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THE SYNTAX OF BOUND FOCUS IN GERMAN

This paper deals with an hitherto largely neglected area of Modern German syntax, the relation between focus-inducing operators, especially adverbials, and the constituents which are their foci. It will be shown that this topic has a bearing on the question whether focus is 'configurational' in German, as the theory that will be proposed is based essentially on free (i.e. non-configurational) focus placement. The paper will also discuss the syntax of German adverbials and sketch a theory which captures the great variety of their possible positions in a simple (non-transformational) way.

1. Some central concepts of functional sentence analysis

Before discussing the syntax of focus in contemporary German, I would like to explain my interpretation of some of the central terms of functional sentence analysis. First I will argue for a distinction between topic/comment on the one hand and background/focus on the other. Then I will introduce a new interpretation of focus and background which views both as relations between parts of sentences.

1.1 Topic/comment vs. background/focus

I make a strict distinction between topic/comment and background/focus. This I do in accordance with some of the more traditional Anglo-American linguists, e.g. Wallace Chafe,¹ and in opposition to the Prague school of functional sentence analysis² as well as many generative grammarians.³ The topic of a sentence is a part that sets a frame of interpretation. The comment is a complementary part that is interpreted in accordance with this frame. Typical examples of topic/comment constructions in German or English are left dislocation and free (or 'hanging') topic, like in(1):⁴

f ^t	f ^c	f ^c	f ^t
(1) Was Luise betrifft,	so wird sie wohl nicht kommen.		
what L. concerns	expl will she probably not come		
'As for L.,	she probably won't come'		

Assertion, question etc. certainly are operators that have to be present at some level of semantic representation. Following proposals by D. Zaefferer, I call it the level of illocutionary meaning. And so, I propose that (2) and (3) have the following representations of illocutionary meaning:

(2') ASSERT(λX^{ADV} [She will come X],tomorrow)

(3') QUESTION(λX^{NP} [X will come tomorrow],she)

Given representations like these, there is no difference between free focus and bound focus in logical form (cf. (5a') and (6a')). Both are relational, i.e. both are the focus of some other element in the sentence (correspondingly for the background).¹¹

Unfortunately, I cannot discuss all of the advantages of this theory of focus here. Some of them can be seen in examples with focus-nesting, like (9):

(9) Es ist Luise, die nur Romane von Konsalik liest.

It is L. who only novels by K. reads

'It's Luise who only reads novels written by Konsalik'

In this sentence, the bound focus is within the free background, i.e. in the backgrounded complement of the free focus. This can easily be represented in our relational theory:

(9') ASSERT(λX^{NP} [ONLY(λY^{NP} [X reads novels of Y],Konsalik)],Luise)

On the other hand, the popular non-relational theory of focus which tries to capture the meaning of focus and background in terms of the distinction between old and new information gets in trouble in examples like this for the simple reason that here a focus, i.e. new information, lies within that part which according to this kind of theory, carries old information.

For a much more extensive discussion of this and many other arguments in favor of the relational theory of focus I refer the reader to Jacobs 1984.

2. OVERT FOCUS INDUCERS

In the last chapter, I introduced the notion of bound focus. A focus is bound if it is coindexed with some overt focus-inducer FI in its vicinity and thereby marked as being the focus of FI. Where no such coindexing takes place, the focus is free, which means that it is the focus of some non-overt element, normally an illocutionary operator. In what follows, I will concentrate on the syntax of bound focus. To

do this, I will first have to say a little more about overt focus inducers in German. Which surface expressions of this language should be regarded as overt focus inducers? I.e.: Which expressions show a semantic interaction with focusing that can be best described by representing them logically as operations on structured propositions, the parts of which correspond to background and focus, respectively (cf. (5a'), (6a'))? Unfortunately, I'm not able to answer this question completely. However, I can list examples. I have already pointed out that the semantic behavior of scalar particles is such that we should regard them as focus inducers. Moreover, it seems to me that scalar particles are focus inducers in all of their possible uses.¹²

A second clear case in point is the class of negation words of German, e.g. nicht ('not'), nie ('never'), niemand ('no one'), etc. All of them have non-focus-inducing uses, but all of them can also be focused on material in their vicinity, like in (10):

(10) Peter hat sich $\left\{ \begin{array}{l} \text{nicht}_1 \\ \text{kein}_1 \end{array} \right\} \begin{array}{l} \text{ein} \\ \text{a} \end{array} \left\{ \begin{array}{l} \text{grünes} \\ \text{green} \end{array} \right\} \text{Auto gekauft(, sondern ein rötes).$

P. has himself $\left\{ \begin{array}{l} \text{not} \\ \text{no} \end{array} \right\} \text{ a } \left\{ \begin{array}{l} \text{green} \\ \text{a} \end{array} \right\} \text{ car bought but a red}$

'Peter didn't buy a green car(, but a red one)'

The reason why we should regard nicht and kein as focus inducers in (10) is that the effect of negation here is strongly dependent on the distribution of highlighted and presupposed material, as is most clearly seen when we change this distribution:

(11) Peter hat sich $\left\{ \begin{array}{l} \text{nicht}_1 \\ \text{kein}_1 \end{array} \right\} \begin{array}{l} \text{ein} \\ \text{a} \end{array} \left\{ \begin{array}{l} \text{grünes} \\ \text{green} \end{array} \right\} \text{Auto gekauft(, sondern ein grünes Fahrrad).$

'Peter didn't buy a green car(, but a green bicycle)

In Jacobs 1982b, I argued that the difference between (10) and (11) (without the parts in brackets) is one of conventional meaning, even of truth conditions, and cannot be reduced to a mere difference in conversational (or 'speaker') meaning. This is best captured by giving these sentences logical representations analogous to (5a') and (6a'), with negation operating on a structured proposition.¹³

A third class of possible focus inducers of German is the class of the so-called sentence adverbials. Examples are leider ('unfortunately'), hoffentlich ('it is to be hoped'), vermutlich ('presumably') and many others:

(12) Peter hat sich hoffentlich₁ ein $\left\{ \begin{array}{l} \text{grünes} \text{ Auto} \\ \text{grünes} \text{ \underline{A}uto} \\ \text{grünes} \text{ \underline{A}uto} \\ \text{grünes} \text{ \underline{A}uto} \end{array} \right\}$ gekauft.

'It is to be hoped that Peter bought a $\left\{ \begin{array}{l} \text{gréen car} \\ \text{green cár} \end{array} \right\}$,

It can be shown that the difference between the two variants of (12) is a difference in (non-truth-conditional) conventional meaning. We can capture this by representing these sentences as structured propositions in the scope of the adverbial.

