in this way will then have to be filtered out/excluded by extra-grammatical constraints such as those suggested in §3.2 above.

If it were found that a certain type of syntactic phrase could never constitute the non-head of a well-formed phrasal compound, such phrases could be excluded by some formal restriction. However, in many cases it appears that some syntactic phrases of a given type can be adjoined to nouns while other phrases, which are structurally identical, cannot. We would not want to place formal restrictions on such classes of syntactic phrases. For example, if a formal restriction excluded PPs consisting of an N and a PP as possible non-heads, a syntactic phrase such as
twintig-voet-van-die-huis would be excluded as a possible non-head. *twintig-voet-van-die-huis-boom would correctly be excluded as an unacceptable/ill-formed phrasal compound. However, the formal restriction would also exclude the PP dertig-myl-per-uur as a possible non-head and hence incorrectly exclude dertig-myl-per-uur-teken as a well-formed phrasal compound.

Furthermore, not all phrasal compounds incorporating a given type of syntactic phrase are equally (un)acceptable to fluent speakers of Afrikaans. For example, *bevestiging-dat-Richard-Clayderman-nie-meer-gaan-speel-nie-berig and *vleisrol-wat-in-n-sous-gebak-is-gereg both incorporate structurally similar syntactic phrases as non-heads. The former is unacceptable and the latter only marginally (un)acceptable. A formal restriction on syntactic phrases consisting of an N and an S would incorrectly exclude both syntactic phrases as possible non-heads. I would tentatively suggest then, that, rather than having recourse to formal restrictions on the class of syntactic phrases which may constitute non-heads, we have recourse to extra-grammatical constraints, perceptual or pragmatic, for explaining the unacceptability/ill-formedness of certain phrasal compounds.

3.4 Problematic cases

We turn now to a number of cases which are problematic for the theory of phrasal compounding. Firstly, a number of forms whose non-head could be analyzed either as a compound or as a syntactic phrase are examined. Secondly, forms in which constituents of the non-head are optionally or obligatorily deleted are discussed.

3.4.1 Compound versus phrasal analysis of non-head

There are several forms in my corpus of data which cannot be accounted for by the theory of phrasal compounding as formulated on p.41 above. The non-head of each form discussed below could be analyzed either as a non-phrasal compound or as a syntactic phrase. If the non-head is analyzed as a compound, the form as a whole must be analyzed as a non-phrasal
Savini, 65

compound. If, however, the non-head is analyzed as a syntactic phrase, the form as a whole is analyzed as a phrasal compound.

3.4.1.1 Slaap-wakkerbly-patroon

The form (58) is an ill-formed phrasal compound of Afrikaans given the Phrasal Constituent Hypothesis. The non-head slaap-wakkerbly does not correspond to a well-formed syntactic surface structure phrase. Sentence (59) which contains a syntactic phrase corresponding to slaap-wakkerbly is ungrammatical.

(58) slaap-wakkerbly - patroon
sleep awake stay pattern
"pattern of sleeping and staying awake alternately"

(59) *Sy sê dat hulle op diens slaap wakkerbly na gelang
she says that they on duty sleep awake stay depending
van die werk wat hulle moet doen.
on the work which they must do
"#She says that they sleep stay awake on duty depending
on the work which they have to do."

There are, however, two other possible analyses of the non-head of slaap-wakkerbly-patroon. Before considering such analyses let us briefly consider wuif-groet which is similar in structure to slaap-wakkerbly.

(60) Hulle berig dat die koning sy onderdane wuif-groet.
they report that the king his subjects wave greets
"They report that the king waves to and greets his subjects."

wuif-groet in (60) can be analyzed as a syntactic phrase which has been subject to deletion. On this analysis, wuif-groet is generated as a coordinated structure, wuif en groet, by the base rules of Afrikaans. A deletion rule applies to wuif en groet and deletes the conjunction en, yielding wuif-groet.

Alternatively, wuif-groet could be analyzed as a V+V compound. Kempen (1969:344) has noted that such compounds are readily attested in Afri-
kaans, especially in literary works. These compounds may be interpreted as having an en (= "and") relationship between their component constituents. Wuif-groot is therefore assigned the meaning "wave and (simultaneously) greet".17

Slaap-wakkerbly, like wuif-groot, could be analyzed either as a syntactic phrase which has been subject to deletion or as a compound verb. Let us consider first the analysis of slaap-wakkerbly-patroon as a non-phrasal compound consisting of a compound verb, slaap-wakkerbly, and a noun, patroon. Wakkerbly in the non-head position may be analyzed as a compound, specifically as a verb, consisting of an adjective wakker and a verb bly. Slaap-wakkerbly then consists of a verb slaap and a compound, also a verb, wakkerbly. The compound slaap-wakkerbly, as a whole, is a verb. This compound could be interpreted as having an en-relationship between its component constituents. It will thus be assigned the meaning "sleep and (simultaneously) stay awake". Given this interpretation of slaap-wakkerbly, slaap-wakkerbly-patroon would be assigned the interpretation "pattern of sleeping and (simultaneously) staying awake". The analysis of the non-head of slaap-wakkerbly-patroon as a compound thus results in an unnatural interpretation being assigned to the form as a whole.

Slaap-wakkerbly-patroon could be analyzed as a phrasal compound whose non-head is a syntactic phrase, a VP, that has been subject to reduction/deletion. On this analysis the non-head slaap-wakkerbly is taken to correspond to the syntactic phrase slaap en wakkerbly in sentence (61) below.

(61) Sy sê dat die manne op diens om die beurt slaap en wakkerbly.
"She says that the men on duty take it in turns to sleep and stay awake."

The conjunction en in the VP slaap en wakkerbly is deleted and the reduced VP is adjoined to the noun patroon to form slaap-wakkerbly-patroon. Slaap-wakkerbly has the meaning "sleep and stay awake (in turn)" and the form slaap-wakkerbly-patroon the meaning "pattern of sleeping and staying awake (in turn)". The analysis of slaap-wakkerbly as a reduced syntactic phrase
enables us to assign a more natural interpretation to the form slaap-wakkerbly-patroon as a whole. The analysis of the non-head of slaap-wakkerbly-patroon as a reduced syntactic phrase is therefore to be preferred to an analysis of the non-head as a compound.

3.4.1.2 Vaalhaarnooi type

In Afrikaans there exist a number of forms which, at first glance, could be analyzed in one of two possible ways:

(i) as nominal compounds consisting of a nominal compound of the type Adj+N and a noun, or

(ii) as phrasal compounds whose non-head NP consists of an Adj and a N.

Consider in this regard the forms (62)(a)-(c) below.

(62) (a) **vaal-haar-nooi**

dull hair girl
"girl with dull hair"

(b) **bruin-oog-dogter**

brown eye girl
"brown-eyed girl"

(c) **lang-been-vrou**

long leg woman
"long-legged woman"

The forms (62)(a)-(c) appear to be similar to phrasal compounds like mooiweergodsdien in which the non-head NP consists of an Adj and a noun. The Adj-N sequence in each form corresponds to an independently generated NP in grammatical sentences of Afrikaans such as (63)(a)-(c).

(63) (a) **Die nooi het vaal hare.**

the girl has dull hair
"The girl's hair is dull."

(b) **Die dogter het bruin oë.**

the girl has brown eyes
"The girl has brown eyes."
The only difference between the Adj-N sequences in (62)(a)-(c) and the corresponding NPs in the sentences (63)(a)-(c) is that the nouns are singular in form in the former, but plural in form in the latter. The theory of phrasal compounding cannot account for the forms (62)(a)-(c). The non-head in each case does not correspond to a well-formed syntactic surface structure. Given the Phrasal Constituent Hypothesis, (62)(a)-(c) are ill-formed phrasal compounds of Afrikaans.

Alternatively, we may analyze the forms (62)(a)-(c) as non-phrasal compounds. The non-phrasal compound consists of a nominal compound of the type Adj+N, and a noun. Each form is therefore assigned the structure (64) as shown in (65)(a)-(c).

\[
(64) \quad [\text{Adj} + \text{N}]_{\text{N}} + \text{N}_{\text{N}}
\]

\[
(65) \quad (a) \quad [\text{vaal}]_{\text{Adj}} [\text{haar}]_{\text{N}} [\text{nooi}]_{\text{N}}_{\text{N}}
\]

\[
(b) \quad [\text{bruin}]_{\text{Adj}} [\text{oog}]_{\text{N}} [\text{dogter}]_{\text{N}}_{\text{N}}
\]

\[
(c) \quad [\text{lang}]_{\text{Adj}} [\text{been}]_{\text{N}} [\text{vrou}]_{\text{N}}_{\text{N}}
\]

The sentences (66)(a)-(c) each contain the non-head of (62)(a)-(c) used as a noun.

\[
(66) \quad (a) \quad \text{Hy is verlief op die vaal-haar.} \quad \text{He is in love with the dull hair.}
\]

\[
(b) \quad \text{Sy is 'n bruin-oog.} \quad \text{She is a brown eye.}
\]

\[
(c) \quad \text{Sy is 'n lang-been.} \quad \text{She is a long leg.}
\]
Let us now consider the analyses given above against the background of Kempen's (1969:192ff.) discussion of similar forms in Afrikaans such as dikkopmense and grootbekkinders. Kempen notes that sequences like dikkop (= "blockhead") and grootbek (= "braggart") may be handled as compounds or as "word groups" (syntactic phrases). In (67)-(69) dikkop, grootbek and dikmond (= "sulky") are used as compounds while in (70) dikkop and grootbek are used as "word groups".

