PARASITIC GAPS IN GERMAN

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1. Introduction

In this paper I wish to examine a number of structural configurations in Standard and Bavarian German which appear to share certain properties with what, in recent analyses of English, has been called 'parasitic gap constructions' (see Taraldsen 1979; Engdahl 1981; Chomsky 1982).

The notion 'parasitic gap' refers to a particular type of occurrence of an empty category which, among other things, crucially depends on the presence of a further gap in the sentence, usually created by some movement rule. The sentences in (1) and (2) are one of the classical examples illustrating the relevant contrast:

(1) *John filed the articles without reading *e*
(2) which articles did John file *t* without reading *e*

(1) is ungrammatical because of the empty category (henceforth EC) after *reading*; in this construction a pronoun such as *them* is obligatory to make the sentence acceptable. If, however, as in (2), the object of *file* is extracted leaving behind a trace, then also the embedded clause may optionally have an EC in object position. That is to say, the EC *e* in (2) is somehow dependent on or licensed by, the wh-trace in the matrix sentence.

The type of contrast we observe in (1) and (2) is highly significant for any theory of grammar. Note, first of all, that parasitic gaps seem to constitute an extremely marginal phenomenon in natural languages. Many of these constructions sound more or less odd[1], and yet most speakers have very clear intuitions about contrasts such as the one between (1) and (2). Because of the marginal status of parasitic gaps we do not want to postulate any principles or rules to deal specifically with this type of construction; rather, we are led to assume that the distribution and properties of parasitic gaps should automatically follow from (independently motivated) principles of Universal Grammar interacting with the idiosyncratic properties of a particular language.

This assumption reflects considerations relating to what is generally called the logical problem of language acquisition (see Hornstein & Lightfoot 1981). Since it is extremely unlikely that children acquiring a language will receive any direct evidence concerning the specific properties of parasitic gaps, we can reasonably suppose that knowledge of contrasts such as the one between (1) and (2) derives from principles of Universal Grammar in conjunction with more general properties of a particular language.

Chomsky (1982) has successfully shown that the distribution of parasitic gaps in English follows quite naturally from principles of the Binding Theory and from the functional definition of empty categories which were developed to account for a large range of grammatical facts totally independent of parasitic gaps. Consequently, the existence of parasitic gaps can be taken to provide further confirming evidence for the assumption that the proposed principles of Universal Grammar are, in fact, correct.

It follows from this line of reasoning that those properties of parasitic gaps that directly derive from principles of Universal Grammar should hold across languages, while language-specific differences in the distribution of parasitic gaps should reflect independent idiosyncracies of individual grammars.

It is the purpose of this paper to show that the types of parasitic gap constructions that occur in certain varieties of German are, in fact, subject to the general constraints on parasitic gaps as they follow from the theory of Government and Binding. Where German parasitic gaps differ from comparable constructions in English, independent grammatical differences between the two languages seem to be the cause.

2. Some gap-constructions in Bavarian German

In many varieties of colloquial Bavarian we find a fairly common construction which is not generally acceptable in the standard language[2].

Consider the following sentences:[3,4]

(3) das ist der Kerl$_i$ den$_i$ wenn ich e_i erwisch, erschlag ich e_i
this is the guy$_i$ who$_i$ if I e_i catch, beat I e_i
"this is the guy who I will beat (up) if I catch him"

(4) das ist das Buch$_i$ das$_i$ wenn ich e_i finde, kauf ich e_i auch
this is the book$_i$ which$_i$ if I e_i find, buy I e_i also
"this is the book which I will buy if I can find it"

(5) ich bin ein Typ$_i$ der$_i$ wenn e_i gefordert wird, leistet e_i auch etwas
I am a type$_i$ who$_i$ if e_i challenged is, accomplishes e_i something
"I am the kind of person who accomplishes something if he is challenged"

(6) das ist eine Frau$_i$ die$_i$ wenn e_i etwas verspricht, hält e_i es auch
this is a woman$_i$ who$_i$ if e_i something promises, keeps e_i it also
"she is a woman who keeps her promises if she promises sth."

Constructions such as (3) - (6) have a number of properties which appear to be particularly relevant with respect to the question of how the above sentences should be properly analyzed.[5]

1.
The embedded *if*-clause immediately follows the wh-pronoun and precedes the final clause. It is above all this property which marks the construction as typically dialectal. In Standard German (much as in English) the *if*-clause would have to appear at the end of the sentence as in (7), in which case the object position is obligatorily filled with a pronoun:

(7) das ist der Kerl$_i$ den$_i$ ich e_i erschlag, wenn ich $\left\{\begin{matrix} e_i \\ \text{ihn}_i \end{matrix}\right\}$ erwisch

this is the guy$_i$ who$_i$ I e_i beat if I $\left\{\begin{matrix} e_i \\ \text{him}_i \end{matrix}\right\}$ catch

"this is the guy who I will beat (up) if I catch him"

2.
The verb of the final clause precedes its subject. Both in Bavarian and Standard German this is not the regular word order in relative clauses which normally have SOV rather than VSO order:

(8) das ist der Kerl$_i$ den$_i$ ich e_i erschlag
this is the guy$_i$ who$_i$ I e_i beat (up)

(9) *das ist der Kerl$_i$ den$_i$ erschlag ich e_i
this is the guy$_i$ who$_i$ beat I e_i

3.
There are two empty categories in (3) - (6) both co-indexed with the respective wh-pronoun.

These three properties are mutually dependent. The VSO word order in the final clause is possible if and only if the *if*-clause immediately follows the wh-phrase; the second gap can occur if and only if the final clause has VSO order. The following sentences are therefore ungrammatical:

(10) *das ist der Kerl$_i$ den$_i$ wenn ich e_i erwisch, ich $\left\{\begin{matrix} e_i \\ \text{ihn} \end{matrix}\right\}$ erschlag
this is the guy$_i$ who$_i$ if I e_i catch, I $\left\{\begin{matrix} e_i \\ \text{him}_i \end{matrix}\right\}$ catch

(11) *das ist der Kerl$_i$ den$_i$ erschlag ich e_i wenn ich $\overset{e_i}{\text{ihn}_i}$ erwisch

this is the guy$_i$ who$_i$ beat I e_i if I $\overset{e_i}{\text{him}_i}$ catch

(12) *das ist der Kerl$_i$ den$_i$ ich e_i erschlag, wenn ich e_i erwisch

this is the guy$_i$ who$_i$ I e_i beat, if I e_i catch

In order to arrive at a correct analysis and structural description of the sentences (3) - (6), at least the following questions need to be answered:

1. What is the D-structure position of the wh-phrase? Two possibilities need to be considered. The wh-phrase could either have been moved from the subject/object position of the *if*-clause or from the subject/object position of the final clause.

2. Which node dominates the *if*-clause, i.e. what is the structural relation between the *if*-clause and the rest of the sentence?

3. What is the configurational relationship between the two gaps? Obviously, the answer to this question crucially bears on the issue of whether or not (3) - (6) qualify as parasitic gap constructions.

Let us first consider the derivational origin of the wh-phrase (*den, das, der, die* in (3) - (6) respectively). I wish to argue that, contrary to what one may intuitively expect, the wh-phrase has been extracted from the *if*-clause rather than from a position in the final clause. This implies that the wh-pronouns are in the COMP of the *if*-clause and not in the COMP of the final clause.[6]

Consider the following sentences:

(13) das ist der Wein$_i$ den$_i$ wenn ich e_i trink, krieg ich Kopfweh

this is the wine$_i$ which$_i$ if I e_i drink, get I headache

(14) das ist die Frau$_i$ die$_i$ wenn du e_i heiratest, bist du verrückt
this is the woman$_i$ who$_i$ if you e_i marry, are you crazy

In both (13) and (14) there is only one gap from which the wh-phrase could have been extracted, namely the object position of the *if*-clause. In other words, the *wh...if* construction depends exclusively on the presence of an empty category in the *if*-clause, and is thus also possible in those cases in which the final clause is fully lexicalized (i.e. has no gaps).

Further evidence suggesting that the wh-phrase has been extracted from the *if*-clause rather than from the final clause comes from those sentences in which the verbs of these two clauses assign different (morphological) cases.

Consider the following sentences:

(15) das ist der Kerl$_i$ *den*$_i$ (acc.) wenn ich e_i treff, werd ich e_i helfen
this is the guy$_i$ whom$_i$ (acc.) if I e_i meet, will I e_i help

(16)*das ist der Kerl$_i$ *dem*$_i$ (dat.) wenn ich e_i treff, werd ich e_i helfen
this is the guy$_i$ whom$_i$ (dat.) if I e_i meet, will I e_i help

The two German verbs *helfen* (help) and *treffen* (meet) assign different morphological cases to the object-NPs they govern: *treffen*assigns accusative, whereas *helfen* assigns dative case. Note that in (15) and (16) the wh-phrase inherits the case of the trace in the *if*-clause and is blind to the case-assigning properties of the verb in the final clause. It thus seems clear that the wh-phrase originates in the *if*-clause.