Finally, many verbs of propositional attitude induce focus in German, at least in some of their uses:

(13) Ich bedaure₁, daß Peter sich das $\left\{ \begin{array}{l} \text{grüne} \text{ Auto} \\ \text{grüne} \text{ \underline{A}uto} \\ \text{grüne} \text{ \underline{A}uto} \\ \text{grüne} \text{ \underline{A}uto} \end{array} \right\}$ gekauft hat.

I regret that

'I regret that Peter bought the $\left\{ \begin{array}{l} \text{gréen car} \\ \text{green cár} \end{array} \right\}$,

Attempts to analyze such verbs as operations on structured propositions can be found in v. Stechow 1982 and Cresswell/v. Stechow 1982.

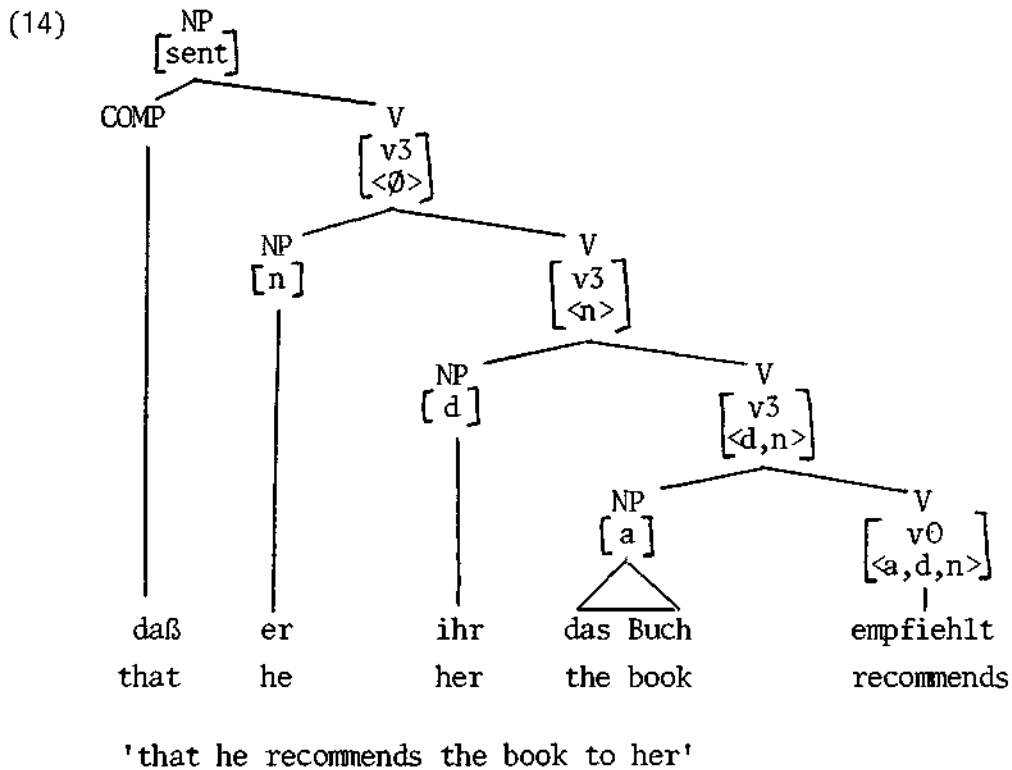
We have now seen that many expressions of propositional attitudes (e.g. verbs like bedauern, adverbials like hoffentlich) are focus inducers in German. But note that not all overt focus inducers express propositional attitudes. For example, the scalar particle auch ('too') does not (see Jacobs 1983, 4.1.3). Furthermore, it seems that not all expressions of propositional attitudes are focus inducers. For instance, the modal particles or 'Abtönungspartikeln' of German don't seem to have a focus of their own, like e.g. scalar particles do. Rather they behave as if they had a focus only in virtue of being modifiers of non-overt focus inducers, namely the illocutionary operators mentioned above. Unfortunately, I cannot elaborate on this any further here.

3. THE SYNTAX OF ADVERBIALS

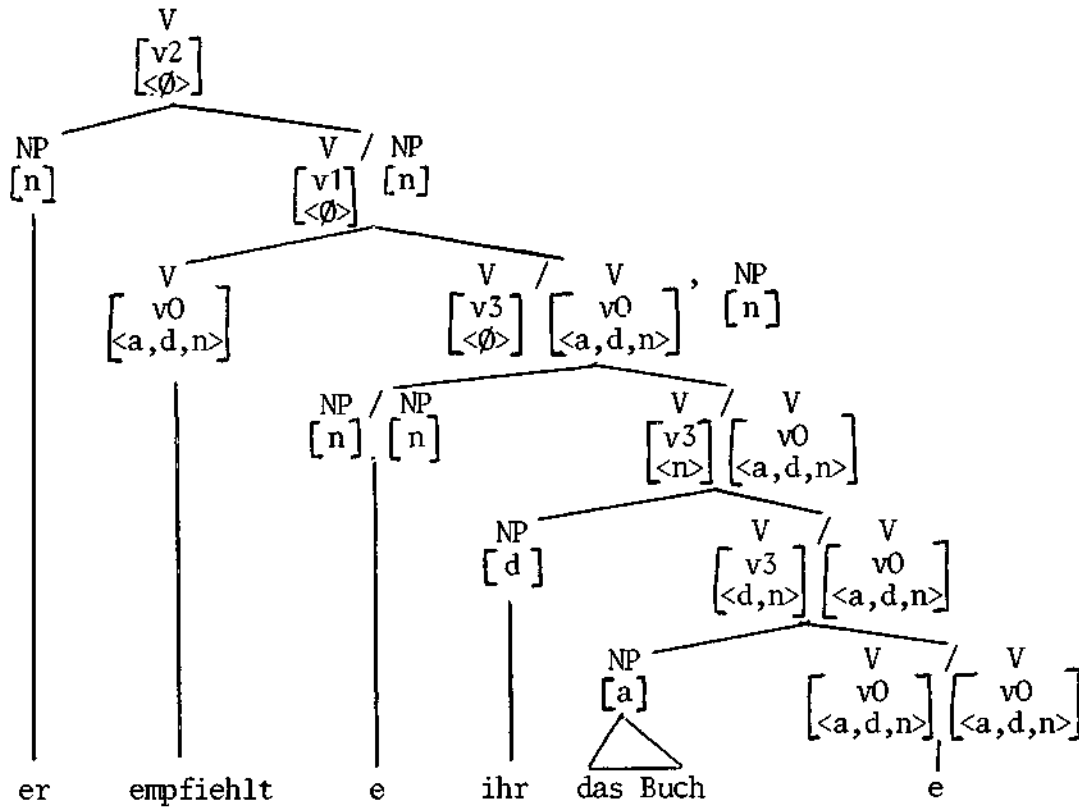
Half of the syntax of bound focus is the syntax of the binding elements. In what follows, I will concentrate on the syntax of adverbials, as they are the majority of overt focus inducers in German. Furthermore, their syntactic analysis will prove to be more revealing with respect to the problems of focus than, say, the syntactic analysis of focus-inducing verbs. First, I will sketch some details of the syntactic theory which my analysis of focus-binding adverbials will be based upon.