(67) Hy is 'n dik-kop / groot-bek.
he is a thick head / big mouth
"He is a blockhead / braggart."

(68) Hy is alweer groot-bek oor sy kanse.
he is again big mouth about his chances
"He is bragging about his chances again."

(69) Hy staan dik-mond voor die deur en wag.
he stands thick mouth in front of the door and waits
"He waits sulkingly in front of the door."

(70) Hy het so 'n dik-kop / groot bek.
he has such a thick head / big mouth
"He has such a thick skull / big mouth."

Compounds like dikkop, grootbek and dikmond may function as nouns as in (67), as adjectives as in (68) or as adverbs as in (69). dikkop and grootkop as compound nouns, or as "word groups", may be adjoined to nouns to form longer nominal compounds as in (71)(a) and (b).

(71) (a) [dik - kop] + mense
thick head people
"people who are blockheads" / "people who, anatomically speaking, have thick skulls"

(b) [groot - bek] + kinders
big mouth children
"children who are braggarts" / "children who, anatomically speaking, have big mouths"
In these examples it is possible to determine whether dikkop/grootbek is a non-phrasal compound or a syntactic phrase. Compounds like dikkop/grootbek belong to the class of so-called exocentric, or, more specifically, bahuvrihi compounds. The meanings of such compounds are not formed in the same way as the meanings of similar Adj+N endocentric compounds. Bahuvrihi compounds have been discussed, albeit briefly, in various recent works on compounding in English. Allen (1978:98-102, 109-111) has proposed that English exocentric compounds are not formed by the same compounding rules as endocentric Adj+N compounds. The exocentric compounds are listed in the lexicon together with their idiosyncratic meanings. Selkirk (1982:26), on the other hand, has proposed that bahuvrihi compounds are generated by the same context-free rewriting rules that are used for the generation of endocentric compounds. The meanings of such bahuvrihi compounds are, however, composed by special semantic rules.

If dikkop is taken to be a bahuvrihi (exocentric) compound, it has the meaning "blockhead". dikkopmense has the meaning "people who are blockheads". If, however, dikkop is taken to be an NP, it has the meaning "thick head/skull". As a whole dikkopmense has the meaning "people who, anatomically speaking, have thick skulls". Thus dikkopmense may conceivably have two different meanings, depending on the analysis of dikkop. Similarly, if grootbek is taken to be a compound, it has the meaning "braggart". grootbekmense has the meaning "people who are braggarts". If grootbek is taken to be a NP, it has the meaning "big mouth" and grootbekkinders the meaning "children who, anatomically speaking, have big mouths". There are thus two possible analyses of dikkopmense and grootbekkinders and hence two possible interpretations of these forms.

Let us now consider in more detail the two alternative analyses of the forms (62)(a)-(c). As noted above there appear to be two possible analyses of these forms. If vaalhaar is analysed as a bahuvrihi compound, it has the meaning "someone (a person) with dull hair". vaalhaaroori has the meaning "girl who is a person with dull hair". Similarly, bruinoog has the meaning "someone (a person) with brown eyes" and bruinoogoori "a girl who is a person with brown eyes". Finally, langbeen has the meaning "someone (a person) with long legs" and langbeenvrou the meaning "woman who is a person with long legs". If, however, the forms
are analyzed as phrasal compounds, they have the meanings "girl with dull hair", "girl with brown eyes" and "woman with long legs", respectively. In each case the interpretation is more natural than the one assigned when analyzing (62)(a)-(c) as consisting of a bahuvrihi compound and a noun. It appears that the analysis of (62)(a)-(c) as phrasal compounds is to be preferred. However, the theory of phrasal compounding cannot account for the singular form of the noun in the non-head position of each form. As in the case of been in beenrekruipte, the nouns haar, oog and been are singular in form but convey a generic sense usually conveyed by the plural form. If the non-head of each form is analyzed as a bahuvrihi compound, the absence of the suffix -e is accounted for.

To summarize: if the non-head of each form is analyzed as a bahuvrihi compound, the absence of the suffix -e on the noun is accounted for. However, a less natural semantic interpretation is assigned to each form. The theory of phrasal compounding cannot account for the absence of the suffix -e on the noun in the non-head position. However, the analysis of the forms (62)(a)-(c) as phrasal compounds enables us to assign a more natural interpretation in each case. To analyze the forms (62)(a)-(c) as phrasal compounds the Phrasal Constituent Hypothesis would have to be weakened to include D-structure NPs as possible bases for rules of phrasal compounding.

Before weakening the Phrasal Constituent Hypothesis, bahuvrihi compounds in Afrikaans must be investigated in detail, especially with respect to the interpretation assigned to such compounds both as independent words and as the non-heads of morphologically complex words. The same interpretation problems as those which arose with vaalhaarnooi, arise when a bahuvrihi compound consisting of a numeral and a noun such as (72) is adjoined to a noun as in (73).

(72) nege-oog
nine eye
"entity with nine eyes"

(73) nege-oog-reus
nine eye giant
"giant who is an entity with nine eyes"
The more natural interpretation of (73) is "giant with nine eyes". This interpretation would be assigned if (73) were analyzed as a phrasal compound.

Even bahuvrihi compounds in which the component constituents do not correspond to constituents of a syntactic phrase exhibit the same interpretation problems. For example, krul, a noun, and kop, a noun, in the bahuvrihi compound (74) below, do not correspond to constituents of an NP in Afrikaans. krulkop can therefore only be analyzed as a compound and not as a syntactic phrase.

(74) krul-kop
curl head
"person who has curly hair"

When (74) is adjoined to a noun, as in (75), the same type of less natural interpretation that was assigned to vaalhaarnooi is assigned to krulkopseuntjie.

(75) krul-kop - seuntjie
curl head little boy
"little boy who is a person who has curly hair"

The more natural interpretation is "little boy with curly hair". In cases like vaalhaarnooi and nege-oog-reus the less natural interpretation can be avoided by reanalyzing the form as a phrasal compound. This is not however possible with forms like (75).

The problem here appears to lie with the interpretation of bahuvrihi compounds which constitute the non-head of a morphologically complex word, rather than with the Phrasal Constituent Hypothesis. Forms such as vaalhaarnooi and blooogdochter should not, therefore, be taken to reflect negatively on the Phrasal Constituent Hypothesis, but rather to reflect on an interpretation problem of bahuvrihi compounds. A study of such compounds is clearly necessary.
3.4.1.3 *Vyfdagtoets* type

Forms such as (76)(a)-(c) below are problematic for the theory of phrasal compounding, specifically for the Phrasal Constituent Hypothesis as formulated in (10) on p. 41 above.

(76) (a) *vyf - dag - toets*  
five day test  
"five-day test"

(b) *vier - speek - stuurwiel*  
four spoke steering wheel  
"steering wheel which has four spokes"

(c) *twee - vuis - rughand*  
two fist backhand  
"backhand shot played holding the tennis racket with both hands"

The non-head of each form does not correspond to a well-formed phonetically interpreted surface structure phrase. In each case the corresponding NP in a grammatical sentence of Afrikaans must contain a noun which is plural in form as in (77)(a)(i), (b)(i) and (c)(i) rather than a noun which is singular in form as in (77)(a)(ii), (b)(ii) and (c)(ii).

(77) (a) (i) *Die toets duur vyf dae.*  
the test lasts five days  
"The test lasts five days."

(ii) *Die toets duur vyf dag.*  
the test lasts five day  
"*The test lasts five day."

(b) (i) *Die stuurwiel het vier speek.*  
the steering wheel has four spokes  
"The steering wheel has four spokes."

(ii) *Die stuurwiel het vier speek.*  
the steering wheel has four spoke  
"*The steering wheel has four spoke."
The Phrasal Constituent Hypothesis cannot account for the form of the non-heads in (76)(a)-(c). That is, given the Phrasal Constituent Hypothesis, (76)(a)-(c) are ill-formed phrasal compounds of Afrikaans.

Let us now consider the following data.

(78) (a) **een-vertrek-kantoor**
oone room office
"office consisting of one room"

(b) **een-kamer-woning**
oone room abode
"abode consisting of one room"

(c) **agt-silinder-motor**
eight cylinder car
"car which has eight cylinders"

The Q-N sequences in (78)(a) and (b) can be taken to correspond to well-formed syntactic surface structures or to well-formed D-structure phrases.

(79) (a) (i) **Die kantoor het een vertrek.**
the office has one room
"The office consists of one room."