On the basis of these considerations I wish to propose the following S-structure for the *if*-clauses in (3)-(6) which is the result of a rule moving the wh-phrase to the left of *wenn* (*if*):

(17) $[_{\bar{S}}\ [_{COMP}\ wh...wenn\ (if)\ ]\ [_{S}NP\ [_{VP}\ e_i\ V]]]$ (for (3)/(4))

(18) $[_{\bar{S}}\ [_{COMP}\ wh...wenn\ \ if\ \ ]\ [_{S}e_i\ [_{VP}\ NP\ V]]]$ (for (5)/(6))

What is immediately striking about the structures in (17) and (18) is the doubly filled COMP. Note, however, that, in contrast to the standard language, Bavarian German has quite regularly doubly filled COMPs in indirect questions and in certain types of relative clauses:

(19) das ist der Mann den wo ich gestern gesehen habe
this is the man whom where I yesterday seen have
"this is the man who I saw yesterday"

(20) ich weiß nicht durch welche Straße daß er gegangen ist
I don't know through which street that he gone is
"I don't know through which street he passed"

(21) ich weiß nicht wann daß er heim kommt
I don't know when that he home comes
"I don't know what time he will come home"

Since doubly filled COMPs are a regular feature of Bavarian German, the *wh...wenn* sequence simply reflects more general properties of the dialect. In the standard language, however, the construction is not permitted because doubly filled COMPs are ungrammatical.

I will now turn to the second question, namely where the *if*-clause is located within the tree of the entire construction, in particular with respect to the final clause.

In what follows I will assume without further discussion that the word order rules proposed by Thiersch (1978) are essentially correct. Thiersch's theory accounts for the different word orders that may occur in German main and embedded sentences in terms of two basic rules that interact in various ways. The rule V-preposing moves the finite

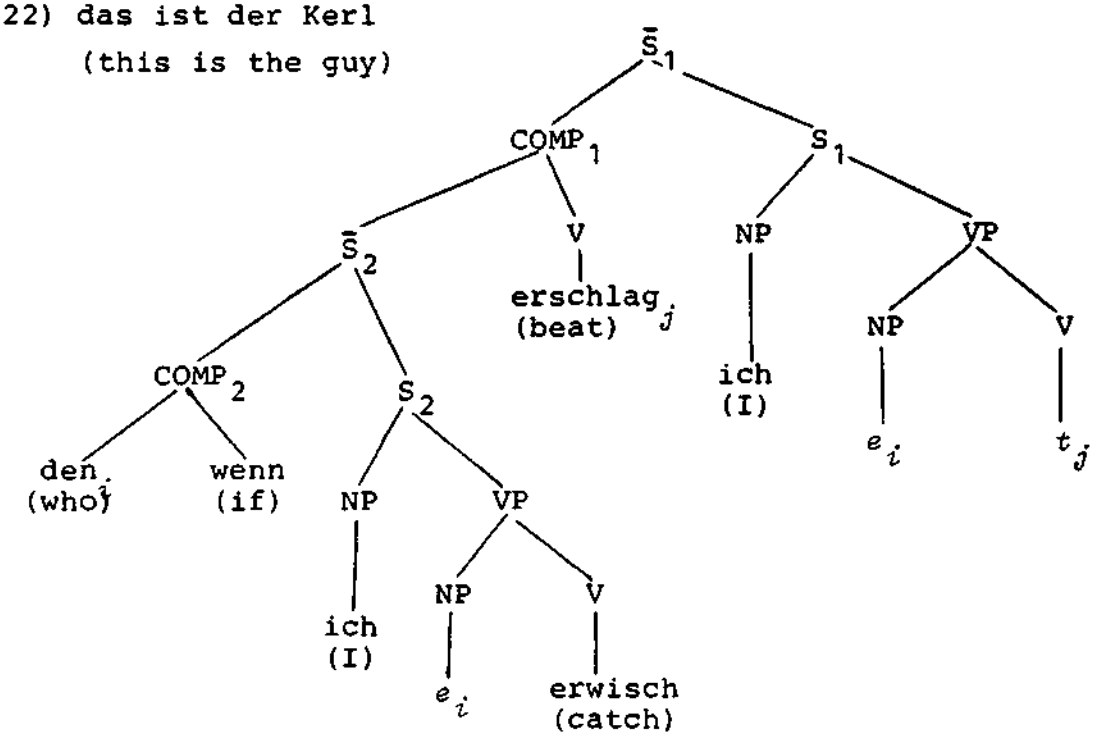
verb form into COMP, hence to sentence-initial position. The rule $\bar{X}$-preposing moves any one $\bar{X}$ category (NP, PP, AP) into the leftmost position under COMP. Both rules are optional and their application is independent of each other. If both rules are applied, then V-preposing applies first, so that the $\bar{X}$ category will always appear to the left of the finite verb form.

The SVO word order in German main clauses, e.g. *Hans liebt Maria* (John loves Mary), thus results from the application of both V-preposing and $\bar{X}$-preposing. Assuming an underlying SOV word order V-preposing moves the finite verb to sentence-initial position, thus yielding VSO which is the regular order in interrogative structures; subsequently, $\bar{X}$-preposing moves the subject to the left of the verb, yielding SVO. In the structural configuration of a standard main clause both S and V are in COMP, c-commanding the traces left in their original position.

Assuming this framework, let us look at (3) vicariously for (3) - (6). What seems to be crucial with respect to the question we are presently concerned with (namely the position of the *if*-clause within the entire tree) is that the verb of the final clause precedes its subject. Since this word order is only possible as a result of the application of V-preposing, we have to conclude that the verb *erschlag* (beat) is in COMP. Since, furthermore, the *if*-clause precedes this verb, it also has to be in COMP, presumably as some kind of left sister of the finite verb.[7]

As a first approximation we may therefore tentatively tentatively assume that a sentence such as (3) (and analogously (4) - (6)) has something like the following structure:

(22) das ist der Kerl
(this is the guy)



It is immediately obvious that there is something seriously wrong with this structural configuration. The empty category of S_1 is not $\bar{A}$-bound by the wh-phrase - as it should be - because *den* (who) is too "deep" in the tree, thus failing to c-command the EC of S_1 (though not the EC of S_2). If, however, the empty category of S_1 is not $\bar{A}$-bound by the wh-phrase, then, in terms of the functional definition of ECs (see Chomsky 1982), this empty category should be PRO, because PRO is the only empty that can have an independent θ-role (assigned by *erschlag* (beat)). But it cannot be PRO, because it is governed; hence the sentence should be ungrammatical which, of course, it is not.

It thus seems necessary to somehow move the wh-phrase higher up the tree so that it can be an $\bar{A}$-binder of both ECs. Two possibilities suggest themselves. We could either move *den* (who) from COMP$_2$ into COMP$_1$ leaving the rest of $\bar{S}_2$ in its position as in (22), or we could move the entire $\bar{S}_2$ into a position immediately dominated by $\bar{S}_1$, in which case $\bar{S}_2$ would be a left sister of COMP$_1$.

Let us first consider the former possibility. If we move *den* (who) into $COMP_1$, then this essentially amounts to a COMP-to-COMP movement, a fairly well-motivated process in linguistic theory. The basic assumption is that the wh-phrase moves cyclically from its D-structure object position to $COMP_2$ and then to $COMP_1$. While COMP-toCOMP movement in itself is well-motivated on independent grounds, we still need to answer the question why *den* (who) *must* move to $COMP_1$ rather than stay in $COMP_2$. It is difficult to answer this question on the basis of constructions such as (3) - (6) because both analyses yield the same surface order.

I believe that there is a wide-spread assumption among generative grammarians that, in relative clause constructions, the wh-phrase always has to be as close as possible to the head NP which the relative clause modifies. More specifically, there seems to be a principle which I will tentatively refer to as the Head-COMP Constraint[8] requiring that

(a) the wh-phrase must be in COMP
(b) if there is more than one COMP, the wh-phrase must be in the highest COMP, i.e. the COMP closest to the head NP

Some such principle seems to be necessary to account for the following facts (though the examples are taken from English, the same observations hold for German):

It is a well-known fact that in certain constructions the wh-phrase may stay *in situ* resulting in what is usually called echo questions. Consider the following sentences:

(23) John heard that who came
(24) you forgot if Chomsky said what
(25) the theory deals with what problem

Note, however, that wh-phrases may never stay *in situ* in relative clause constructions, where they *must* move to the

COMP position of the embedded sentence:

(26) *the man$_i$ John doesn't know who$_i$
(27) *the girl$_i$ John gave the book to whom$_i$

The ungrammaticality of (26) and (27) results from a violation of condition (a) of the Head-COMP Constraint. The same effect is, of course, obtained if the relative clause is more deeply embedded:

(28) * the man$_i$ I don't care if Bill hates who$_i$
(29) * the picture$_i$ I don't know to whom John gave which$_i$

It is clear that the co-indexed wh-phrase in (28) and (29) cannot be extracted from its D-structure position because the deepest COMP is already filled (by *if* and *to whom* respectively) and direct movement to the next higher COMP would violate Subjacency. What is crucial, however, is that the sentences are also ungrammatical if the wh-phrase is *not* extracted. Again, condition (a) of the Head-COMP Constraint seems to correctly account for this fact.