The syntactic framework that will be presupposed is Generalized Phrase Structure Grammar (GPSG).¹⁴ One of the reasons is that this model of grammar allows the application of basic PS rules after movement rules, which, as I will show below, is what we need to capture some of the facts concerning adverbials in German. In contrast to much of the work done within the framework of GPSG, I will not use the \bar{X} -theory of syntactic categories. But note that none of the things that I will say about the syntax of adverbials and focus depend on the rejection or adoption of the \bar{X} -system.

The trees (14) and (15) give an impression of some of the syntactic rules that I will be assuming:



(15)



'He recommends the book to her'

"v1", "v2" and "v3" stand for 'verb in first position', 'verb in second position' and 'verb in last position', respectively. "v0" means 'verb position neutralized' (in case of non-complex verbal phrases). A sequence of case symbols ('n', 'd', 'a' for 'nominative', 'dative' and 'accusative', respectively) marks the case of the complements a verb requires (and thereby, indirectly, its syntactic valency). "$\langle \emptyset \rangle$" says 'no complement required'. Features are percolated in the manner indicated in the trees. (The feature specifications are not necessarily complete.) As usual in GPSG, the presence of empty nodes is marked by complex category symbols of the form $A/B_1, \dots, B_n$. An expression of category $A/B_1, \dots, B_n$ is an A containing an empty B_i -node, for all i $1 \leq i \leq n$. The only difference to the original Gazdarian framework is the allowance for $n > 1$.¹⁵

In accordance with the majority of the grammarians of German, I assume that basically the verb is in last position. The analysis of v2-sentences is similar to the one proposed in Thiersch 1978. Within what is often called the 'Mittelfeld', i.e. the hierarchically highest $\frac{V}{\langle \emptyset \rangle} / B_1, \dots, B_n$ (where n may be 0), I assume a hierarchy

of verbal expressions differing in their valency. According to this analysis, what used to be called the 'VP' in sentences like (14) and (15) contains more than one complex verbal expression.

With the exception of the treatment of v2, all this is a GPSG-translation of an analysis I have developed within the framework of Montague Grammar.¹⁶ Also it is very similar to the proposals made in Sternefeld 1982.

On the basis of these rules, it is easy to formulate a rule of adverbial modification in German:¹⁷

- (16) $\left(\begin{array}{c} V \\ v\alpha \\ M1 \end{array} \right) \left[\begin{array}{c} ADV \\ (v\beta) \\ M2 \end{array} \right] \left(\begin{array}{c} V \\ v\beta \\ M1 \end{array} \right)$, where $\alpha = \beta$ if $\beta = 2$ or 3 ,
 $\alpha = 2$ if $\beta = 1$,
 $\alpha = 3$ if $\beta = 0$.

(16) says: An adverbial specified positively for β verb order¹⁸ followed by a verb phrase with β verb-order is a verb phrase with α verb order, where α and β are as specified in the condition to this rule. (Note that this condition can be derived from a general condition governing all instances of verb phrase formation in German.) Rule (16) together with the rules depicted in (14) and (15) accounts for all the possibilities in (17) - (19), given that vermutlich, sogar, nicht und leider are adverbials that are specified positively for the pertinent verb orders:

- (17) daß $\left\{ \begin{array}{c} \text{vermutlich} \\ \text{sogar} \\ \text{nicht} \end{array} \right\}$ er $\left\{ \begin{array}{c} \text{vermutlich} \\ \text{sogar} \\ \text{nicht} \end{array} \right\}$ ihr $\left\{ \begin{array}{c} \text{vermutlich} \\ \text{sogar} \\ \text{nicht} \end{array} \right\}$ das Buch $\left\{ \begin{array}{c} \text{vermutlich} \\ \text{sogar} \\ \text{nicht} \end{array} \right\}$

empfiehlt

- (18) $\left\{ \begin{array}{c} \text{Vermutlich} \\ \text{Sogar} \\ \text{Nicht} \end{array} \right\}$ er empfiehlt ihr das Buch.

- (19) $\left\{ \begin{array}{c} \text{Vermutlich} \\ \text{Leider} \end{array} \right\}$ empfiehlt er ihr das Buch.

Furthermore, if we assume that sogar and leider are not specified positively for v1 and v2, respectively, (16) will not overgenerate in cases like (20) and (21):

- (20) *Sogar empfiehlt er ihr das Buch.

- (21) *Leider er empfiehlt ihr das Buch.

That the oddity of such examples should be traced back to lexical idiosyncrasies, in the manner just indicated, can be seen from variations within what is normally considered to be one class of adverbials. For example, although vermutlich and leider both belong to the class of sentence adverbials, only vermutlich can be put in front of v2-sentence, cf. (18) and (21).

There are at least two possible objections to this very simple analysis of adverbial modification in German. The first is: this analysis does not exclude unacceptable combinations of adverbials, like in (22):

(22) Er empfiehlt ihr gern das Buch notwendigerweise.
 gladly necessarily

While it is true that (16) does not exclude (22), it is by no means true that such cases should (or even could) be excluded by the basic PS rules of the grammar. Rather, it is easy to show that (22) is unacceptable because of a violation of scope restrictions, which should be explicated as restrictions on certain aspects of logical form and therefore can be ignored in the PS rules.¹⁹

A second objection might be: (16) does not assign correct constituent structures, especially in cases like (18), to which (16) assigns the structure (18a),

(18a) (V ADV (V er (V/NP empfiehlt ...

whereas the correct structure, so it might be claimed, is (18b):

(18b) (V (NP ADV er)(V/NP empfiehlt ...

However, I think there are quite a few reasons to reject (18b) and thereby the traditional analysis of sentences like (18). As far as I can see, (NP ADV NP) is not a possible constituent of German sentences. This can be seen in examples like (23) and (24):

(23) Peter träumt von $\left. \begin{array}{l} * \text{vermutlich} \\ * \text{sogar} \\ * \text{nicht} \end{array} \right\}$ $\left\{ \begin{array}{l} \text{Luise} \\ \text{ihr} \\ \text{Geld} \end{array} \right\}$
 P. dreams of $\left\{ \begin{array}{l} \text{presumably} \\ \text{even} \\ \text{not} \end{array} \right\}$ $\left\{ \begin{array}{l} \text{L.} \\ \text{her} \\ \text{money} \end{array} \right\}$

(24) daß Peter bedauert, $\left\{ \begin{array}{l} * \text{vermutlich} \\ * \text{sogar} \\ * \text{nicht} \end{array} \right\}$ daß Luise kommt
 that P. regrets that L. comes

In these examples, the sequence ADV + NP would have to be a constituent to be acceptable in its environment. (In (23), ADV + NP forms the complement of a preposition, and in (24), ADV + NP is extraposed.)