(ii) \[ \text{een}_Q \text{vertrek}_N \]_{NP}

(b) (i) **Die woning het een kamer.**
the abode has one room
"The abode consists of one room."

(ii) \[ \text{een}_Q \text{kamer}_N \]_{NP}
The Q-N sequences in (78)(a) and (b) can also be analyzed as compounds of Afrikaans.

(80) (a) Vir 'n een-vertrek sien ek nie kans nie.
for a one room see I not chance not
"I am not prepared to stay in a one-roomed flat."

(b) Hulle woon in 'n een-kamer.
they live in a one room
"They live in a one-roomed flat."

The Q-N sequence in (78)(c) does not correspond to a well-formed syntactic surface structure phrase as was the case with the Q-N sequence in the forms (76)(a)-(c).

(81) (a) Die motor se enjin het acht silinders.
the car's engine has eight cylinders
"The car's engine has eight cylinders."

(b) *Die motor se enjin het agt cilinder.
the car's engine has eight cylinder
"*The car's engine has eight cylinder."

The Q-N sequence acht-silinder, like the Q-N sequences een-vertrek and een-kamer, can function as a compound.

(82) Ek wil 'n agt-silinder koop.
I want an eight cylinder buy
"I want to buy an eight cylinder car."

Let us now consider how the data given above can be accounted for. Firstly, the forms (78)(a), (b) and (c) can be accounted for by analyzing each Q-N sequence as a compound, specifically as an exocentric compound. Thus the Q-N sequence een-vertrek is an exocentric compound of Afrikaans. This compound is adjoined to a noun like kantoor to form een-vertrekkantoor.

The forms (76)(a)-(c) could also be analyzed in this way, that is, as exocentric compounds adjoined to nouns. wyfdae, vierspeek and tweeveis...
may be analyzed as well-formed but non-occurring exocentric compounds of Afrikaans. Each compound is adjoined to a noun to form a compound like *vyfdagtoets*, *vierspeekstuurwiel* and *tweevuisrughand*, respectively. By analyzing the forms (76)(a)-(c) as consisting of a compound and a noun, rather than as consisting of a syntactic phrase and a noun, we can account for the singular form of the noun in the non-head position. However, such an analysis, as in the case of forms like *vaalhaarnooi*, results in a less natural interpretation being assigned to the form as a whole. For example, the compound *vyfdag* would be assigned the meaning "something which lasts five days". *vyfdagtoets* would then be assigned the meaning "test which is something which lasts five days", rather than the more natural interpretation "test which lasts five days"/"five-day test". The latter interpretation would be assigned if *vyfdagtoets* were analyzed as a phrasal compound. Similarly, *vierspeek* would be assigned the meaning "something which has four spokes" and *vierspeekstuurwiel* the meaning "steering wheel which is something with four spokes". The more natural interpretation "steering wheel which has four spokes" would be assigned if *vierspeekstuurwiel* were analyzed as a phrasal compound.

By analyzing forms like *vyfdagtoets* and *vierspeekstuurwiel* as phrasal compounds we can assign a more natural interpretation to the form as a whole but we cannot account for the singular form of the noun in the non-head. On the other hand, by analyzing the non-head as an exocentric compound we can account for the form of the noun in the non-head, but must assign a less natural interpretation to the form as a whole. *vyfdagtoets* and *vierspeekstuurwiel* thus exhibit the same problematic aspects as *vaalhaarnooi* and *langbeenenvrou* with respect to their interpretation as morphologically complex words. It is evident that, before weakening the Phrasal Constituent Hypothesis in any way, we must study not only bahuvrihi, but all exocentric compounds, with specific reference to their interpretation as independent words and as the non-heads of other morphologically complex words.

### 3.4.2 Reduction of bases

Certain Afrikaans forms containing a PP as non-head are problematic for the theory of phrasal compounding. The problematic aspects of such forms can be illustrated with reference to the data in (83)-(89) below.
(83)  
(a) \( \text{op - 'n - ry - neste} \)  
(b) \( *\text{ry - neste} \)

(84)  
(a) \( *\text{in - die - veld - skool} \)  
in the field school  
"school held out in the field"

(b) \( \text{veld - skool} \)  
field school  
"school held out in the field"

(85)  
(a) \( \text{van - die - rak - pak} \)  
from the shelf suit  
"suit bought off the peg"

(b) \( \text{rak - pak} \)  
shelf suit  
"suit bought off the peg"

(86)  
(a) \( \text{in - 'n - slaapsak - onder - die - sterre - vakansie} \)  
in a sleeping-bag under the stars holiday  
"holiday during which one sleeps in a sleeping-bag under the stars"

(b) \( \text{slaapsak - onder - die - sterre - vakansie} \)  
sleeping-bag under the stars holiday  
"holiday during which one sleeps in a sleeping-bag under the stars"

(87)  
(a) \( *\text{uit - die - oond - na - die - tafel - breekware} \)  
from the oven to the table crockery  
"crockery which can be taken directly from oven to table"

(b) \( \text{oond - na - tafel - breekware} \)  
oven to table crockery  
"crockery which can be taken directly from oven to table"

(88)  
(a) \( \text{uit - die - oond - op - die - tafel - skottel} \)  
from the oven on the table dish  
"oven-to-table casserole"
The theory of phrasal compounding can account for the forms in (83)(a), (85)(a), (86)(a), (87)(a), (88)(a) and (89)(a). These phrasal compounds are formed by adjoining a well-formed syntactic surface structure phrase to a noun. The PP in the non-head position of each of these phrasal compounds corresponds to a well-formed PP in a grammatical sentence of Afrikaans.

The theory of phrasal compounding should, if possible, give an account of the optional occurrence of the prepositions in the surface forms of the phrasal compounds (86)(b), (87)(b), (88)(b) and (89)(b). These forms constitute apparent counter-examples to the theory of phrasal compounding as each contains a phrasal constituent which does not correspond to a well-formed syntactic phrase of Afrikaans. Furthermore, the theory of phrasal compounding should, if possible, also account for cases like (84)(a) which are well-formed but which are unacceptable to fluent speakers of Afrikaans. Examples like (83)(b), (84)(b) and (85)(b) which can be analyzed as an ill-formed and well-formed nominal compounds, respectively, will be accounted for by an appropriate theory of nominal compounding.

Botha (1981a:46-49) discusses similar problems with regard to Afrikaans synthetic compounds whose peripheral constituent (non-head) is underlyingly a PP consisting of a P and a NP. He suggests that "questions such as whether the preposition has a lexical or a relational meaning, whether or not the preposition plays a role in disambiguating the compound, whether or not the preposition and NP jointly constitute a fixed syntactic combination, and whether or not the compound as a whole has a noncompositional, lexicalized meaning, appear to be relevant". What is clearly needed is an in-depth study of Afrikaans prepositional phrases.
3.5 Alternative analyses

For several well-formed phrasal compounds in my corpus of data, alternative analyses exist. Such alternative analyses are discussed in this paragraph.

3.5.1 AP–N sequences

Forms like (90)(a)–(c) below may be analyzed as phrasal compounds consisting of a well-formed syntactic phrase, an AP, and a noun.

(90) (a) maklik - om - te - maak - poeding
easy for to make pudding
"pudding which is easy to make"

(b) lekker - om - te - lees - boek
pleasant for to read book
"enjoyable book"

(c) vies - vir - die - wêreld - uitdrukking

The APs in (90), it may be argued, are generated by a rule or rules similar to those which generate the APs in (91)(a)–(c). Predicate adjectives like maklik, lekker and vies in the sentences (91)(a)–(c) are assumed to
be generated under a node AP by a rule such as (92). Under such an AP node complements of adjectives like vies and/or PP may be generated.

(92) \[ \text{AP} \rightarrow (\text{Deg}) \rightarrow (\text{NP}) \rightarrow (\text{Adv}) \rightarrow A \rightarrow (\text{NP}) \rightarrow (\text{PP}) \rightarrow (\overline{S}) \]

Prenominal adjectives such as vies and lekker in (93)(a) and (b) below are assumed to be generated under an Adj node by a rule such as (94).

(93) (a) Die vies man raas met almal.
    the angry man scolds with everyone.
    "The angry man scolds everyone."

(b) Almal het die lekker boek gelees.
    everyone past the enjoyable book read
    "Everyone read the enjoyable book."

(94) \[ \text{NP} \rightarrow (\text{Adj})^* \rightarrow N \]

Implicit in rule (94) is the assumption that a prenominal adjective may not be followed by a complement. In this respect prenominal adjectives differ from predicate adjectives which may be followed by a complement.\(^{20}\) If the rules (92) and (94) were part of the grammar of Afrikaans, the only way in which to analyze the sequences in (90)(a)-(c) would be as phrasal compounds formed by adjoining an AP, generated by rule (92), to a noun.

We turn now to the work of Nanni (1980) who presents an analysis of prenominal and predicate APs in English. In the following paragraphs I outline Nanni's analysis of adjectival constructions and her analysis of A - to - V sequences\(^{21}\) as complex adjectives, and discuss the implications of adopting her analysis for prenominal APs in Afrikaans.