Consider next a structure in which both COMPs are "free":

(30) * the man$_i$ Bill said John saw who$_i$

Again, (30) is ruled out by condition (a). If *who* is moved to COMP, it must be the COMP adjacent to the NP *the man*. Consequently (31) is excluded by condition (b) of the Head -COMP Constraint, whereas (32) is fully grammatical:

(31) * the man$_i$ Bill said who$_i$ John saw
(32) the man$_i$ who$_i$ Bill said John saw

We may thus conclude that the necessity of moving *den* (who) in (3) into COMP$_1$ can be motivated on independent grounds.

Let us next consider the possibility of moving the entire $\bar{S}_2$ out of $COMP_1$ into a left sister position to $COMP_1$. In this case we would have the following S-structure configuration, where α, β, γ denote the material dominated by the respective node:

(33) $[_{\bar{S}_1}\ [_{\bar{S}_2}\ \alpha]\ [_{COMP_1}\ \beta]\ [_{S}\ \gamma]]$

There are a number of problems with this analysis. First, one might want to ask why $\bar{S}_2$ is first generated under COMP and then moved up, instead of directly base-generating it in a position as in (33), i.e. we need independent evidence to motivate an analysis where the S-structure position of $\bar{S}_2$ is the result of movement.

Note first of all that, both in English and German, certain embedded clauses such as *if*-clauses may appear either at the beginning or at the end of a sentence:

(34a) ich bleibe zu Hause, wenn es regnet
(34b) I'll stay at home, if it rains

(35a) wenn es regnet, bleibe ich zu Hause
(35b) if it rains, I'll stay at home

The crucial question is whether the *if*-clause in (35) is immediately dominated by the COMP of the matrix sentence or whether it is a left sister to an empty COMP. While it may be difficult to decide this question for English, there are two fairly compelling reasons to assume that, in German, the *if*-clause must be under the dominance of COMP. If we assume that the *if*-clause is immediately dominated by COMP, then $\bar{S}$s behave exactly like any other $\bar{X}$ in terms of Thiersch's (1978) analysis. As mentioned before, Thiersch proposed a rule of $\bar{X}$-preposing which may move any $\bar{X}$ into COMP. Assuming that $\bar{S}$s cannot be moved into COMP, but rather have to be left sisters to COMP, we would have to stipulate a special, otherwise unmotivated condition which exempts $\bar{S}$s from the

application of the rule of $\bar{X}$-preposing - an obviously undesirable move. Furthermore, it can be shown that $\bar{S}$s in sentence-initial position do, in fact, behave like any other preposed $\bar{X}$ in that - informally speaking - they, too, trigger subject-verb inversion:

(36) wenn es regnet, bleibe ich zu Hause
if it rains, stay I at home

(37) *wenn es regnet, ich bleibe zu Hause
if it rains, I stay at home

It thus seems to be clear that, at least at some stage of the derivation, the *if*-clause must be under the dominance of COMP and cannot be directly moved to a left sister position to COMP. However, one might conceive of a rule which subsequently extracts the *if*-clause from under COMP and moves it to a left sister position. But what is the status of this rule? It seems to be completely *ad hoc* and not motivated by any independent considerations.

I will therefore assume that the first analysis is correct, i.e. $\bar{S}_2$ is generated under $COMP_1$ and the wh-phrase is subsequently moved from $COMP_2$ to $COMP_1$ by COMP-to-COMP movement in order to meet the Head-COMP Constraint on relative clauses. We thus obtain the following S-structure configuration for (3):

(38) $[_{\bar{S}_1}\ [_{COMP_1}\ wh...;\ \bar{S}_2;\ V\ ]\ [_{S_1}\ \alpha\ ]]$

Moving the wh-phrase into $COMP_1$ will therefore guarantee that *den* (who) may serve as $\bar{A}$-binder of both ECs.[9]

Let us now examine the status of the two gaps. It is fairly clear that the empty category of the *if*-clause must be a variable, i.e. a wh-trace, $\bar{A}$-bound by the wh-phrase in COMP. What about the second gap? At D-structure it must be PRO by definition, since PRO is the only empty category with

an independent θ-role. The fact that this PRO is in a governed position is irrelevant, since the Binding Theory does not apply at D-structure (see Chomsky 1982:37-38). At S-structure the EC is $\bar{A}$-bound by the wh-phrase in COMP, thus being also a variable.

Note furthermore that the second EC is not c-commanded by the trace in the *if*-clause. Suppose that this were not true, i.e. there were a c-command relation between the first and the second gap. Then the second EC would have to be NP-trace by the functional definition of empty categories, since it then has a local $\bar{A}$-binder, namely the trace in the *if*-clause. This, however, would be a violation of the θ-Criterion because both ECs are in a θ-position receiving different θ-roles from their respective verbs. It thus seems that the non-c-command relation between the first and the second gap is a necessary condition for having an EC in the final clause.

It should be obvious that these are exactly the conditions under which parasitic gaps may occur, so that we may conclude that sentences such as (3) - (6) do, in fact, exhibit a parasitic gap construction.

As Chomsky (1981,1982) has pointed out, there are two major conditions for the occurrence of a parasitic gap. First, there must be some operator in COMP $\bar{A}$-binding both gap positions. If such an operator were absent, the potential parasitic gap would be an S-structure PRO in governed position, thus violating the condition that PROs must be ungoverned. Second, the "real" gap must not c-command the parasitic gap because this would result in a violation of the θ-Criterion. We would thus predict that, if one of these two conditions does not hold, a parasitic gap construction should be ungrammatical.

Let us examine this prediction on the basis of our Bavarian data.

The most obvious case of an $\bar{A}$-binder is some kind of wh-movement. If there is no such wh-movement, a gap should not be allowed. This prediction is (trivially) borne out by structures such as (39):

(39) wenn ich den Kerl$_i$ erwisch, erschlag ich $\left\{\begin{matrix}*e_i \\ \text{ihn}_i\end{matrix}\right\}$

if I this guy$_i$ catch, beat I $\left\{\begin{matrix}*e_i \\ \text{him}_i\end{matrix}\right\}$

"if I catch this guy, I beat him up"

Of course, we would expect that the occurrence of a parasitic gap in the type of construction under consideration does not depend on a specific operator in COMP, such as a wh-phrase; rather, if we are dealing with a true generalization, we would also expect other operators in COMP to licence - at least in principle - a parasitic gap. This seems, in fact, to be the case.

Bavarian (in contrast to Standard) German permits the extraction of NPs from *if*-clauses for the purpose of topicalization or emphasis. Such an NP is moved to sentence-initial position which, I will assume, is COMP.[10] Under COMP this NP may serve as an operator $\bar{A}$-binding its trace.[11] If our analysis so far is correct, we would expect a parasitic gap construction under these circumstances. This is, in fact, the case as the examples (40) and (41) show:

(40a) wenn ich eine Maß trinke, bin ich gleich besoffen
if I a liter of beer drink, am I at once drunk

(40b) *wenn ich$_i$ eine Maß trinke, bin e_i gleich besoffen
if I$_i$ a liter of beer drink, am e_i at once drunk

(40c) ich$_i$ wenn e_i eine Maß trinke, bin e_i gleich besoffen
I$_i$ if e_i a liter of beer drink, am e_i at once drunk

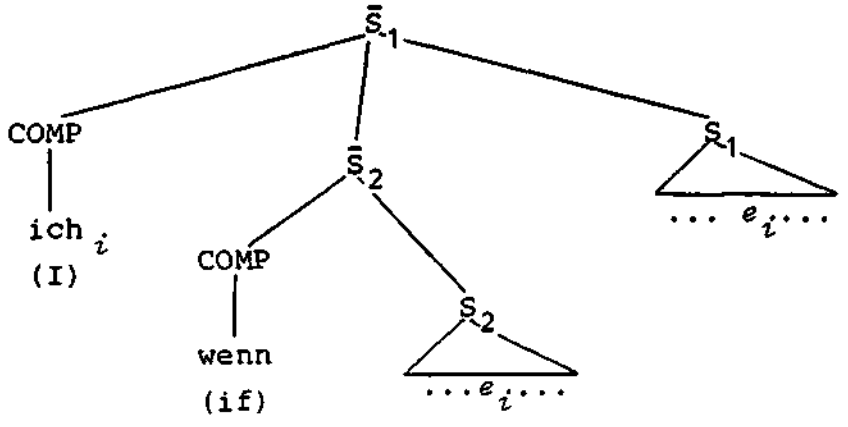
(41a) wenn ich Hans sehe, werde ich ihn fragen
if I John see, will I him ask

(41b)*wenn ich Hans$_i$ sehe, werde ich e_i fragen
if I John$_i$ see, will I e_i ask

(41c) Hans$_i$ wenn ich e_i sehe, werde ich e_i fragen
John$_i$ if I e_i see, will I e_i ask

Let us assume the following abbreviated structure for a sentence such as (40c):

(40d)



It is clear that in this structure the NP-operator *ich* (I) in COMP c-commands and locally $\bar{A}$-binds both gaps and that the real gap in S_2 does not c-command the parasitic gap in S_1.