Our theory not only explains the oddity of examples like (23) and (24) but it also predicts the asymmetry between rightward movement of what were believed to be ADV + NP constituents and 'topicalization' of such sequences, like in (25), which, in contrast to (24), can be generated by application of rule (16):

- (25) $\left\{ \begin{array}{l} \text{Sogar} \\ \text{Nicht} \end{array} \right\}$ daß Luise kommt, bedauert Peter.

(Note that according to my analysis, ADV + sentential NP in (25) neither is a moved constituent nor a constituent at all.)

But what about examples like (26), which are acceptable for most speakers of German?

- (26) Peter träumt von $\left\{ \begin{array}{l} \text{nur} \\ \text{nicht} \end{array} \right\}$ einer Frau.
one woman

'Peter dreams of only one woman'

'Peter doesn't dream of a single woman' (in the sense of: 'There is no woman that Peter dreams of')

Such examples can be taken care of by rule (27):

- (27) ($\begin{array}{c} \text{DET} \\ \text{[*(ADV_)} \\ \text{M1} \end{array}$ $\begin{array}{c} \text{-ADV} \\ \text{[(_DET)} \\ \text{M2} \end{array}$ $\begin{array}{c} \text{DET} \\ \text{[(ADV_)} \\ \text{M1} \end{array}$)

An adverbial specified positively for pre-determiner placement and a following determiner specified positively for post-adverbial placement form a determiner that is specified negatively for post-adverbial placement.

According to this rule, the different degrees of acceptability in (23) and (26) are due to a difference in phrase structure, while in (26) and (28),

- (28) Peter träumt von ($\left\{ \begin{array}{l} ?? \\ ?? \\ \text{nur} \\ \text{nicht} \end{array} \right\}$) $\left\{ \begin{array}{l} \text{seiner Frau} \\ \text{dieser Frau} \\ \text{einigen Frauen} \end{array} \right\}$.
 $\left\{ \begin{array}{l} \text{his wife} \\ \text{this woman} \\ \text{some women} \end{array} \right\}$

they are explained by a difference in lexical feature specification.

Rule (27), together with rule (16), predicts ambiguity in sentences like (29):

- (29) Nicht eine Frau träumt von Peter.

This is borne out by the semantic facts. (29) has two different intuitive interpretations (with different intonations) that can be attributed to the two different syntactic roles the adverbial can play here.²⁰

If this theory of adverbial modification is correct, then what we have in examples like (18) and (25) (and in one reading of examples like (29)) is an exception to what is often considered to be one of the most central rules of German syntax, namely that the material filling the 'Vorfeld' of v_2 -sentences (i.e. what precedes the finite verb) must always be a constituent.²¹ But note that this exceptio-

nality does not cause any technical complications in our grammar, for example rule ordering (or component ordering) problems. Such problems, however, would emerge in any framework that prohibits application of basic PS rules after movement rules, given that the proposed analyses of v2-order and of the constituent structure of sentences like (25) are accepted.

Unfortunately, rules (16) and (27) do not capture all aspects of the syntax of adverbials in German. We need at least one more PS-rule to account for examples like (30),

(30) ein im 19. Jahrhundert leider noch nicht bekanntes Mittel
a in century unfortunately yet not known medicine
'a medicine that unfortunately was not yet known in the 19th century'

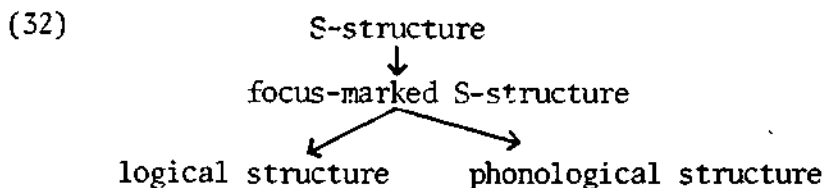
in which adverbials modify adnominal phrases,²² and we need certain filters, e.g. to explain the awkwardness of examples like (31):²³

(31) ?Peter ist nicht ein Arzt.

However, (16) and (27) certainly describe the most essential part of the syntax of adverbials in German. Moreover, they will enable us to discuss the syntax of bound focus in German, to which we now turn.

4. THE SYNTAX OF BOUND FOCUS

What are the principles that govern the distribution of foci in German? Where in the grammar does focus assignment take place? Let's first try to answer the second question. In the GPSG-model of sentence grammar, we have roughly three levels: One (and only one) level of syntactic structure, that I will call S-structure, a level of phonological structure and a level of semantic representation or logical structure. Let's assume that these levels are related to each other as they are in the T-model of Chomsky 1982.²⁴ On the basis of these assumptions, I would propose to introduce an intermediate level of focus-marked S-structure which is the output of a procedure operating on S-structures and input to the rules of logical structure as well as to the rules of phonological structure, as shown in figure (32):

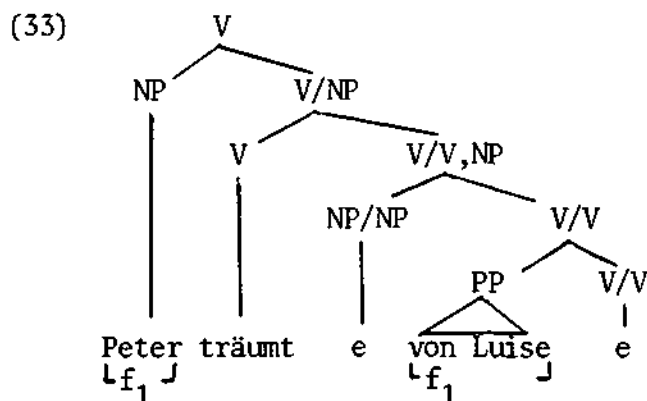


(32) allows us to account for the fact that focus placement is clearly dependent on syntactic structure, as I will show below, and that it is information needed in the logical as well as in the phonological component of the grammar. In 1.2, I already gave a sketch of the role of focus in the logical component. The role of focus in phonology can not be discussed here, but it is clear that focus is phonologically relevant, as German, like many other languages, marks focus by sentence stress and corresponding intonations.²⁵

But how do we get from S-structures to focus-marked S-structures? Here's a list of principles that define and/or restrict focus assignment to S-structures:

(A) Any number of non-overlapping constituents X_1, \dots, X_n may be marked with i -indexed focus brackets, i.e. $\lfloor_{f_i} X_1 \rfloor, \dots, \lfloor_{f_i} X_n \rfloor$ (for any natural number i).

" X_j " ($1 \leq j \leq n$) stands for a subtree whose terminal string is enriched with the lowered brackets " \lfloor_{f_i} " and " \rfloor " on its left and on its right edge, respectively. Among other things, (A) accounts for the fact that the focus, be it bound or not, may have several parts, like in (33):



(as an answer to 'Who dreams of whom?')