Nanni (1980:569-573) first notes that predicate A - to - V sequences like easy to please differ from predicate A + PP + INF\(^22\)) and A + INF + INF\(^23\)) sequences like easy for us to please and hard to try to please, respectively. Let us examine the characteristics of each type of sequence with reference to the data which Nanni presents.

(95) (a) John is easy to tease.
(b) How easy to tease is John?  
(c) How easy to tease John is!

The A - to - V sequence easy to tease may appear in predicate position as in (95)(a) and may be moved as a whole by the rule Move-wh to form an interrogative (95)(b) or an exclamation (95)(c). On the basis of these data Nanni (1980:571) concludes that an A - to - V sequence like easy to tease forms a single constituent.

The same is not however true of the A + PP + INF and A + INF + INF sequences in the sentences (96)-(97).

(96) (a) The coat is difficult to persuade Bill to wear.  
(b) *How difficult to persuade Bill to wear was the coat?  
(c) *How difficult to persuade Bill to wear the coat was!

(97) (a) John is easy for the children to tease.  
(b) *How easy for the children to tease is John?  
(c) How easy for the children to tease John is!

The A + PP + INF and A + INF + INF sequences cannot be moved as a whole to form grammatical interrogatives or exclamations. (96)(b) and (c) and (97)(b) and (c) in which such sequences have been moved as a whole are ill-formed. The sequences A + PP + INF and A + INF + INF do not therefore behave as single constituents.

Nanni (1980:573) also notes that A - to - V sequences like easy to sew differ in an important respect from A + INF and A + PP sequences24) despite the fact that all these sequences behave like a single constituent with respect to the rule Move-wh. This rule can apply to each of the predicate APs in (98)(a)-(c) moving each AP as a single constituent. Hence the well-formed interrogatives (99)(a)-(c) are formed.

(98) (a) The pattern is easy to sew.  
(b) The boys were anxious to dance.  
(c) The teacher was concerned about her student.
A - to - V sequences differ from A + INF and A + PP sequences in that the former can appear prenominally while the latter cannot.

In order to account for the differences between A - to - V sequences on the one hand, and A + PP and A + INF sequences on the other, Nanni (1980: 575) proposes to analyze A - to - V sequences as complex adjectives, that is, as single lexical items of the category "Adjective". Following Roeper and Siegel (1978) she formulates a rule of Complex Adjective Formation which forms complex adjectives from A - to - V sequences. 

The lexical items, that is, the complex adjectives formed by rule (101), are "atomic units with respect to the syntactic component of the grammar". They "display all the properties of individual lexical items" and are thus "inserted directly into base-generated markers". Nanni then accounts for the prenominal appearance of A - to - V sequences and the constituent-like behaviour of such sequences with respect to the rule Move-wh in the following way. She (1980:574) implicitly assumes a base rule with the following form for expanding the NP node in English.

(101) Complex Adjective Formation

\[ A_{\text{word}} + \text{to} + \text{V word} + [N\Delta] \]

where \( Y \) ranges over empty subcategorization frames for the verb.
The sequence easy-to-sew in (100)(a) is a complex adjective formed by the rule of Complex Adjective Formation (101). It is therefore an atomic unit with respect to the syntactic component and is filled in under the AP node as a single lexical item as in (103).

(103) 

\[
\text{NP} \rightarrow \text{Det} \rightarrow \text{AP} \rightarrow \text{N} \\
\rightarrow \text{A} \\
\text{an easy-to-sew pattern} \\
\text{[FIGURE 4]}
\]

This proposal, Nanni (1980:574) argues, "automatically explains why AP's like easy to sew may occur before a noun. No complement follows the complex adjective in the AP".26) Such complements are excluded by the rule of Complex Adjective Formation. The formulation of the rule is such that A+PP sequences cannot form complex adjectives, that is, only a to-V sequence may follow the adjective of a complex adjective. A+INF sequences like anxious to dance are excluded as possible complex adjectives by the stipulation that the verb in the to-V sequence must be transitive, hence the feature +trans. As A+PP and A+INF sequences containing an intransitive verb cannot be analyzed as complex adjectives, they cannot occur prenominally.

The postverbal A-to-V sequence easy to tease in (95)(a), repeated below as (104)(a), can be analyzed as a single, complex adjective rather than as an AP. As a complex adjective the sequence will behave as a single constituent with respect to the rule Move-wh, hence the well-formed sentences (104)(b) and (c).

(104)  

\[
\text{(a) John is easy to tease} \\
\text{(b) How easy to tease is John?} \\
\text{(c) How easy to tease John is!} \\
\]

The postverbal AP easy to tease in (104)(a) may also be generated in another way, that is, as a daughter of VP. The rule for expanding the AP node has the form (105).
Following Hendrick (1978), Nanni (1980:576ff.) proposes to generate the postverbal AP node as a sister node to its PP and/or S complement(s). The sequence easy-to-tease does not therefore form a single constituent and the AP easy can be moved by the rule Move-wh without causing a violation of the A-over-A Condition. The interrogative (106)(a) and exclamation (106)(b) are thus well-formed variants of (104)(b) and (104)(c) above.

The analysis of the postverbal sequence easy to tease as a complex adjective accounts for the ability of the sequence to behave like a single constituent with respect to the rule Move-wh. The analysis of the same sequence as an AP easy and a S to tease accounts for the ability of the sequence to behave like two separate constituents with respect to the rule Move-wh.

All postverbal A+PP+INF and A+INF+INF sequences which do not, according to Nanni (1980:576), behave as a single constituent, are generated under the VP node as an AP-PP-S sequence or as an AP-S-S sequence. It is thus always possible to move the AP alone. The examples in (107) and (108) are consistent with this claim.

Nanni's analysis of A-to-V sequences in English is problematic in certain respects. Firstly, her analysis creates a redundancy in the grammar.
of English. An A-to-V sequence like easy to sew may be accounted for in two ways. The sequence may be analyzed as a complex adjective generated by a lexical transformation. Alternatively, the A-to-A sequence may be analyzed as a syntactic phrase AP-S generated by the base rules of English as daughter nodes of VP. An ad hoc rule of Complex Adjective Formation is thus needed to generate sequences which could otherwise be generated by the base rules independently needed to generate predicate A-to-V sequences in grammatical sentences of English. Secondly, the evidence which Nanni presents for analyzing an A-to-V sequence as a complex adjective can equally well support the analysis of such a sequence as the non-head of a possible, well-formed phrasal compound of English.

If Nanni's proposals, as outlined above, were to be adopted for Afrikaans we could also analyze prenominal adjectival sequences like maklik-om-te-maak as complex adjectives. This would however create an even greater redundancy than that which is found in the grammar of English. I will discuss here the implications of adopting Nanni's analysis for prenominal APs in Afrikaans.

There exists in Afrikaans a wider range of prenominal adjectival sequences than in English. Each form in (109)(a)-(c) consists of a prenominal adjectival sequence and a noun. (109)(a)-(c) are acceptable to fluent speakers of Afrikaans while (110)(a)-(c) are marginally (un)acceptable to some fluent speakers of Afrikaans.

(109) (a) vies - vir - die - wêreld - uitdrukking
(b) maklik - om - te - maak - poeding
(c) bang - om - iets - te - sê - manier
   scared for anything to say manner
   "manner evidenced by someone who is too scared to say anything"

(110) (a) ??vol - sproete - gesig
       full freckles face
       "freckled face"
(b) ??te - vuil - om - te - dra - rok
    to dirty for to wear dress
    "dress which is too dirty to wear"
Suppose that these prenominal adjectival sequences were analyzed as complex adjectives. The grammar of Afrikaans would then require, in addition to a rule similar to (101), various other ad hoc lexical rules for generating each of the "complex adjectives" in (109)(a)-(c) and (103)(a)-(c). Additional ad hoc lexical rules would therefore have to be added to the grammar to account for sequences which could otherwise be generated by the base rules of the grammar.

Let us consider how prenominal adjectival sequences could be generated by base rules rather than by ad hoc lexical rules. Assume that the grammar of Afrikaans includes the base rules (111) and (92) given on p. 80 above and repeated here as (112).

(111) \[ NP \rightarrow (AP)^* - N \]

(112) \[ AP \rightarrow (Deg) - (NP) - (Adv) - A - (NP) - (PP) - (S) \]

If the grammar of Afrikaans were to contain no restriction(s) on the internal structure of prenominal APs, as is the case in English, the forms (109)(a)-(c) and (110)(a)-(c) could be generated by the rule (111) and the relevant APs by rule (112). (109)(a)-(c) and (110)(a)-(c) are then taken to be syntactic phrases of Afrikaans rather than phrasal compounds. No additional rule of phrasal compounding need be added to the grammar of Afrikaans. The prenominal APs are generated by the same rules independently required to generate the corresponding predicate APs in grammatical sentences of Afrikaans such as (91)(a)-(c) above. The D-structure of vies-vir-die-wêreld-uitdrukking, as generated by the rules (111) and (112), will be roughly:

(113) 
```
   NP
  /\  
AP  PP
  /\  /
A  vies  vir die wêreld
     |
     uitdrukking
```
The problem is then to account for forms which are marginally (un)acceptable to fluent speakers of Afrikaans. Such forms could be accounted for by adding a condition to the rule (112) which restricts the expansion of a prenominal AP node in Afrikaans. Such a node may, for example, contain only one complement, either a PP or an infinitival clause. An alternative would be to allow all APs to appear prenominally and attribute the marginal (un)acceptability of forms such as (110)(a)-(c) to a non-linguistic constraint such as a perceptual strategy. Such a constraint would, of course, have to be independently motivated. For example, (110)(a)-(c) may be taken to be well-formed but difficult to perceive due to the structural complexity of the adjective phrase. Hence such forms are marginally (un)acceptable to fluent speakers of Afrikaans.