Let us now consider the latter condition, i.e. the question of c-command, in more detail. We have already seen that in the constructions so far considered the gap in the *if*-clause does not c-command the corresponding position of the final clause, so that a parasitic gap may occur. In order to explore other structural possibilities, we have to look for constructions in which $\bar{S}_1$ and $\bar{S}_2$ appear in a different configuration. This is the case in both Bavarian and Standard German if the *if*-clause appears at the end of the sentence.

Consider the following examples:

(42) das ist der Kerl$_i$ den$_i$ ich e_i erschlag wenn ich ihn$_i$ erwisch
this is the guy$_i$ who$_i$ I e_i beat, if I him$_i$ catch

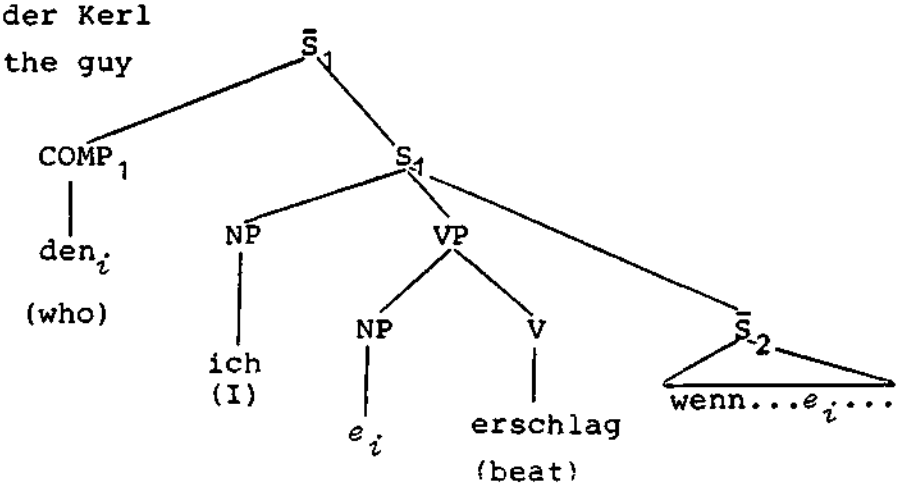
(43) *das ist der Kerl$_i$ den$_i$ ich e_i erschlag wenn ich e_i erwisch
this is the guy$_i$ who$_i$ I e_i beat if I e_i catch

(43) shows quite clearly that a parasitic gap is not possible if the *if*-clause appears at the end of the sentence. The question arises whether or not we can relate this fact to a different c-command configuration, i.e. whether or not we can show that in (42) and (43) the first gap c-commands the object position of the *if*-clause.

Note, first of all, that the status of the two gaps in (3) and (42)/(43) is reversed. While we have shown that in (3) the wh-phrase *den* (who) originates from the object position of the *if*-clause, it should be fairly uncontroversial that in (43) the wh-phrase has been moved from the object position governed by *erschlag* (beat). Consequently in (3) the gap of the *if*-clause is the real gap, whereas in (43) it is the parasitic gap.

Let us examine the question of whether the object position of the *if*-clause is c-commanded by the trace of the relative clause. If this is, in fact, the case, then we are able to explain why a parasitic gap is impossible in (43). Note that whether or not there is a c-command relation between the first and the second gap crucially depends on where in the tree we place the *if*-clause $\bar{S}_2$. Suppose we place $\bar{S}_2$ as a right sister to the VP of S_1; we then obtain the following structural configuration:

(44) das ist der Kerl
this is the guy

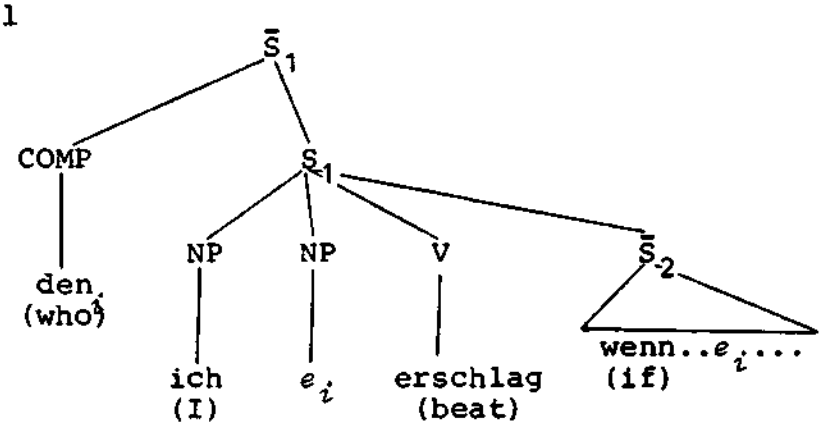


It is clear that in a structural configuration such as (44) the empty category in S_1 does not c-command the EC in $\bar{S}_2$. Consequently, if (44) is the correct structure, a parasitic gap should be possible in $\bar{S}_2$ which, as we have seen, is not the case.

It thus seems plausible to consider the possibility that (44), in particular the location of $\bar{S}_2$, is not the correct structural description of (42)/(43). Therefore the question arises what a structural configuration would look like in which the first gap c-commands the object position of $\bar{S}_2$.

A number of possibilities come to mind. If we assume that German has a flat structure,i.e. that there is no VP node as a maximal projection of V, then $\bar{S}_2$ would be dominated by the same node as the EC of the relative clause, as is shown in (45). Under this assumption the real gap in S_1 would, in fact, c-command the (then illicit) parasitic gap in $\bar{S}_2$, thus accounting for the ungrammaticality of this structure:

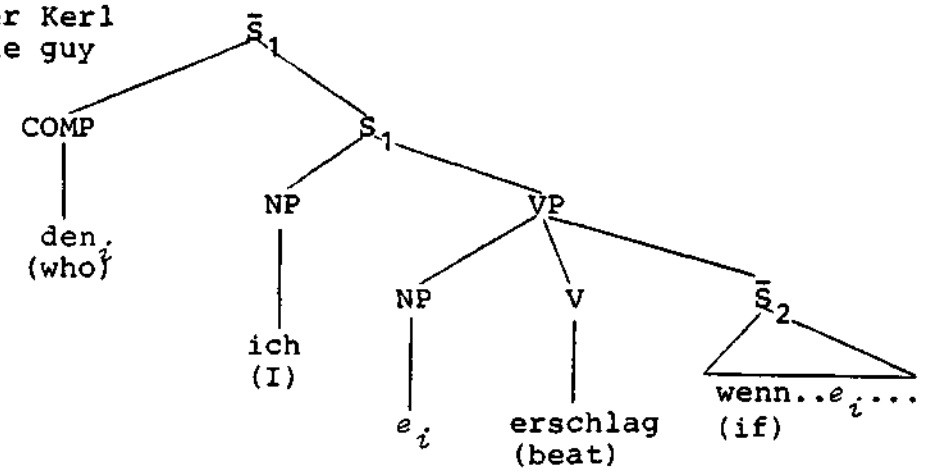
(45) das ist der Kerl
this is the guy



The question of whether or not German has a flat structure is highly controversial among researchers of German syntax (see Lenerz 1981, Thiersch 1982, Haider 1982). Unless we take (45) as evidence for a flat structure in German, this analysis rests on a somewhat problematic assumption.

If, in contrast, we assume that German does have a VP node, then one of the possibilities of obtaining a c-command relation between the first and the second gap would be to place $\bar{S}_2$ under the dominance of VP as in (46):

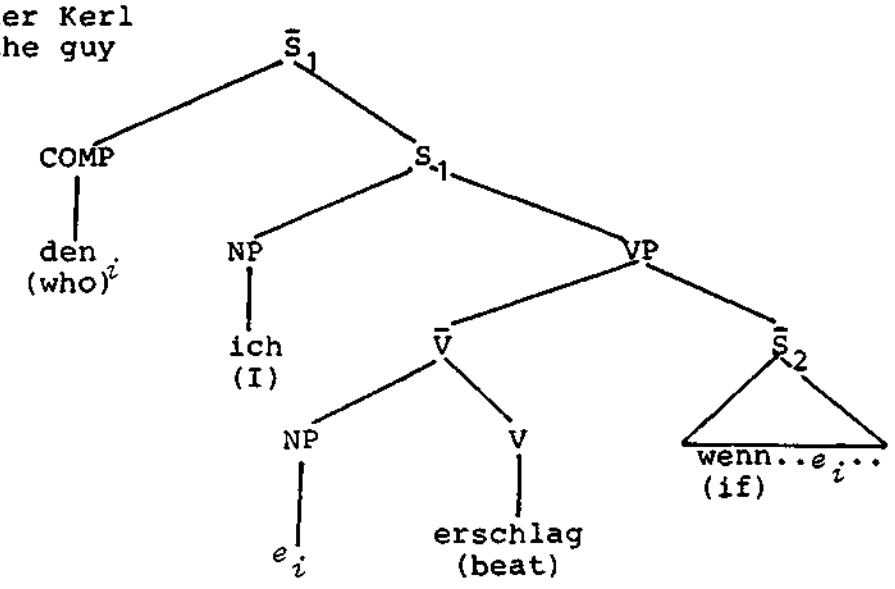
(46) das ist der Kerl
this is the guy



The crucial question is, of course, whether or not there is independent evidence in support of a structure such as (46). Note that at first glance there seems to be evidence *against* an analysis such as (46). Whereas verbs normally subcategorize for objects, PPs, *that*-clauses, infinitivals, gerunds, etc., they do not appear to ordinarily subcategorize for *if*-, *because*-, *although*-, *after*-clauses, etc. If we place the *if*-clause under the dominance of VP, then this would be tantamount to claiming that *if*-clauses and *that*-clauses have the same status with respect to the verb, which intuitively seems to be incorrect. Note, however, that Reis (1983) found evidence suggesting that there are two types of complementizers in German: strong (adverbial) complementizers such as *because, although, after, when,* etc., and weak complementizers for which verbs subcategorize, e.g. *that, whether, ∅,* etc. It is interesting to note that Reis can show that under this dichotomy *if* patterns with the weak rather than with the strong complementizers. If Reis' analysis is correct, then a structural configuration such as (46) would have at least some independent plausibility.[12]