Cases like this one, where $n > 1$ (cf. (A)), must be distinguished carefully from cases where the focus (or a part of it) is a complex constituent (like the second part of the focus in (33)) and from cases where there is more than one focus (i.e. where (A) has been applied at least twice, with different choices of i), like in (34) below.²⁶

The second principle takes care of focus-binding:

- (B) Constituents with the feature [optionally focus-inducing] may be, constituents with the feature [obligatorily focus-inducing] must be coindexed with a focus $\downarrow_{f_i}^{X_i}$, ..., $\downarrow_{f_i}^{X_n}$. No constituent can be coindexed with more than one focus.

As was already pointed out in 2., the class of expressions that obligatorily induce focus includes the scalar particles of German. Optionally focus-inducing are negation words, sentence adverbials, verbs of propositional attitude, and probably a few more types of expressions. Note that (B) allows occurrences of free (i.e. non-coindexed) focus even in the vicinity of expressions that obligatorily induce focus:

- (34) Péter träumt nur₁ von Luise.
 \downarrow_{f_2} \downarrow_{f_1}

(as an answer to: 'Who dreams only of L.?.')

While (A) and (B) somehow define focus assignment, all the following principles restrict it. An important syntactic restriction for bound focus is (C):

- (C) If a focus is bound (i.e. coindexed, cf. (B)), all of its parts must be c-commanded by the binding element.²⁷

This principle explains the oddity of the following examples:

- (35) ?daß Peter Luise das Buch nicht₁ empfiehlt(, sondern Gërda)
 \downarrow_{f_1}

that P. L. the book not recommends but G.
 'that P. doesn't recommend the book to L. (but to G.)'

- (36) ?daß Peter Luise das Buch sogar₁ empfiehlt
 \downarrow_{f_1} even

- (37) *Gërda bedauert, daß sogar₁ Peter Luise das Buch empfiehlt
 \downarrow_{f_1}
 G. regrets

- (38) ??Peter träumt von nur₁ einer schönen Frau
 \downarrow_{f_1}

P. dreams of only a beautiful woman

- (39) ??Peter träumt von nur₁ einer schönen Frau.
 \downarrow_{f_1}

According to the syntactic rules sketched in 3., the adverbial does not c-command its focus in any of these examples. Note also the difference between (39) on the one hand and (40) and (41) on the other:

(40) Peter träumt nur₁ von einer schönen Frau_{f₁}.

'Peter only dreams of a beautiful woman'

(41) Peter liebt nur₁ eine schöne Frau_{f₁}.

loves

In contrast to (39), the particle in (40) and (41) c-commands the focused NP in at least one reading (the one in which nur modifies a verb phrase, as described by rule (16)). Therefore, both sentences are fully acceptable.

Note further that in (42),

(42) Nicht₁ Péter träumt von Luise_{f₁}(, sondern Luise von Péter).

'Peter doesn't dream of Luise. Rather Luise dreams of Peter'

the negation adverbial c-commands all parts of its focus only under the assumption that rule (16) has been applied, i.e. only if nicht is interpreted as a modifier of the whole sentence. Given the validity of principle (C), this, of course, is another argument for (18a) and against (18b), cf. 3.

But how can we explain the difference between (37), which is totally absurd, and, say, (35), which is not very good, but far from being absurd? It seems to me that (37) violates two principles. Principle (C) is violated, but also principle (D), which is not violated in (35):

(D) If a focus is bound it must be in the S-scope of the binding element.

S-scope is the S-structural configuration that corresponds to logical scope. As I have shown in Jacobs 1982b, S-scope in German is a combination of precedence and certain locality principles. These locality principles prevent S-scope from transcending certain bounding nodes, the most important of which is $\left[\begin{smallmatrix} V \\ \langle \emptyset \rangle \end{smallmatrix} \right]$, i.e. the S^n -nodes of \bar{X} -theory ($0 \leq n$). Precedence is relevant for scope-carrying constituents, e.g. adverbials and quantifying NPs. In any S-structure (but see below), a scope-carrying constituent X is in the S-scope of another scope-carrying constituent Y iff a) X is preceded by Y and b) X is dominated by every scope-bounding node that dominates Y. On the other hand, a non-scope-carrying constituent X (e.g. a name, a personal pronoun, a sentence) is in the S-scope of any scope-carrying Y such that

X is dominated by every scope-bounding node dominating Y.²⁸

Now, (37) violates (D) because in the corresponding S-structure at least one of the scope-bounding sentential nodes dominating the binding adverbial does not dominate its focus.

(35), on the other hand, does not violate (D). Here, the focus is dominated by all bounding nodes dominating the adverbial and, being a name, it does not have to be preceded by the adverbial to be in its S-scope.

Our third restriction for focus assignment has already been discussed extensively in the literature, e.g. in Lenerz 1977 and Höhle 1982:

(E) In case of non-normal NP-order in the Mittelfeld, the last NP must contain the only focus in the sentence.²⁹

(E) excludes examples like (43) and (44):

(43) ? Luise empfiehlt (nur₁) das Buch ihrer Mutter.
 \downarrow \downarrow
 L_{f_1} \downarrow
 the book (acc) her mother (dat)

(44) ? Luise zieht (nur₁) der Bibel 'Gravity's rainbow' vor
 \downarrow \downarrow
 L_{f_1} \downarrow
 prefers the bible (dat) 'G.R.' (acc) verb-prefix
 'L. prefers 'G.R.' (only) to the bible'

The normal order of the objects of empfehlen ('recommend') is $[d]$ ^{NP} before $[a]$ ^{NP}. Therefore, (E) rules out (43). Vorziehen ('prefer'), on the other hand, normally requires $[a]$ ^{NP} before $[d]$ ^{NP}. According to (E), this is the reason for the oddity of (44).

Note also that (43) and (44) with final focus are O.K., cf. (43a) and (44a), and that the corresponding sentences with normal order of objects do not require final focus, cf. (43b) and (44b):

(43a) Luise empfiehlt das Buch (nur₁) ihrer Mutter.
 \downarrow \downarrow
 L_{f_1} \downarrow

(44a) Luise zieht der Bibel (nur₁) 'Gravity's Rainbow' vor.
 \downarrow \downarrow
 L_{f_1} \downarrow

(43b) Luise empfiehlt (nur₁) ihrer Mutter das Buch.
 \downarrow \downarrow
 L_{f_1} \downarrow

(44b) Luise zieht (nur₁) 'Gravity's Rainbow' der Bibel vor.
 \downarrow \downarrow
 L_{f_1} \downarrow

The last condition on focus-marked S-structures that I would like to discuss here³⁰ restricts the position of focus-binding adverbials:

- (F) For any focus-marked sentential S-structure S and any occurrence A of an adverbial in S: S is only well formed if there is no focus-marked S-structure S' such that:
- a) S' is well formed according to all other principles of the grammar;
 - b) S' differs from S only in that A is farther to the right in S';
 - c) A has the same S-scope in S and S', i.e. a constituent is in the S-scope of A in S iff it is in the S-scope of A in S'.