If the analysis presented above were taken to be correct, all AP- N sequences would be analyzed as syntactic phrases of Afrikaans rather than as phrasal compounds of Afrikaans. However, the fact that AP- N sequences exhibit the properties of compounds rather than the properties of syntactic phrases reflects negatively on this analysis.

A criticism which can be made of the tentative analyses of AP- N sequences proposed above is that they fail to account for the ability of a predicate A-to-V sequence to behave either as a single constituent or as two constituents with respect to the rule Move-wh. In fact, both analyses predict that all predicate APs, including the type which can also appear prenominally, will always behave as a single constituent with respect to this rule. As in English, this does not appear to be the case. Thus both (114)(b) and (114)(c) are well-formed interrogatives corresponding to (114)(a), and (115)(b) and (c) are well-formed interrogatives corresponding to (115)(a).

(114) (a) By is vies vir die wêreld.
         (b) Hoe vies is by vir die wêreld?
         (c) Hoe vies vir die wêreld is by?

(115) (a) Die poeding is maklik om te maak.
         (b) Hoe maklik is die poeding om te maak?
         (c) Hoe maklik om te maak is die poeding?
As the properties of APs with respect to syntactic rules of movement are not the central concern of this thesis, I will not investigate this problem further but note that such a problem exists and will have to be solved by future research.

To summarize: Nanni's analysis of A-to-V sequences as complex adjectives is problematic as it causes a redundancy in the grammar of English and would cause an even greater redundancy if adopted for Afrikaans. It was argued that prenominal APs could be analyzed in at least two other ways depending on the assumptions made about the base rules which generate adjectives/APs in prenominal and predicate positions. These analyses avoid the redundancy which would result if Nanni's proposals were adopted for Afrikaans, but fail to account for the fact that most predicate APs do not act as a single constituent with respect to the rule Move-\(\text{wh}\). The analysis in fact predicts that such APs should behave like single constituents.

In the absence of a detailed study of the properties of APs and the rules for generating prenominal adjectives/APs, the analyses presented above remain tentative and must be viewed only as an attempt to isolate the problems which exist, not to solve them.

3.5.2 Blomme-en-vrugtemandjie

Forms such as (116) and (117) below may be analyzed as phrasal compounds consisting of a non-initially coordinated NP in the non-head position and a noun in the head position. The nouns in the non-head position of (116) are taken to be plural in form and the nouns in (117) singular in form.

\begin{align*}
(116) & \quad \text{blomme - en - vrugtemandjie} \\
& \quad \text{flowers and fruit basket} \\
& \quad \text{"basket in which one places flowers and/or fruit"}
\end{align*}

\begin{align*}
(117) & \quad \text{tafel-en-bank-eenheid}
\end{align*}

There is, however, an alternative analysis of the internal structure of (116) as well as of the forms of the nouns in the non-head position. Let
us consider in this regard the forms *blomme-en-vrugtemandjies* in the
sentences below.

(118)  

(a)  
\[\text{Pieter sit die appels in die blomme-en-vrugtemandjie.}\]  
"Peter places the apples in the flowers and fruit basket.

(b)  
\[\text{Pieter sit die appels in die blomme-en-vrugtemandjies.}\]  
"Peter places the apples in the flowers and fruit baskets.

*blomme-en-vrugtemandjie*, in which the head is singular in form, is inter-
preted as referring to one basket of the type which one uses for flowers
as well as for fruit. The non-head is then analyzed in the same way as
the non-head of phrasal compounds like *tafel-en-bank-eenhede*, that is,
as two NPs coordinated by the conjunction *en*. Each NP consists of a noun
which is plural in form, viz. *blomme* and *vrugte*. The structure given in
(119) is assigned to *blomme-en-vrugtemandjie*.

(119)  
\[\left[\left\{\left[\left[\text{NP} \cap \text{NP}\right]_{\text{NP}} + N\right]\right\}_{\text{N}}\right]\]

The form *blomme-en-vrugtemandjies*, in which the head is plural in form,
may be analyzed in more than one way. *blomme-en-vrugtemandjies* can be
interpreted as referring to a number of baskets of one type, the type
which one uses for flowers as well as for fruit. In this case the non-
head is analyzed as consisting of two NPs coordinated by the conjunction
*en*. Each NP consists of a noun which is plural in form. *blomme-en-
vrugtemandjies* is therefore analyzed as a phrasal compound and is assign-
ed the same structure as that assigned to *blomme-en-vrugtemandjie* above,
viz. (119).

Alternatively, *blomme-en-vrugtemandjies* may be interpreted as referring
to a number of baskets which belong to two types, a type which one uses
for flowers only, and a type which one uses for fruit only. In this
case *blomme-en-vrugtemandjies* could conceivably be analyzed as follows.
We may hypothesize that reduction has occurred in the form *blomme-en-
vrugtemandjies, that is, the head (mandjies) of blommemandjies has been deleted. Structure (120) may then be assigned to blomme-en-vrugtemandjies.

(120) \[
\begin{array}{c}
\left[ N + \emptyset \right]_N \text{en} \left[ N + N \right]_N \hfill \\
\end{array}
\]

On this analysis blommemandjies and vrugtemandjies are both analyzed as nominal compounds formed by the rule \( N \rightarrow N - N \). The nominal compounds blommemandjies and vrugtemandjies are coordinated by en as in (121).

(121) \[
\begin{array}{c}
\left[ \left[ \text{blomme} \right]_N \text{[mandjies]}_N \right]_N \text{en} \left[ \left[ \text{vrugte} \right]_N \text{[mandjies]}_N \right]_N \hfill \\
\end{array}
\]

Reduction occurs, that is, the head (mandjies) of the nominal compound blommemandjies is deleted under identity with the head of vrugtemandjies yielding (122) which has the structure given in (120) above.

(122) blomme-en-vrugtemandjies

For the form blomme-en-vrugtemandjies there are thus two possible analyses and two possible interpretations. No principled distinction need be made between the analyses (119) and (120) of blomme-en-vrugtemandjies. The structure assigned will depend crucially on the semantic interpretation assigned to the form.

The assignment of the structure (120) to a form like blomme-en-vrugtemandjies gives rise to the following question: Should \(-\text{me}\) and \(-\text{te}\) of blomme and vrugte, respectively, be analyzed as link phonemes or as representing grammatical morphemes of plurality? Let us consider each possibility in turn.

Botha (1968:154) describes link phonemes as one or more special or additional phonemes which are present in the phonological form of the formatives or combination of formatives which occur as the non-head of some Afrikaans nominal compounds. Such phonemes are, however, absent in the phonological form of the formatives or combination of formatives when these do not occur as the non-head of such compounds. Such link phonemes do not convey meaning.
If we assume that blomme-en-vrugtemandjies has the structure (120), that is, that it consists of two nominal compounds, both -(m)e and -(t)e fit the description of a link phoneme given by Botha. In Afrikaans -(m)e is absent when the formative blom occurs as an independent word, that is, when it does not constitute the non-head of a nominal compound, as in the sentence (123).

(123) Die blom is geel.
the flower is yellow
"The flower is yellow."

When blom constitutes the non-head of a nominal compound in Afrikaans, it (blom) is characterized by the absence, presence or optional presence/absence of -(m)e as in (124), (125), (126)(a) and (b) respectively.

(124) blom - bak
flower bowl
"flower-bowl"

(125) blomme-meisie
flower girl
"flower-girl"

(126) (a) blom - stander
flower stand
"flower stand"
(b) blomme-stander
flower stand
"flower-stand"

The same applies to -(t)e in vrugte as can be seen in the examples below.

(127) vrug - stuk
fruit piece
"still-life depicting fruit"
The phonemes -(m)e of blomme and -(t)e of vrugte could thus conceivably be analyzed as link phonemes if the structure (120) is assigned to blomme-en-vrugtemandjies. Even if -(m)e and -(t)e are analyzed as link phonemes, blomme-en-vrugtemandjies will be interpreted as referring to baskets used for flowers and baskets used for fruit, rather than to baskets used for one flower only and baskets used for one piece of fruit only.