A further possibility of having a c-command relation between the first and second gap is to assume that the node dominating the verb and its object is not a maximal projection, but rather a $\bar{V}$. Under this assumption $\bar{S}_2$ and the $\bar{V}$-node are sisters dominated by the maximal projection VP. Note that under this analysis *that*-clauses, infinitivals, etc. would be dominated by $\bar{V}$ thus differing in status from strong complementizers. We thus obtain the following structure:

(47) das ist der Kerl
this is the guy



By an extended definition of c-command which ignores non-maximal projections, we would assume that in (47) the empty category of the relative clause c-commands the object position of $\bar{S}_2$ thus failing to licence a parasitic gap. This assumption does not seem to be unnatural since, intuitively, the difference between (3) and (42)/(43) has to do with the relative position of the *if*-clause in the tree. In (3) the $\bar{S}_2$ is somehow too high up in the tree for a c-command relation to hold between the real and the parasitic gap, whereas in (42)/(43) $\bar{S}_2$ is much deeper down. That is, we find a crucial configurational difference between the two constructions and it is plausible to assume that this configurational difference can be captured by some definition of c-command.

At the present time I am not certain which of the structural configurations discussed above - (45), (46), or (47) - is the correct one; however, it seems to be clear that it is possible to assume a structure for (42)/(43) in which the *if*-clause is located in such a way that a c-command relation holds between the first and the second gap.

If what I have said so far is correct, we can conclude that the occurrence of parasitic gap constructions in Bavarian German depends essentially on the same principles that Chomsky (1982) established for English and other languages. The moral is a familiar one. While the general properties of parasitic gaps and the conditions under which they may occur follow from principles of Universal Grammar, as they have been outlined in the Theory of Government and Binding, and therefore hold across languages (a fact which, for conceptual reasons is highly desirable given the overall marginal status of parasitic gaps), language-specific differences in parasitic gap constructions reflect idiosyncratic properties of individual languages which are totally independent of the parasitic gap phenomenon as such. With respect to Bavarian German these are:

1. the existence of doubly filled COMPs
2. the possibility of having NPs as operators in COMP

The Bavarian data thus illustrate quite nicely how the interaction of principles of UG with idiosyncratic properties of individual languages may lead to what superficially appears as totally different structures.

Let us finally speculate on the question of why languages such as English (or Standard German) do not have a construction such as (40c) or (41c) - a question that is obviously related to the second property of Bavarian German stated a-above. The reason obviously cannot be that English does not permit NPs in $\bar{A}$-positions. Under certain types of Heavy NP Shift it is generally assumed that the extraposed NP moves

to a sentence-final position as in the classical examples (48):

(48) she offended e_i by not immediately recognizing e_i
[her uncle from Oklahoma]$_{NP_i}$

Furthermore it is clear that also in English NPs can move to sentence-initial $\bar{A}$-positions which may be either COMP or TOP. Consequently, there does not seem to be any obvious reason for not having a structural configuration such as (40d).

Note, however, that the subject of S_2, in order to reach the COMP position of $\bar{S}_1$ has to move out of S_2, across $\bar{S}_2$, and then travel via $\bar{S}_1$ to the front position of the highest sentence. Intuitively, this looks like some kind of violation of Subjacency, even though, technically speaking, it does not exactly meet the commonly accepted definition of Subjacency, since *ich* (I) crosses only S_2 and $\bar{S}_2$ and merely "passes" $\bar{S}_1$. Let us assume that some version of Subjacency can be formulated such that no constituent of S_2 can directly move to the COMP of S_1. Then it is clear why English and German do not have a structure such as (40d). But why does Bavarian German permit this structure, assuming that Subjacency is a principle of Universal Grammar. Obviously, in Bavarian German *ich* (I) first moves to the COMP of $\bar{S}_2$ and only from there to the COMP of $\bar{S}_1$; in other words, this COMP-toCOMP movement prevents a violation of Subjacency. In contrast, English and Standard German do not permit COMP-to-COMP movement in this case, because the first-cyclic movement to the COMP of $\bar{S}_2$ would create a doubly filled COMP and this is not permitted in English and Standard German. In other words, direct movement to $COMP_1$ violates Subjacency and successive movement violates the doubly filled COMP filter.

If this line of reasoning is correct, we can even dispense with the Bavarian-specific property stated under 2. above (i.e. "the possibility of having NPs as operators in COMP"). We may simply conclude that all the relevant facts follow

from principles of Universal Grammar - in this case, Subjacency and the Binding Theory - and one single idiosyncratic property of Bavarian German, namely the fact that doubly filled COMPs are regularly permitted.

3. A "peculiar" gap construction in Standard German

Though details differ, of course, much of what has been written about empty categories in English seems to apply - at least in principle - also to German. We find (syntactic) wh-movement and NP-movement[13] under essentially similar structural configurations and the properties of control structures appear to reflect analogous regularities.

There is, however, a gap construction in German which raises a number of interesting questions with respect to the properties of empty categories.

Consider the following sentences:

(49a) Hans hat Maria$_i$ geküßt, ohne sie$_i$ anzuschauen
John has Mary$_i$ kissed, without her$_i$ to look at

(49b) Hans hat Maria$_i$ ohne sie$_i$ anzuschauen geküßt
John has Mary$_i$ without her$_i$ to look at kissed

(49c) *Hans hat Maria$_i$ geküßt, ohne e_i anzuschauen
John has Mary$_i$ kissed without e_i to look at

(49d) Hans hat Maria$_i$ ohne e_i anzuschauen geküßt
John has Mary$_i$ without e_i to look at kissed

"John kissed Mary without looking at her"

(50a) Man hat Hans$_i$ entlassen ohne ihn$_i$ zu verständigen
they have John$_i$ fired without him$_i$ to tell

(50b) Man hat Hans$_i$ ohne ihn$_i$ zu verständigen entlassen
they have John$_i$ without him$_i$ to tell fired

(50c) *Man hat Hans$_i$ entlassen, ohne zu e_i verständigen
they have John$_i$ fired without e_i to tell

(50d) Man hat Hans$_i$ ohne e_i verständigen entlassen
they have John$_i$ without e_i to tell fired

"they fired John without telling him"

These examples show that for many speakers of German[14] a gap in the *ohne zu* (without)-clause is possible if and only if the infinitival precedes the matrix verb. If the infinitival follows the matrix sentence, a gap is not permitted.[15]

There seem to be at least two interesting questions with respect to the above construction:

1. what kind of empty category is the gap in (49d)/(50d)?
2. why is the gap possible in the (d)-sentences, but ungrammatical in the (c)-sentences?

Let us start by considering the first question. One of the crucial properties to distinguish PRO from traces relates to θ-role assignment. If the EC has a different θ-role from the one of its antecedent, it has to be PRO, otherwise it is trace. In the latter case, an antecedent in an A-position would identify the trace as an NP-trace; if the antecedent is in an $\bar{A}$-position, then the gap is a variable.

Intuitively it seems to be clear that the gaps in (49d) and (50d) are assigned their θ-role by the verb of the *ohne zu* (without)-clause while their antecedents (*Maria* and *Hans* respectively) are assigned an independent θ-role by the verb of the matrix sentence. Since the gaps have a θ-role different from the one assigned to their antecedents, we have to conclude that the gaps are instances of PRO. They cannot be NP-trace, because this would lead to a violation of the θ-Criterion. Furthermore, the gaps cannot be variables because their antecedents do not seem to be in an $\bar{A}$-position.