To put it more simply, this condition requires that adverbials stand as far to the right in German sentences as their given scope and their given focus allow, cf. (45) and (46):

(45) ??Peter gab $\left\{ \begin{array}{l} \text{nur}_1 \\ \text{auch}_1 \\ \text{nicht}_1 \end{array} \right\}$ ihr ein Büch.
 \downarrow_{f_1}

gave her a book

(46) Peter gab ihr $\left\{ \begin{array}{l} \text{nur}_1 \\ \text{auch}_1 \\ \text{nicht}_1 \end{array} \right\}$ ein Büch.
 \downarrow_{f_1}

The S-structures corresponding to (45) are excluded by (F) because there are well-formed focus-marked S-structures which differ from them only in that the adverbial stands farther to the right, without having different S-scope, namely the S-structures corresponding to (46). Note that there are many cases in which (F) does not exclude an early position of the adverbial, e.g. (47) and (48):

(47) Peter wollte nur₁ mit einem der Gefangenen spréchen.
 \downarrow_{f_1}

P. wanted only with one of-the prisoners talk

'Peter only wanted to talk with one of the prisoners'

(48) Peter gab nicht₁ Luíse das Buch.
 \downarrow_{f_1}

The reason why (47) is not excluded by (F) is that the adverbial would change its S-scope if moved to the right. (48) is not prohibited because, of course, there simply isn't any well formed alternative, cf. (48a) and (48b), which are both excluded by (C):³¹

(48a) ?Peter gab Luíse nicht₁ das Buch.
 \downarrow_{f_1}

(48b) ?Peter gab Luíse das Buch nicht₁.
 \downarrow_{f_1}

I will now turn to some possible counterexamples to (C) and (D). First note that in (49),

(49) daß Peter keine₁ Wohnung káufte(, sondern nur eine mietet)

that P. no flat bought but only one rented

'that P. didn't buy a flat but only rented one'

the determiner keine does not c-command its focus, the verb kaufte. But that's not really a problem for our theory. There are a lot of independent reasons³² for assigning (49) an S-structure of the form (49a),

(49a) daß (Peter(NEG((eine Wohnung) kaufte)))

i.e. an S-structure in which kein is decomposed into an abstract negative adverbial NEG and an indefinite article. Semantic considerations show that in (49a), only NEG can be regarded as the focus-binding element. If this is so then the focus-binding element c-commands its focus in (49a) as required by (C).³³

A much more severe problem for our theory arises in connection with examples like the following:

(50) Das Búch empfielt Luise ihm nícht₁.

'L. doesn't recommend the book to him'

(51) Luise empfielt ihm das Buch áuch₁.

'L., too, recommends the book to him'

(52) daß Luise ihm das Buch áuch₁ empfielt

'that L. recommends the book to him, too'

In these cases, the adverbial does not c-command its focus, given the syntactic rules of 3. But as condition (C) seems to be the obvious explanation for data like (35) - (39), we certainly wouldn't want to simply drop it. The solution to this problem becomes obvious when we have a closer look at (50). In this sentence, the adverbial doesn't c-command its focus, but, according to the rules sketched above, it c-commands the trace of its focus in at least one of the possible S-structures for this sentence:

(50a) ((_{NP} das Buch) (_V / _{NP} empfielt (_{V/V}, _{NP} (Luise _{NP} (ihm _{NP} (nicht _{ADV} (e _{NP/NP} e _{V/V}))))))))
[a] [a] [a] [n] [d] [a] [a]

So it seems that if we weaken our condition (C) in the following way the problem disappears:

(C') If a focus is bound, the binding element must c-command all of its parts or the trace of a constituent containing all of its parts.³⁴

Note that we need this modification of (C) not only to cover cases like (50) but also to account for the fact that the finite verb in v2- and v1-sentences can be the focus of an adverbial following it in linear order:

(53) Luise emp^fiehlt ihm das Buch nicht₁.
_[f₁]

(Remember that the finite verb has been moved out of sentence final position in (53), cf. (50a) and (51a) below.)

But what about (51)? To let the adverbial c-command the trace of its focus here, we would have to assume 'hidden' non-normal NP-order, like in (51a) or (51b):

(51a) (Luise_[n]_{NP}(emp^fiehlt(ihm_[d]_{NP}((_[a]_{NP}das Buch)(auch(e_[n]_{NP} / _[n]_{NP} e_{V/V}))))))

(51b) (Luise(emp^fiehlt(ihm(_[n]_{NP}das Buch(auch(e_[n]_{NP} / _[n]_{NP}(e_[n]_{NP} / _[n]_{NP}(e_{V/V}))))))))

(51a) requires a non-transformational explication of non-normal NP-order in the Mittelfeld (objects before the subject), combined with the transformational treatment of 'topicalization' sketched above. (51b), on the other hand, describes non-normal NP-order in the Mittelfeld as a result of movements. A decision between these two alternatives is, of course, not easy. Actually, it is one of the most difficult issues in German syntax. Without giving the arguments here, I will assume that in general (see below) non-normal NP-order in the Mittelfeld does not involve movement (another assumption that I share with Sternefeld 1982). So I assume that (51) has the S-structure (51a).

But now look at (52). The only S-structure in line with all the assumptions that I made above is (52a):

(52a) daß(Luise(ihm_[d]_{NP}(das Buch(auch(e_[d]_{NP} / _[d]_{NP} emp^fiehlt))))

Here, of course, we have NP-movement in the Mittelfeld. Still I would maintain that in general, there is no NP-movement in the Mittelfeld. To do this, I must show that (52) is exceptional, somehow 'marked'. This is fairly easy to do. First note that whereas we can replace auch by any other focus-inducing adverbial in (51), this is not possible in (52b):

(52b) [?]daß Luise _{f₁} ihm das Buch $\left\{ \begin{array}{l} \text{nur}_1 \\ \text{nicht}_1 \\ \text{vermutlich}_1 \end{array} \right\}$ empfiehlt

Further note that while (54) is perfect, (55) is rather terrible:

(54) Linguist_{f₁} ist er auch₁.

linguist is he too

'He is a linguist, too'

(55) ^{??}daß er Linguist_{f₁} auch₁ ist

So it seems that the movement of a NP-focus in the Mittelfeld is indeed exceptional in that it is restricted to only a certain subclass of focus inducers and only a subclass of their possible NP-foci. Using the feature system of GPSG, it is not difficult to account for these restrictions.