Lieber (1981:7-30) has recently described German, Old English, Latin and Tagalog forms similar to blom/blomme in blompot and blommenandjies and vrug/vrugte in vrugstuk and vrugtemes. She (1981:7) argues that "stem allomorphy usually associated with inflectional paradigms must be considered a word formation process to be included in the word formation component of our grammar". German forms such as (130)(a) and (b) below are accounted for in the following way.

(130) (a) Aug-apfel
   eye apple
   "eyeball"

(b) Augen-arzt
   eye doctor
   "eyedoctor"

The root and stem allomorph of a given noun like Aug (= "eye") are listed in the lexicon as members of a clearly defined inflectional class. Thus, the root Aug and the stem allomorph Augen are listed in the lexicon as members of the lexical class 3 and are related by the morpholexical rule
As both the root Aug and its stem allomorph are listed in the lexicon, both are available to processes of word formation such as derivation and compounding which are generally assumed to operate on items in the lexicon. Hence we have the form (130)(a) in which the root Aug formed the base of a rule of compounding and (130)(b) in which the stem allomorph Augen formed the base of a rule of compounding.

The variant forms blom/blomme and vrug/vrugte in Afrikaans compounds could be accounted for in the same way. Blom would be analyzed as a root and blomme as a stem allomorph of blom. Blom and blomme would be related by a morpholexical rule and listed in the lexicon. Both blom and blomme are then available as bases for the rules of compounding, hence the forms blomspot and blommandjies. Similarly, vrug would be analyzed as a root and vrugte as a stem allomorph of vrug. Vrug and vrugte would be related by a morpholexical rule and listed in the lexicon. Both vrug and vrugte are then available as bases for the rules of compounding hence the forms vrugstuk and vrugtemes. Like Botha's (1968) analysis, that of Lieber (1981) does not make it possible to predict which variant, root or stem, will constitute the non-head of a given nominal compound. 33)

The -(m)e and -(t)e of blomme and vrugte, respectively, could also be analyzed as phonological realizations of the grammatical formative of plurality, 34) If blomme and vrugte are taken to be plural forms, the non-head of the nominal compound blommandjies is plural in form as is the non-head of vrugtemandjies. Blommandjies is assigned the meaning "baskets which one uses for flowers" and vrugtemandjies the meaning "baskets which one uses for (more than one piece of) fruit".

From the discussion above it appears that -(m)e and -(t)e can be analyzed as representing grammatical morphemes of plurality or as link phonemes. In the examples discussed above the presence/absence of -(m)e or -(t)e in a given nominal compound does not result in a difference in meaning. We cannot therefore make a principled choice, on semantic grounds, between the two analyses of -(m)e and -(t)e. It is possible that -(m)e and -(t)e represent grammatical morphemes of plurality in some nominal compounds, and are link phonemes in others. For example, -(m)e in blommandjie could be analyzed as representing a grammatical morpheme of plurality if this form referred to a basket for more than one flower, in contrast to blommandjie which refers to a basket for one flower only.
In nominal compounds like *blomstander* and *blommestander* where one form is characterized by the presence of -(m)e and the other not, without a contrast in meaning, -(m)e in *blommestander* may be taken to be a link phoneme. Further research will indicate whether this is, in fact, the case. 35)

For many examples in my corpus of data there is only one possible structure which may be assigned. Consider in this regard the forms below.

(131)  
Hansie-en-Grietjie-vingers  
Hansel and Gretel fingers  
"thin fingers"

(132)  
potlood-en-papier-meningspeilings  
pencil and paper opinion researches  
"public-opinion research programmes in which answers to questions are recorded"

(133)  
kat-en-muis-speletjies  
cat and mouse games  
"cat and mouse games"

(134)  
sout-en-asyn-skylies  
salt and vinegar chips  
"chips flavoured with salt and vinegar"

The head of each phrasal compound is plural in form. There is, however, only one structure which can be assigned to each form, viz. (119). (131) is not interpreted as referring to two types of fingers "Hansel-fingers" and "Gretel-fingers" and (132) is not interpreted as referring to two types of research, a "pencil public-opinion research programme" in which only a pencil is used and a "paper public-opinion research programme" in which only paper is used. Similarly, (133) does not refer to a "cat-game" and a "mouse-game" but rather to a game involving two people/parties and (134) refers not to two types of chips, salted chips and vinegar-flavoured chips, but to one type flavoured with both salt and vinegar.

To summarize: there are two possible interpretations of *blomme-en-vrugtemandjies* and therefore two possible analyses of this form. No principled choice need be made between the two possible analyses. In the
case of (131)-(134), there is only one possible interpretation of each form and hence only one structure which can be assigned to the form. 36)

3.5.3 Bloublommetjiesheining

Included in my corpus of data are a number of phrasal compounds whose non-head NP consists of an Adj and a noun. (135) is an example of such a phrasal compound.

(135) blou-blommetjies - heining
blue little flowers hedge
"hedge bearing little, blue flowers"

The noun blommetjies is taken to be plural in form. Let us now compare bloublommetjiesheining to (136) in which the noun blommetjie is singular in form.

(136) blou-blommetjie - heining
blue little flower hedge
"hedge bearing little, blue flowers"

There is no difference in meaning between (135) in which the suffix -s is present and (136) in which -s is absent. Both forms are interpreted as referring to a hedge which bears more than one little, blue flower. The question which now arises is whether -s should be analyzed as a link phoneme or as representing a grammatical morpheme of plurality.

In Afrikaans plurality is not always represented by the presence of a form element like a suffix on a noun. It is therefore the case that, in the absence of a plural suffix like -s, both a singular and plural interpretation of a given noun are possible. If the suffix -s is present, only a plural interpretation is possible. blommetjie in (135) may be assigned a singular or a plural interpretation. bloublommetjieheining may therefore refer to a hedge which bears only one little, blue flower or to a hedge which bears more than one little, blue flower. Only the plural interpretation is possible in the case of (135) given the pre-
sence of the suffix \(-s\). By analyzing \(-s\) as representing a grammatical morpheme of plurality the plural interpretations assigned to the forms (135) and (136) can be accounted for.

As the presence/absence of \(-s\) does not result in a difference of meaning between (135) and (136), \(-s\) could also be analyzed as a link phoneme. If \(-s\) is analyzed as a link phoneme, the adjoining of a syntactic phrase like NP to a noun to form a well-formed phrasal compound of Afrikaans is similar to the adjoining of the noun dood (="death") to the noun engel (="angel") to form the nominal compound doodsengel (="angel of death").

It appears that both (135) and (136) can be accounted for by analyzing \(-s\) as representing a grammatical morpheme of plurality or as a link phoneme.

3.6 Language-independent consequences

We turn now to the language-independent consequences of the Phrasal Constituent Hypothesis and the Compounding Hypothesis.

3.6.1 The Morphological Island Constraint

Morphologically complex words such as simple derivatives, complex derivatives, synthetic compounds and primary compounds are subject to what has been presented as a language-independent constraint, the Morphological Island Constraint (henceforth: MIC). Botha (1981a:45-46) argues that WFRs create islands. Individual constituents of a morphologically complex word cannot function independently with respect to inflectional, derivational and syntactic processes. A morphologically complex word can only interact with such processes as a whole. Botha (1981a:46) formulates this restriction as follows:

(137) The Morphological Island Constraint

The individual constituents of the complex words formed by means of WFRs lose the ability to interact with inflectional, derivational and syntactic processes.
The theory of phrasal compounding presented in this paper appears to violate this constraint. In phrasal compounds such as (138)(a)-(d) below derivational and syntactic rules appear to have applied to certain individual constituents in the non-head of each one.

(138)  
(a) huisie-in-die-berge-voorkoms  
(b) klein-seuntjie-glimlag  
(c) wie-is-baas-gryms  
   who is boss sneer  
   "sneer that says 'I'm the boss'"  
(d) "hoe-gaan-dit-nog"-brief

For example, wie is baas in wie-is-baas-gryms is a wh-question formed by the syntactic rule Move-wh. huisie and seuntjie in (138)(a) and (b) are both derivatives formed by the addition of -ie and -tjie respectively by derivational rules. However, the claim that forms such as (138)(a)-(d) are counter-examples to the MIC is a function of the incorrect interpretation of this constraint. The MIC as formulated in (137) places restrictions, not on the bases of WFRs, but rather on morphologically complex words AFTER WFRs have applied. Hence (138)(a)-(d) only constitute apparent counter-examples to the MIC. On this interpretation phrasal compounds do not reflect negatively on the MIC as a general constraint on WFRs. 38)

3.6.2 The No Phrase Constraint

This brings us finally to an important consequence of the theory presented in this thesis. That is, the theory of phrasal compounding presented in this thesis appears to seriously affect the tenability of a generally accepted hypothesis about word formation, viz. the NPC.

The various lexicalist theories of word formation as presented by Aronoff (1976), Allen (1978), Roeper and Siegel (1978) and Selkirk (1982) have, as a basic tenet, the hypothesis that WFRs cannot take units larger than words as possible bases. This highly restrictive hypothesis about WFRs,
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known as the NPC, is reconstructed as in (139) below by Botha (1981a:18).