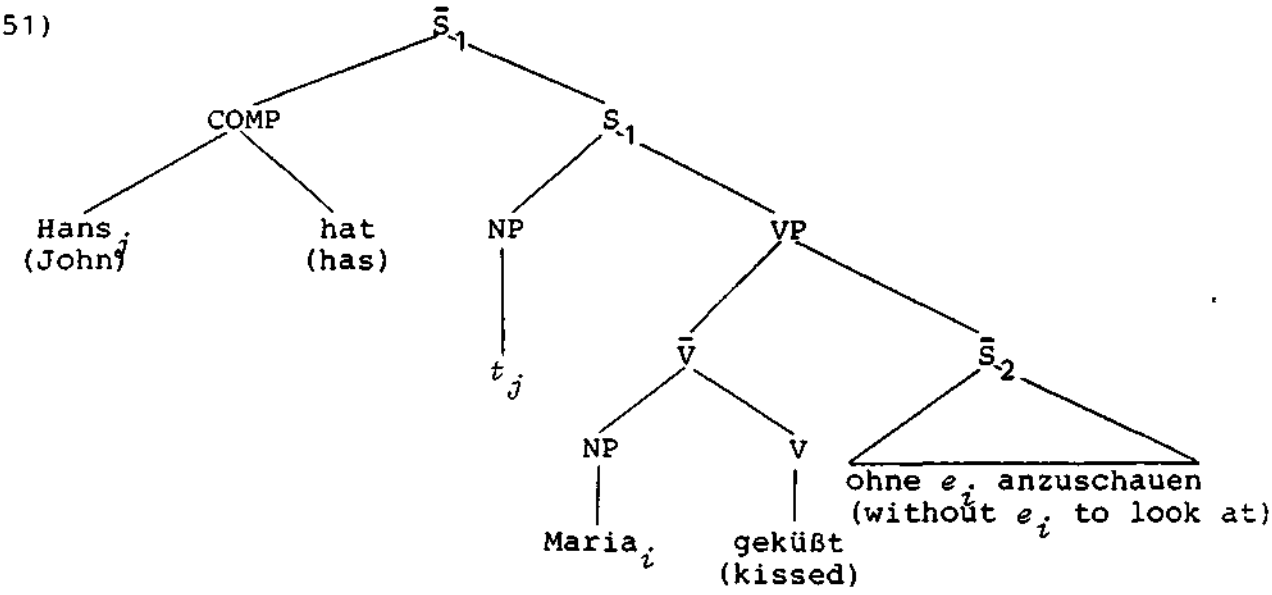
Assuming that the gaps are instances of PRO presents no problem as long as we deal with D-structure, because the Binding Theory (PRO must be ungoverned) applies at S-structure. Hence the problem arises at S-structure. But here, we have essentially the same structural configuration. By the θ-Criterion the gaps should be PRO, but they cannot be PRO because they are in a governed position. In order to make this construction meet the requirements of the Binding Theory, we have

to show that the D-structure PRO somehow changes its status at S-structure. There are obviously two possibilities: NP-trace or variable. NP-trace does not seem to be particularly likely because of the θ-Criterion: the NP would have to be in a $\bar{\theta}$-position as in Passives or in Raising constructions. The only plausible alternative is thus a variable. This, however, would require that the matrix NP (*Maria* and *Hans* respectively) be in an $\bar{A}$-position, since there is no wh- or other operator in COMP which could potentially bind the empty category.

Let us note in passing that it is a typical property of parasitic gap constructions that a D-structure PRO changes into an S-structure variable as a result of wh-movement; i.e. wh-movement creates an operator in COMP which can then serve as antecedent of both the real and the parasitic gap. Of course, (49d) and (50d) do not qualify as parasitic gap constructions under standard definitions because the sentences contain only one single (relevant) gap. Nevertheless, it seems to be a remarkable fact that the construction under consideration shares certain properties with parasitic gaps.

By way of example, let us first look at (49c) and assume that the sentence has a structure something like the following:

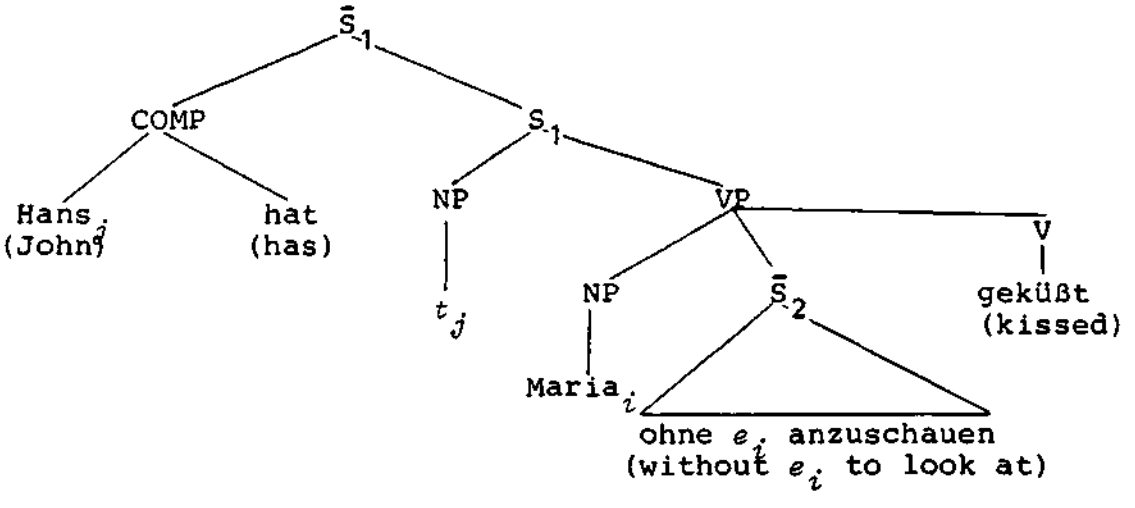
(51)



The ungrammaticality of this structure follows in a straightforward way. The EC of $\bar{S}_2$ must be PRO (it has a θ-role different from the one of *Maria*), but it cannot be PRO because it is governed. Note furthermore - for reasons that will become clear as we proceed - that *Maria* c-commands the gap (under the proviso stated in the preceding chapter), so that its position could never be a potential position for a parasitic gap.

Let us now consider those cases in which the *ohne zu* (without) -infinitival precedes the verb of the matrix sentence. As a first approximation we may assume for (49d) something like the following structure:

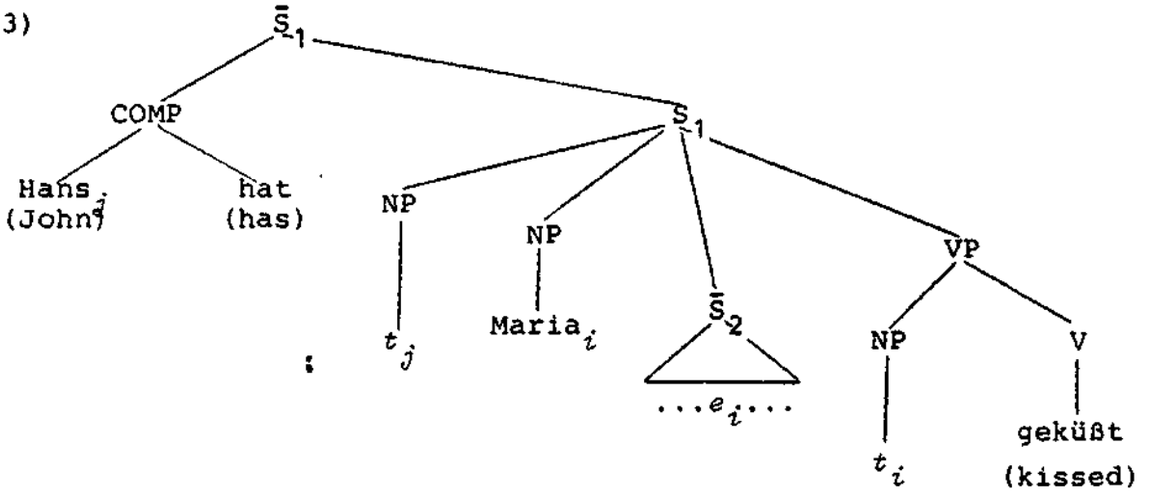
(52)



By the criteria stated above this sentence should be ungrammatical. The EC is a governed PRO, *Maria* c-commands the gap and there is no operator which could serve as an $\bar{A}$-binder. Nevertheless the structure is fully grammatical.

Let us assume that there is a rule of NP-fronting in German which moves the matrix object-NP from its original position into an $\bar{A}$-position under the immediate dominance of S_1. Assuming furthermore that the infinitival in this construction is not dominated by the VP but rather by S_1, we will obtain the following structure:

(53)



If (53) is the correct structural description of (49d), we would have an instance of a parasitic gap construction. *Maria* would be in an $\bar{A}$-position serving as operator binding both its original position under VP and the gap in $\bar{S}_2$. Furthermore the real gap t_i does not c-command the parasitic gap e_i under $\bar{S}_2$ so that no violation of the Θ-Criterion may occur.

Quite clearly, the argument that (53) is the correct structure of (49d) only goes through, if there is some independent motivation for assuming that in a sentence such as (49d) both the object-NP *Maria* and the $\bar{S}_2$ infinitival are not dominated by the VP, but are rather located outside of the VP under the immediate dominance of S_1. Otherwise (53) would appear to be completely *ad hoc*.