Now that we have saved condition (C), let's ask what happens to condition (D) in cases like (50) - (52). Remember that S-scope is the S-structural configuration that corresponds to logical scope inclusion. This means that the general description of S-scope for a given language L must be such that for every pair of expressions X and Y of L, X is in the S-scope of Y if and only if in logical form the counterpart of X is in the logical scope of the counterpart of Y. Now, in (51) Luise is in the logical scope of the adverbial, but according to the description of S-scope in German given above, it is not in the S-scope of the adverbial. The reason is that there are two scope-bounding [$\langle \emptyset \rangle$]-nodes that dominate the adverbial without dominating Luise.

Moreover, in (56),

(56) Oft_{f₁} kam Luise nicht₁.

often came L. not

'L. didn't come often'

the logical operator corresponding to oft is in the scope of negation (in one reading of the sentence). But here, the sentence initial element does not only violate scope-bounding as described above but also is in conflict with the condition that a scope-carrying expressions X within the S-scope of another scope-carrying expression Y must be preceded by the latter.

These facts show that what we have to change is not condition (D) but rather our description of S-scope in German. It seems that S-scope should be described as follows:

For all scope-carrying X and Y: If X doesn't have a trace, X is in the S-scope of Y iff X is preceded by Y and dominated by every scope-bounding node dominating Y; if X has a trace, X is in the S-scope of Y iff the trace of X is preceded by Y and dominated by every scope-bounding node dominating Y.

For all non-scope-carrying X and scope-carrying Y: X is in the S-scope of Y iff X or its trace is dominated by every scope bounding node dominating Y

With this description of S-scope, the focused subject in (51) is in the S-scope of the adverbial as required by (D). Moreover, oft is in the S-scope of nicht in (56), given the S-structure (56a):

(56a) (Oft_{ADV}(kam(Luise(nicht(e_{ADV/ADV} e_{V/V}))))))

Note that our rules predict that (56) has a second reading in which oft is not in the scope of negation, namely the one corresponding to the S-structure (56b):

(56b) (Oft(kam(Luise(nicht e_{V/V}))))

Here, nicht is in the S-scope of oft. And indeed, (56) can be used to claim that it often happened that Luise didn't come. (The two readings can be distinguished by intonation.)³⁵

To close this section, let's see whether examples like (50) - (52) and (56) cause any problems for the other two restrictions that were discussed above. First, it is clear that (E) counterintuitively predicts (51) to be deviant, given that this sentence has the S-structure (51a), as I have proposed. But to obey (E), (51) would have to have focus on an empty element (the trace of Luise). This, so it seems to me, is impossible. To be more precise, I would claim that the following principles overrides all other conditions stated so far:

(G) In any focus $\langle X_{f_1} \rangle, \dots, \langle X_{f_n} \rangle$, no $\langle X_j \rangle$ ($1 \leq j \leq n$) can have "e" as its terminal string.

Given that (G) should prevail over (E), (51a) with focus on Luise is well formed (as this choice of focus is not prohibited by any condition other than (E)).³⁶

Fortunately, condition (F) does not require any additional stipulations when confronted with examples like (50) - (52) or (56). It correctly predicts that (57), for example, is not fully acceptable, as there is a well formed alternative in which the adverbial has been moved farther to the right without changing its focus or its S-scope, viz. (51):

(57) ^{??}Luise empfiehl₁ auch₁ ihm das Buch.
_{f₁} ↓

Note finally that (F) does not rule out (58) in favor of (51):

(58) Auch₁ Luise empfiehl₁ ihm das Buch.
_{f₁} ↓

The reason is that the focus-marked S-structure of (51) (cf. (51a)) differs from (58a) in more than just the placement of the adverbial, as would be required by (F) to block (58):

(58a) (Auch₁ (Luise (empfiehl₁ (e_{NP/NP} (ihm (das Buch e_{V/V}))))))
_{f₁} ↓ [n][n]

5. Is focus configurational in German?

The analysis of bound and free focus³⁷ sketched in the preceding chapter is essentially based on free focus placement, as described by principle (A), together with a modular theory of restrictions on focus placement, cf. (C'), (D) - (G). As an alternative to this analysis, one might propose a theory which assumes an underlying fixed focus position, deriving all other focus positions by movement out of this fixed position. Here, restrictions for focus placement would largely have the form of conditions on focus movement. Such a theory would be similar to the one Kiss (1981) proposed for Hungarian. In closing this paper, I would like to point to some severe disadvantages that such a theory would have, given the German data. In order not to treat the most obvious and most frequent cases of focus placement as derived or even non-existent, any such theory would fix focus on one of the NPs that serve as complements of the main verb, probably on the last NP preceding the main verb in v1- or v2-position.³⁸ Unfortunately, by doing this, one would exclude many focus placements which might be less obvious, even less frequent, but nevertheless are fully acceptable in German. First of all, one would exclude focus on the finite verb, like in (53), unless one would be willing to assume movement from an NP position to the finite verb position. Secondly, one would exclude focus on complex

verb phrases, like in (59),

(59) daß Peter nicht₁ die Polizéi holte_J(, sondern davonlief)

that P. not the police called but ran away
'that Peter didn't call the police but ran away'

unless one has a strange rule that somehow blows up the underlying focus (which would be die Polizei in (59)). Thirdly, one would exclude focus on expressions that are proper parts of NPs, like in (13), and fourthly, one would exclude multiple foci, like in (33), for obvious reasons. Note that, on the other hand, the theory that I proposed can handle all these cases without any additional principles or rules. From this I conclude that German is a language that doesn't have a fixed focus position, i.e. a language in which focus (and correspondingly background) is not configurational.³⁹

NOTES

- 1: Cf. Chafe 1976.
- 2: Cf. Sgall 1979.
- 3: Following Chomsky 1971, generative grammarians often use the dichotomy topic/focus. In the view that I'm going to propose, this doesn't make much sense, unless, of course, "topic/focus" is used as just a different label for either background/focus or topic/comment.
- 4: Topic and comment are indicated by " $\Gamma^T \dots \Uparrow$ " and " $\Gamma^C \dots \Uparrow$ ", respectively.
- 5: Focus is indicated by " $\Gamma_f \dots \Downarrow$ ".
- 6: Cf. Panhuis 1982.
- 7: Cf. Dooley 1982.
- 8: Cf. Kiss 1981. A broader discussion of topic/comment can be found in Jacobs 1984.
- 9: (5) and (7) also admit other foci, e.g. narrow focus on Schwester.
- 10: Cf. v. Stechow 1984, Jacobs 1983.
- 11: However, there is an important difference between (2')/(3') and (5a')/(6a'). The latter are representations of truth conditions, the former, as I said above, are representations of illocutionary meaning. The assumption of different levels of semantic focus representations is discussed in Jacobs 1984.
- 12: Cf. Jacobs 1983. But note that there are uses of words like nur and auch in which they cannot be regarded as scalar particles (but rather are conjunctions, modal particles etc., cf. Altmann 1976). In some of these uses, nur, auch etc. do not induce focus.