(139) The No Phrase Constraint

Morphologically complex words cannot be formed (by WFRs) on the basis of syntactic phrases.

While the lexicalist morphologists mentioned above implicitly or explicitly accept the NPC, the status assigned to this constraint by these morphologists differs. Aronoff (1976:21) and Rooper and Siegel (1978:202, 209, 211, 213) who present their theories of word formation as general-linguistic theories, implicitly accept the constraint as having a language-independent status. For Allen (1978:4, 12, 253), the constraint that WFRs cannot take syntactic phrases as bases, is a constraint on at least WFRs of English. As her theory is presented as a general theory of morphology we may assume that she takes this constraint to generalize to other languages as well. That is, the constraint would have a language-independent status. This is not, however, explicitly stated. Selkirk (1982:8), within the context of her theory of word formation in English, accepts the constraint excluding syntactic phrases as bases of WFRs. The NPC therefore appears to be a language-specific constraint for Selkirk (1982). Whether she takes this constraint to generalize to other languages is not clear.

Botha (1981a:19) has recently noted that

"as a language-independent constraint, the No Phrase Constraint has a peculiar status: it is widely accepted but poorly motivated. The evidence presented in support of this constraint by Aronoff (1976:23ff.) and others comes almost exclusively from English. The absence of cross-linguistic evidence derived from a variety of unrelated languages severely weakens the credibility of the No Phrase Constraint as a general linguistic principle. Thus, as a language-independent principle, the No Phrase Constraint does not have much going for it in the way of positive evidence." [39]

The NPC, according to Botha (1981a:19), cannot be accepted, at least not in its most general form, for Afrikaans. He argues that it is impossible to give a descriptively adequate account of Afrikaans synthetic compounding if the NPC, as formulated in (139) above, is taken to be correct as a general linguistic principle. He therefore proposes a relaxation of the constraint in order to allow WFRs (of Afrikaans) to apply to a proper-
defined class of syntactic structures, viz. D-structures. He (1981a: 20) suggests reformulating the NPC as (140).

(140) The No Phrase Constraint (Relaxed Version)
Morphologically complex words cannot be formed (by WFRs) on the basis of syntactic phrases which are not possible deep structure constituents.

One of the criteria which the theory of phrasal compounding, like the theory of synthetic compounding, has to satisfy is that it should not make use of formal devices which violate well-motivated language-independent principles or constraints. This criterion was given as (9)(b)(i) on p. 41 above. If the NPC as formulated in (139) were taken to have a language-independent status, as noted by Botha (1981a:19), the theory of phrasal compounding would not satisfy criterion (9)(b)(i) as it (the theory) includes WFRs which take syntactic phrases as bases. The data accounted for by the theory of phrasal compounding would therefore constitute negative evidence for the NPC as a language-independent constraint. Even the relaxed version of the NPC given as (140) would not be tenable as it excludes all phrasal compounds which are formed by adjoining a well-formed syntactic surface structure phrase, rather than a deep structure constituent, to a noun.

Before examining how the NPC could be reconciled with the data accounted for by the theory of phrasal compounding, let us examine certain recent linguistic work in which the status of the NPC as a language-independent constraint has been questioned. In such works cross-linguistic data from a number of unrelated languages such as English, Japanese and Danish, for example, are presented. Such data constitute a source of further evidence against the NPC as a language-independent principle and severely weaken its credibility as a language-independent constraint on WFRs.

Carroll (1979:863), in his article on complex compounds (or phrasal compounds as I have called them), notes that "anecdotal and experimental evidence is marshalled against" the claim by Roeper and Siegel (1978) that lexical structures can never embed phrasal constituents. The complex compounds, viz. the NP + N phrasal compounds, which were studied are, according to Carroll (1979:876 note 1),
"just the tip of an iceberg. Verb phrases and entire sentences are rather routinely embedded into word structures:
I'm taking the New York to Detroit flight.
I'm sick of that stick it in your ear attitude."

Examples given by Carroll (1979:865) of complex compounds which were rated as acceptable by fluent speakers of English include the following:

(141) (a) little-girl-doll
(b) girl-with-a-bike-doll
(c) girl-that-says-'Mama'-doll

Bauer (1978:186) notes that English, French, Danish and Swedish have so-called "phrase compounds" or "string compounds" in which the string or phrasal constituent modifies a head noun. He illustrates this point with examples such as (142)(a)-(d) from English, Swedish and Danish.

(142) (a) don't-tell-me-what-to-do-look
(b) kom-och-tag-mig-om-du-kan-minen
    come and get me if you can look the
    "come - and - get - me - if - you - can - look"
(c) kulturen-ud-til-folket-idealister
    culture the out to people the idealists
    "idealists who take culture to the people"
(d) hvorfor-skal-man-op-om-morgenen-stemme
    why must one (get) up in morning the voice
    "why - must - one - get - up - in - the - morning - voice"

Even as early as 1946 Jespersen (1946:155) noted that there exist compounds "in which a whole phrase, not a compound, is used as first element. Thus, the first element may consist of two sbs [substantives/nouns --- M.S.] joined by means of and". He (1946:155-156) cites examples such as the following:
Finally, Kageyama (1982:255) notes that Japanese includes words formed by the attachment of a bound morpheme (suffix) to the head noun of a complex NP. Such word formation is "in direct violation of the No Phrase Constraint" and the suffixes "count as intractable counterevidence to the No Phrase Constraint". He (1982:256) then proposes a phonological readjustment rule for reanalyzing his data. This "readjustment analysis has the advantage of maintaining the No Phrase Constraint". In the light of the data presented above it would appear that there is no justification for proposing a seemingly ad hoc readjustment analysis in order to maintain the NPC. Given the arguments and data presented by Botha (1981a: 19) and Carroll (1979), for example, there appears to be no advantage in maintaining the NPC as a language-independent constraint. Rather, given the negative evidence it seems that the NPC should be given up completely.

Implicit in the discussion above has been the assumption that the NPC is a language-independent constraint in the sense that it holds for all languages. The existence of morphologically complex words which include syntactic phrases in Afrikaans, as well as in a number of unrelated languages, was therefore taken to constitute evidence against the NPC as a language-independent constraint. The NPC could, however, be maintained despite this apparent negative evidence. To determine how the data accounted for in this thesis affect the status of the NPC as a language-independent constraint it is necessary to determine the possible interpretations which can be assigned to the notion 'language-independent'.

Let us assume first that a constraint has a language-independent status if it holds for all human languages, and that such language-independent constraints are constraints on the core, rather than on the periphery of a grammar. If the NPC were taken to be a language-independent constraint in the sense given above, it would be a constraint on the rules of the core. The rules of the core grammar of Afrikaans would be subject to this constraint. Given these assumptions, the consequences of phrasal compounds for the NPC would depend crucially on whether the rules of
phrasal compounding are taken to belong to the core or to the periphery of the grammar of Afrikaans.

If, on the one hand, it is argued that the rules of phrasal compounding are rules of the core, they should obey the NPC. These rules, however, form morphologically complex words which include syntactic phrases as bases. This would constitute negative evidence for the NPC as a language-independent constraint. It would appear that the NPC cannot be maintained and should be given up completely.

If, on the other hand, it is argued that the rules of phrasal compounding are rules of the periphery, the existence of phrasal compounds would not affect the language-independent status of the NPC in any way. As rules of the periphery, the rules of phrasal compounding would not be subject to, and hence would not violate, the NPC which is a constraint on rules of the core. The NPC could therefore be maintained, in its strongest formulation, as a language-independent constraint. Before an empirically based choice between the two proposals presented above can be made, the claim that certain rules belong to the core and others to the periphery of a grammar must be empirically tested.

It is possible that a constraint may have a language-independent status in the sense that it is an option made available by Universal Grammar (henceforth: UC) for the core grammars of all human languages. Such options are not, however, necessarily chosen by all human languages. The options chosen/not chosen will determine certain aspects of the core grammar of a given language. 4) Let us assume that the NPC is a language-independent constraint in the sense that it is an option made available by UC. If Afrikaans and English, for example, were not to choose this option, the core grammar of each language could include WFRs which take syntactic phrases as bases. On the other hand, if a language were to choose this option, the core grammar of this language would not be able to include WFRs which take syntactic phrases as bases. The fact that Afrikaans and English, for example, have morphologically complex words which include syntactic phrases would not constitute evidence against the NPC, nor would it affect the status of the NPC as a language-independent constraint. The NPC could therefore be maintained, in its strongest formulation, as a language-independent constraint. This proposal, that the NPC is an option made available by UC, would
account for the fact that WFRs in certain languages can take syntactic phrases as bases, while WFRs in other languages cannot.

It is evident from the discussion above that the consequences of the theory of phrasal compounding for the NPC depend on assumptions about, amongst others, the sense in which this constraint is assigned a language-independent status.