What has to be shown, therefore, is essentially that neither the string $\bar{S}_2$ + t_i + *geküßt* nor the string *Maria* + $\bar{S}_2$ + t_i + *geküßt* is a constituent. The problem is obviously that, since (NP,VP) is empty (= t_i) under the assumption of (53), there is no way of independently motivating (53) in terms of surface-structure considerations. That is, the alternative assumption, namely that *Maria* + $\bar{S}_2$ is dominated by VP and that no rule NP-fronting exists, would still yield the same surface structure as (53).

In what follows I propose to show that (53) is essentially the correct structure of (49d).[16] I will argue that there is, in fact, independent evidence for assuming that both *Maria* and $\bar{S}_2$ are not daughters of the VP, i.e. that they do not form a constituent with *geküßt* (kissed).[17]

The logical structure of the argument is the following: if there is a grammatical operation involving either the entire VP or any one constituent under the dominance of the VP, then this operation should not be permitted to include either *Maria* or $\bar{S}_2$; that is, if the operation does include *Maria* or $\bar{S}_2$, the resulting string should be ungrammatical.

There is a very general rule in German - let us call it $\bar{X}$-preposing in line with Thiersch (1978) - which moves a constituent to sentence-initial position. The crucial point is that only those strings which form a constituent[17] may be preposed, while the movement of non-constituents yields ungrammatical sentences.

Consider the following sentences:

(54a) Hans hat ein neues Auto gekauft
John has a new car bought
"John bought a new car"

(54b) ein neues Auto gekauft hat Hans (= VP-preposing)
a new car bought has John

(54c) ein neues Auto hat Hans gekauft (= NP-preposing)
a new car has John bought

(54d) gekauft hat Hans ein neues Auto (= V-preposing)
bought has John a new car

(54e) *Auto gekauft hat Hans ein neues
car bought has John a new

(54f) *ein neues hat Hans Auto gekauft
a new has John car bought

Let us now use this rule as a test for examining the question of whether or not $\bar{S}_2$ is part of the VP in (49d). For ease of illustration let us take a structure in which $\bar{S}_2$ does not contain a gap in object position, but rather the (resumptive?) pronoun *sie* (her). This seems to be fully legitimate, since parasitic gaps are always optional.

Consider the following sentences:

(55a) Hans hat Maria ohne sie anzuschauen geküßt
John has Mary without her to look at kissed
"John kissed Mary without looking at her"

(55b) geküßt hat Hans Maria ohne sie anzuschauen
kissed has John Mary without her to look at

(55c) *?ohne sie anzuschauen geküßt hat Hans Maria
without her to look at kissed has John Mary

(55d) *?Maria ohne sie anzuschauen geküßt hat Hans
Mary without her to look at kissed has John

Though degrees of acceptability partially vary among speakers, the judgments indicated in (55a) - (55d) seem to correctly represent the intuitions of a substantial number of speakers. In particular, people appear to agree that (55c) and (55d) are considerably worse than (55a) and (55b).

(55a) is straightforward. In (55b) either the entire VP (= t_i + V) or only the verb *geküßt* (kissed) has been preposed[18] so that in both case the requirements of $\bar{X}$-preposing are met. The crucial cases are, of course, (55c) and (55d). In

(55c) the string $\bar{S}_2$ + V has been preposed, while in (55d) the string *Maria* + $\bar{S}_2$ + V appears in sentence-initial position. If we assume that *Maria* and $\bar{S}_2$ are both part of the VP, then (55c) and in particular (55d) should be fully grammatical, being simply an instance of VP-preposing. If, in contrast, we assume that (53) is essentially the correct structural description, then (55c) and (55d) are predicted to be ungrammatical because in either case non-constituents have been moved.

Let us next consider a further structural configuration which indicates that *Maria* may have to move out of the VP into an $\bar{A}$-position preceding the VP. Consider the following sentences whose crucial property is the presence of the quantifier *alle* (all):

(56a) alle Männer haben Maria geküßt
all men have Mary kissed

(56b) ?die Männer alle haben Maria geküßt
the men all have Mary kissed

(56c) die Männer haben alle Maria geküßt
the men have all Mary kissed

(56d) die Männer haben Maria alle geküßt
the men have Mary all kissed

(56a) - (56d) show that the German quantifier *alle* may float to various positions in much the same way as English *all*. We will now examine what happens if we apply VP-preposing to these structures. Let us assume that - contrary to what I want to argue for - all elements following *haben* (have) are daughters of the VP:

(57a) Maria geküßt haben alle Männer
Mary kissed have all men

(57b) Maria geküßt haben die Männer alle
Mary kissed have the men all

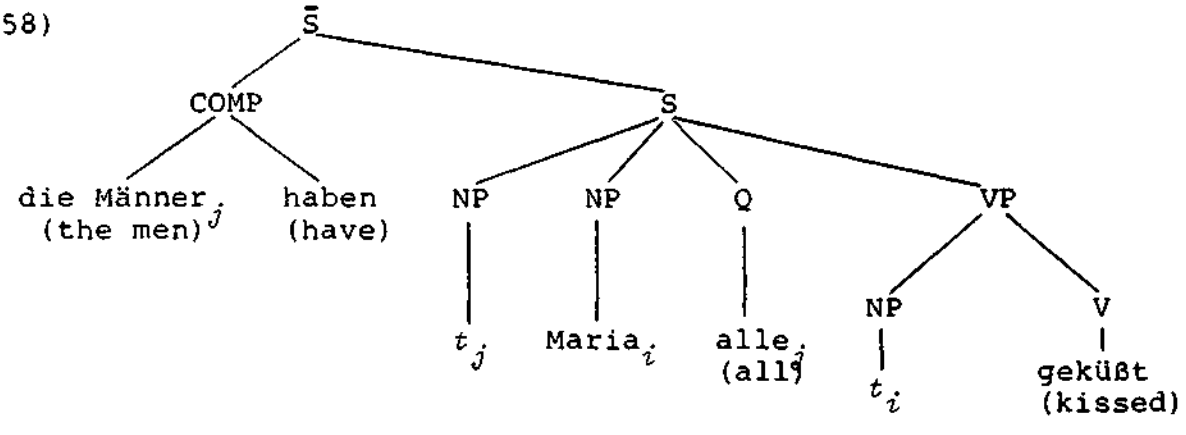
(57c)*?alle Maria geküßt haben die Männer
all Mary kissed have the men

(57d)*?Maria alle geküßt haben die Männer
Mary all kissed have the men

Here, again, judgments vary; however, even for speakers who do not find (57c) and (57d) totally ungrammatical they are considerably worse than (57a) and (57b). The ungrammaticality of (57c) suggests that the string *alle Maria geküßt* (all Mary kissed) is not a constituent (= VP). It might be argued, of course, that it is only *alle* (all) which is not part of the VP while *Maria geküßt* (Mary kissed) does form a constituent. Assuming furthermore that in (56c) *alle* is in some pre-VP $\bar{A}$-position the evidence from (57c) would simply prove to be irrelevant for the question under discussion. The crucial case is, of course, (57d). Again, for reasons already stated, *Maria alle geküßt* (Mary all kissed) cannot be a constituent because $\bar{X}$-preposing is restricted to constituents. Consequently, assuming that at least *geküßt* (kissed) is under the dominance of the VP, it follows that *Maria* and presumably also *alle* (all) are outside of the VP

These facts can be nicely captured if we assume that (56d) has a structure somewhat like (58):

(58)



A structure such as (58) presupposes, of course, a rule of NP-preposing which moves the NP *Maria* out of its original VP-dominated position into an $\bar{A}$-position under S. Note that the structural configuration in (58) is essentially the same as in (53). Consequently, there seems to be independent evidence for a rule moving an object-NP to a pre-VP $\bar{A}$-position so that we are justified in assuming that this rule has also applied in (53).