- 13: Cf. Jacobs 1983, chap. 5; Jacobs, forthcoming.
- 14: A short outline of GPSG is Gazdar 1982.
- 15: But note that in Gazdar 1982 the possibility of multiple gaps in languages like Icelandic or Swedish is explicitly acknowledged. It seems that in German we cannot have more than three gaps in a constituent. This formal restriction on *n* will ensure that our grammar is context free, cf. Gazdar 1982, 177.
- 16: Cf. Jacobs 1982b, Jacobs 1983.
- 17: PS rules are stated as node admissibility conditions. Rule (16) is not intended to capture cases in which adverbials serve as complements of verbs, like in Peter wohnt in Braunau ('Peter lives in Braunau').
- 18: Note that lexical insertion is CF in our framework. Symbols like "(_vB)" are chosen only for mnemonic reasons.
- 19: Cf. Jacobs 1983, 62 - 64.
- 20: In the first reading, the sentence means 'Not a single woman dreams of Peter' (thanks to Werner Abraham for the gloss). In the second reading (the one in which (16) has been applied), negation is contrastive, meaning 'Not X, but Y', where X and Y depend on the choice of sentence stress.
- 21: The three advantages of my analysis that I pointed out above (the correct prediction of a) the ungrammaticality of (23) - (24), b) the asymmetry between (24) and (25), c) the ambiguity of (29)) do not exhaust the list of possible arguments in favor of (18a) and against (18b). One more argument will be given below (see the discussion of (42)). But already now, it should have become clear that T. Höhle is not on the right track when he claims (as he did in his talk at the conference) that facts that speak against (18b) (e.g. the ungrammaticality of (23)) are 'learnable exceptions'. How can a child learn the asymmetry between (24) and (25)?
- 22: But note that the existence of this rule can be predicted from rule (16) by a very general metarule of German grammar; cf. Jacobs 1983, 3.2.1.3.
- 23: Non-contrastive nicht cannot be immediately adjacent to indefinites. The most elegant way to capture this principle is a filter. (A less elegant explication can be found in Jacobs 1982b.)
- 24: Most of the work in GPSG assumes that there is a 'rule-to-rule' relation between syntax and semantics. This assumption (which is also at the base of Montague Grammar) seems highly dubious to me now, but to discuss this issue would lead me too far astray.

- 25: In Jacobs 1982a, I have sketched a procedure that maps focus-marked S-structures into metrical representations of stress which were assumed to be the input of rules of intonation. A different view on the relation between focus, stress and intonation, based on proposals by Selkirk (1982), has been sketched in v. Stechow's and Uhmann's paper in this volume. I cannot discuss their theory here, but it seems to be compatible with (32) and the proposals concerning the syntax of focus to be made below.
- 26: These distinctions have logical as well as phonological relevance (for the former, see Jacobs 1983 and Jacobs 1984, for the latter, see Jacobs 1982a). They cannot be fully accounted for in some of the existing formal descriptions of focus, e.g. in the theories developed in Sgall/Hajicová/Benesová 1973 and in Höhle 1982.
- 27: A node X c-commands a node Y iff the first branching node dominating X dominates Y and neither X dominates Y nor Y dominates X.
- 28: This is a somewhat simplified version of the rules of S-scope in German. For example, it does not account for the fact that, if X is in the S-scope of Y, any proper part of X also is in the S-scope of Y. (This makes it clear that we actually need a recursive description of S-scope.)
- 29: If one doesn't want to use terms relating to linguistic preferences in grammatical rules (cf. Vennemann 1983), one could replace the expression 'non-normal NP-order in the Mittelfeld' in (E) by a description of the relevant syntactic configurations without loss of content (e.g. 'non-pronominal, α definite $\text{NP}_{[x]}$ before non-pronominal, α definite $\text{NP}_{[y]}$ in the Mittelfeld, if the main verb has the feature $\langle x, y, z \rangle$, for all cases x, y and z').
- 30: Phonological restrictions on focus-marked S-structures are discussed in Jacobs 1982a. Among other things, these restrictions require that the numerical indices on our focus-marking brackets be ordered in a certain way: If a focus inducer X is in the logical scope of another focus inducer Y, then the focus of Y must have a higher index than the focus of X. Together with the rules that map focus-marked S-structures into metrical structures, this accounts for certain stress subordination phenomena.

A phonological (more precisely: rhythmical) restriction not discussed in Jacobs 1982a is the one that rules out focus placements like in

Nur₁ Peter schläft. ('Only P. is sleeping'), cf. Jacobs 1983, 88 - 90.

- 31: A much more extensive discussion of (F) can be found in Jacobs 1983.

- 32: Cf. Jacobs 1982b.
- 33: The rule that combines NEG and eine to form keine is a 'late' rule, i.e. it applies after focus-marking. (It is part of the system of rules that map focus-marked S-structures into phonological representations.)
- 34: Among other things this rule predicts the non-existence of 'split' foci like in Das Buch empfiehlt nicht₁ Luíse ihm. In this case, nicht neither c-commands all parts of the bipartite focus nor is the c-commanded empty NP the trace of an expression containing all parts of the focus. (Obviously, das Buch contains only the first part of the focus.) As far as I can see, this prediction is borne out by the facts.
- 35: A broader discussion of scope ambiguities in German can be found in Jacobs 1982b.

An obvious problem for our revised description of S-scope in German is wh-movement. If it is true - as some people have claimed - that in a sentence like Was hat Peter einigen seiner Freunde gestern erzählt? ('What did Peter tell some of his friends yesterday?') the initial question word is a quantifier with scope over all other parts of the sentence ('For all x: I want to know whether Peter told some of his friends x yesterday', cf. Zaefferer 1984), then some of the possible S-structures of such sentences (those in which the trace of the question word is preceded by a scope-carrying constituent) falsify our description of S-scope. However, I think it could be shown that question words aren't wide-scope quantifiers but rather free variables which receive quantifying force only in virtue of their broader syntactic environment. Under this assumption, our description of S-scope makes correct predictions for wh-movement.

- 36: Note that (G) does not prohibit focus placements like in Luíse(empfiehlt(e_{NP/NP}(ihm(das Buch e_{V/Vj})))) (as an answer to 'What does Luíse do with him?').
- 37: Note that our principles (A) - (G) also capture free (i.e. non-coindexed) focus. (C) and (D), however, apply vacuously in such cases.
- 38: This is in line with the fact that universally, the focus tends to be immediately preverbal (in OV-languages) or postverbal (in VO-languages) in the unmarked case. Cf. Harries-Delisle 1978.
- 39: But note that I wouldn't deny that German has one or more preferred (or unmarked) focus positions; cf. principle (E) and footnote 38.

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