4 Conclusion

An important consequence of this study of phrasal compounds is that it has made evident an inadequacy in recent major lexicalist general theories of morphology such as those of Aronoff (1976) and Roeper and Siegel (1978), for example. These theories include the assumption that WFRs do not take units larger than words as possible bases. The existence of morphologically complex words which include units larger than words, viz. syntactic phrases, reflects negatively on these theories. The theories of Aronoff (1976) and Roeper and Siegel (1978), amongst others, will have to be modified to account for the fact that WFRs in Afrikaans, as well as in a variety of other languages, can, in fact, take syntactic phrases as bases. In modifying the theories explicit mention must be made of the status which is assigned to the NPC as a constraint on WFRs.
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3. The following conventions will be observed in order to facilitate the reader's interpretation of the Afrikaans data:
   (i) hyphens in phrasal compounds and compounds are used to indicate constituent boundaries which are pertinent to the discussion. Such hyphens do not always correspond to those used in phrasal compounds in the source sentence.
   (ii) an English gloss is provided underneath each constituent of an Afrikaans phrasal compound, compound and sentence:
   (iii) this is followed by an idiomatic translation enclosed in double inverted commas.

The inverted commas in certain phrasal compounds correspond to those used in the source sentence. All Afrikaans phrasal compounds, compounds and sentences are represented orthographically.


5. In this paper the notion 'non-head' is used to refer to the lefthand/
phrasal constituent of a phrasal compound, while the notion 'head' is used to refer to the righthand/nominal constituent. Cf. Savini 1983: 39-43 for a discussion of the notions 'non-head' and 'head'.


7. Afrikaans is taken to be an SOV-language hence the position of the verb in D-structure is sentence final. The S-structure underlying God is dood is derived by moving the finite verb from sentence-final position to second position in the sentence as represented in (i) below. ___ represents the position vacated by the finite verb.

(i) \[\text{Move-}V\rightarrow \left[\text{COMP } \left[\text{God is dood} \_ \_ \_\right]_5 \right]_5\]


11. The expression ad hoc is used here in the sense of "without independent motivation/evidence". Cf. Botha 1981b:316 for a brief explanation of this interpretation of ad hoc.

12. been rek and bene rek in (24)(a) and (b) correspond to the surface structure VPs in the sentences (i) and (ii) below.

(i) Hij sê dat die dokter die been rek om dit reguit te kry. "He says that the doctor is stretching the leg in order to straighten it."
He says that she is stretching her legs.


14. There are also two types of non-phrasal compounds for which there are no corresponding phrasal compounds.

(i) een-bedryf
one act
"one act play"

(ii) eina-gesig
ouch face
"ugly face"

(i) is a non-phrasal compound consisting of a numeral/quantifier and a noun, while (ii) is a non-phrasal compound consisting of an interjection and a noun.

15. I adopt the following convention for the use of brackets around numbers: numbers in square brackets represent numbers or page numbers in the work being referred to or discussed. Numbers in this paper are always enclosed in round brackets.


17. The other meaning which may be assigned to wuif-groet is "wuif-wuif groet" (= "to greet in a waving fashion").

18. It may be noted that slaapsak-onder-die-sterre could be analyzed as an NP generated by the rule NP → N - PP. Compare in this regard the corresponding phrase in the sentence below.

(i) Die slaapsak onder die sterre sal nat word as dit reën.
the sleeping-bag under the stars will get wet if it rains
"The sleeping-bag which is lying under the stars will get wet if it starts to rain."
However, analyzing slaapsak-onder die sterre in slaapsak-onder-die-sterre-vakansie as an NP prevents us from assigning the correct semantic interpretation to this phrasal compound. That is, the semantic interpretation "holiday of sleeping-bags under the stars"/"holiday during which there are sleeping-bags under the stars" would be assigned to the phrasal compound rather than the interpretation "holiday during which one sleeps in a sleeping-bag under the stars".


20. English grammarians like Emonds (1976:166ff.) and Hendrick (1978) have also argued that prenominal adjectives differ from predicate adjectives in that the latter may be followed by a PP or S complement but the former not. They do not however draw a distinction between a prenominal Adj node and a predicate AP node but propose that both prenominal and predicate adjectives are generated under a node AP.

21. Following Nanni (1980:574-579) I use the term "A- to - V sequence" to refer to sequences consisting of an easy-type adjective and a single infinitive which may appear prenominally and which Nanni analyzes as complex adjectives.

22. I use the abbreviation "A+PP+INF" to refer to a sequence which consists of an easy-type adjective subcategorized to take a for-PP and an infinitival complement.

23. I use the abbreviation "A+INF+INF" to refer to a sequence which consists of an easy-type adjective followed by more than one infinitival complement. Nanni (1980:572) uses the term "adjective + several infinitives" for such constructions.

24. Nanni (1980:573) uses the abbreviations "A+INF" and "A+PP" for sequences consisting of an adjective and a single infinitive and an adjective and a single PP, respectively. The adjective in each of these sequences is not an easy-type adjective.
25. The number 6 in (94) indicates a note number in (Nanni 1980:575).
In this note Nanni refers to an observation by Joseph Emonds that the
rule (94) "has an effect paralleling a transformation in the lan-
guage" and that "it is not unusual for a language to have lexically
derived sequences which, to some degree, mirror transformationally-
derived constructions". If the similarities between such construc-
tions are not "purely accidental", they should be motivated by
something in the theory according to Nanni.

26. In note 5 Nanni (1978:574) refers to a proposal by Michael Kac that
prenominal A-to-V sequences may be accounted for by introducing a
base rule of the form "AP \rightarrow A-to-V" or "AP \rightarrow A (\rightarrow V)" as the
to-V sequence is optional. Nanni notes two problems with this pro-
posal. First, Kac's proposal is inconsistent with the fact that
adjectives with post-head complements do not usually appear prenomi-
nally in English. Second, Kac's proposal fails to explain why A-to-V
sequences may participate in the formation of verbal compounds ending
in -ing. Nanni believes her "lexical approach" to be preferred as it
encounters neither of the above-mentioned problems.

27. Hendrick (1978) proposes that adjectives in English have no
posthead complements in the base. Posthead complements of A/AP, like S and
PP, are generated as sister nodes to the predicate AP node. The
structure underlying sentence (i) below may be represented as (ii).

(i) Mary feels distrustful of John.

(ii) \[
\begin{array}{c}
\text{S} \\
\text{N''} \quad \text{V''} \\
\quad \text{V'} \\
\quad \text{V} \quad \text{A''} \\
\quad \{S\} \quad \{p''\}
\end{array}
\]

The rule Move-wh applied to the structure (ii) underlying sentence
(i) yields the well-formed interrogative (iii).

(iii) How distrustful of John does Mary feel?

An optional rule of Adjective Complement Formation can make an S or PP complement the daughter of AP for the purposes of the rule Move-wh. Thus, the rule of Adjective Complement Formation can change the structure underlying sentence (i) from (ii) to (iv).

(i)    S

(ii)   N'

(iv)   S

If the rule Move-wh is applied to the structure (iv) underlying sentence (i), the well-formed interrogative (v) is yielded. This interrogative is a well-formed variant of (iii) above.

(v)    How distrustful does Mary feel of John?

28. If, in a sequence like easy [S to [VP tease]], the A/AP easy and the infinitive to tease constituted a single constituent AP, the extraction of the A/AP easy alone would be blocked by the A-over-A condition.


30. I use the terms "non-head" and "head" rather than "initial immediate constituent"/"specifcans" and "final immediate constituent"/"spectrum" respectively which Botha (1968:154ff.) uses in his discussion of link phonemes in Afrikaans.

31. Of the sixty-three compounds with blom as non-head which are listed in Tweentaalige Woordeboek, the link phoneme -(m)e is present in only sixteen cases and is optional in six of the sixteen. As in the case of the link phonemes discussed by Botha (1968:157ff.) it appears that the presence, absence or optional presence/absence of -(m)e cannot be predicted on the basis of phonological, semantic and/or syntactic considerations.
32. Of the fifty-seven compounds with vrug in the non-head position which are listed in the Tweetalige Woordeboek, the link phoneme -(t)e is present in thirty-nine and optional in one. The presence, absence or optional presence/absence of -(t)e cannot be predicted on the basis of phonological, semantic and/or syntactic considerations.


34. Cf. Wissing 1971: §4.3.2 for a discussion of the phonological realization of the grammatical formative PL (plural) in Afrikaans within the framework of a Transformational Generative Grammar.

35. Cf. in this regard De Villiers in preparation.


37. Botha (1968:168) gives doodsengel as an example of a nominal compound in which the phonological representation of the non-head of the compound, viz. dood, is characterized by the presence of a link phoneme -s.


39. In note 15, in (Botha 1981a: 19), reference is made to (Roeper and Siegel 1978: 213-214) as an example of work in which evidence from English is presented in support of the NPC.

In note 16 Botha (1981a: 19) refers to evidence from English provided by Aronoff (1976: 23ff.) for the NPC. This evidence is, according to Botha, less than convincing as it "involves controversial assumptions about the phonological cycle in English and the status of back formation in a theory of synchronic morphology".

derived by fixing the parameters of UG in one of the permitted ways) and the periphery of marked elements and structures of a grammar.

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