Let us finally consider a structure in which, again, an element intervening between the object-NP and the verb provides evidence in favor of a rule of NP-preposing of the type suggested above. Consider the following sentence:

(59a) Hans hat Maria allein geküßt
John has Mary alone kissed

(59a) is ambiguous and permits either one of the following two readings:

(59b) Mary is the only person who John kissed

(59c) John was alone (with Mary) when he kissed her

We can formally indicate these two readings by co-indexing *allein* (alone) with either *Hans* or *Maria* so that we obtain the following two representations:

(59b') Hans hat Maria$_i$ allein$_i$ geküßt
John has Mary$_i$ alone$_i$ kissed

(59c') Hans$_i$ hat Maria allein$_i$ geküßt
John$_i$ has Mary alone$_i$ kissed

Assuming tentatively that *Maria allein geküßt* (Mary alone kissed) is a string under the dominance of the VP, we can apply $\bar{X}$-preposing obtaining a sentence as in (60a):

(60a) ?Maria allein geküßt hat Hans
Mary alone kissed has John

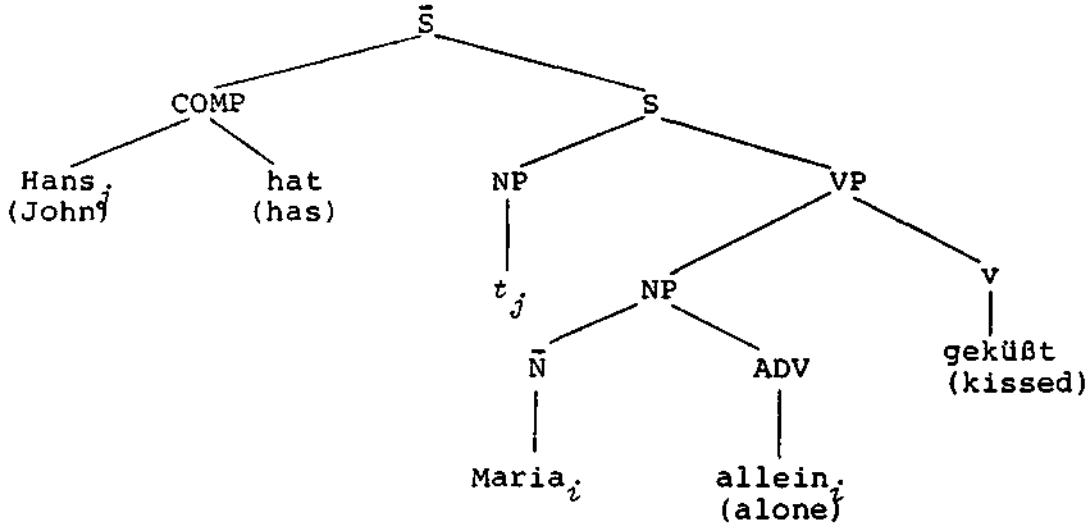
While some speakers do not accept (60a) as grammatical at all, for those who do accept it the sentence is no longer ambiguous. The only possible reading for (60a) is the one indicated in (59b), i.e. *Mary is the only person who John kissed*. Using the co-indexing procedure again, we obtain:

(60b) ?Maria$_i$ allein$_i$ geküßt hat Hans
Mary$_i$ alone$_i$ kissed has John

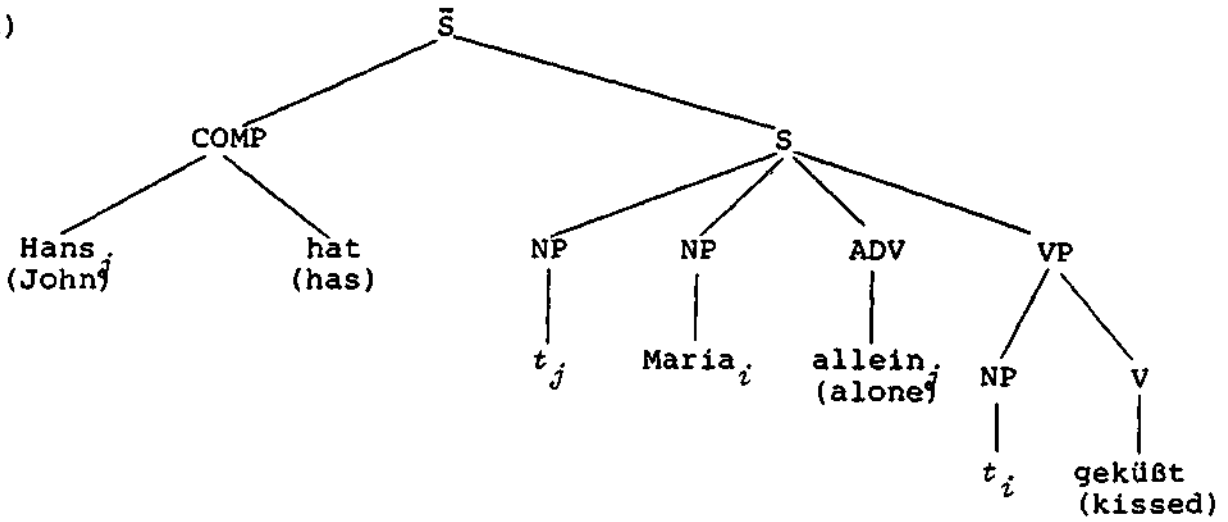
(60c) *Maria allein$_i$ geküßt hat Hans$_i$
Mary alone$_i$ kissed has John$_i$

The question arises how the ungrammaticality of (60c) can be explained. If our line of reasoning is so far correct, then the contrast between (60b) and (60c) seems to suggest that the string *Maria allein* (Mary alone) is part of the VP in (59b'), but outside of the VP in (59c'). Consequently, *Maria allein geküßt* (Mary alone kissed) may be preposed in (59b') yielding (60b), but not in (59c'). I will therefore assume that (59b') and (59c') have the structures (61) and (62) respectively:

(61)



(62)



As in the cases considered before the extraction of the object-NP from the VP is necessitated by an element (in (62) by *allein*) which is co-indexed with the subject-NP and follows the object-NP. Note again that (62) is essentially the same structural configuration as (58) and (53).[19]

A similar contrast can be found in constructions such as the following:

(63a) Hans hat das Buch$_i$ kaputt$_i$ gelesen
John has the book$_i$ broken$_i$ read
"John read the book so intensively/often that it finally fell to pieces"

(63b) das Buch$_i$ kaputt$_i$ gelesen hat Hans
the book$_i$ broken$_i$ read has John

For (63a) we may assume a structure similar to (61). Since *kaputt* (broken) is co-indexed with *das Buch* (the book) both constituents are part of the VP in analogy to (59b').Consequently they may, in conjunction with the verb, appear in sentence-initial position.

Consider now (64a) and (64b):

(64a) Hans$_i$ hat das Buch nackt$_i$ gelesen
John$_i$ has the book nude$_i$ read

(64b) *das Buch nackt$_i$ gelesen hat Hans$_i$
the book nude$_i$ read has John$_i$

For semantic reasons *nackt* (nude) can obviously only be co-indexed with *Hans* and not with the object-NP *das Buch* (the book). How can we explain the ungrammaticality of (64b) in contrast to the grammatical (63b)? Again, if we assign to (64a) a structural configuration analogous to (62), then the string *das Buch nackt gelesen* (the book nude read) is not a constituent and can consequently not be preposed to sentence-initial position.

It thus seems to be clear that there is good evidence from various types of constructions for assuming that, in the presence of certain kinds of adverbs, quantifiers and infinitival clauses, the object-NP moves out of the VP into a pre-VP $\bar{A}$-position. Consequently there seems to be good reason to believe that (53) is, in fact, the correct structural description of (49d).

If this analysis is correct, then (49d) is a fairly unexiting instance of a parasitic gap construction in that it shows all the properties that parasitic gaps are expected to have as a reflection of principles of Universal Grammar. This is so, even though superficially a construction such as (49d) appears to have only one object-NP gap. Here again, the moral is a familiar one: surface structures do not tell us very much about the deeper regularities of language.

4. Conclusion

In this paper I have attempted to show that both in Bavarian and in Standard German parasitic gap constructions may be found, even though the phenomenon itself seems to be much more restricted than in English or in the Scandinavian languages.

I have argued that, as is to be expected, German parasitic gaps have essentially the same fundamental properties as other languages, where these properties follow from independently motivated principles of Universal Grammar. These properties are:

1. there must be an operator in an $\bar{A}$-position c-commanding both gaps
2. there must be no c-command relation between the real and the parasitic gap

Where German parasitic gaps differ from corresponding constructions in English or other languages, these differences reflect independent idiosyncratic properties of the languages involved. In Bavarian German it is above all the possibility of having doubly filled COMPS which gives rise to parasitic gap constructions, whereas in Standard German the phenomenon is licensed by an object-NP which moves out of the VP into a pre-VP $\bar{A}$-position.

One of the crucial questions that still needs to be answered is, of course, why most of the 'classical' examples of parasitic gaps as they are discussed e.g. in Chomsky (1982) seem to be impossible in German. One might suspect that this could have something to do with the language-specific properties of German wh-movement.

NOTES:

1) The marginal status of parasitic gap constructions is generally considered to be due to a (weak) violation of the Bijection Principle (see Koopman & Sportiche 1981) which states that an operator must not bind more than one variable.

2) For reasons that are not entirely clear to me the construction under discussion is only possible with *wenn* (if), while extraction from *weil*-(because), *obwohl*-(although), *nachdem*-(after) clauses etc. leads to ungrammatical results. Note, however, that Reis (1983) observes that *wenn* (if) frequently patterns with the 'weak' complementizers *daß* (that) and ∅ and not with 'strong' complementizers such as the one mentioned above.

3) Throughout this paper I will use for the Bavarian examples Standard German orthography and morphology. For a detailed description of Middle Bavarian phonology and morphology see Bannert (1976) and Merkle (1975).

4) For some speakers (3) and (4) in which the wh-pronouns are accusative are slightly more acceptable than (5) and (6) in which the wh-pronouns are nominative

5) For ease and brevity of illustration I will focus the discussion on sentence (3). It should be clear, however, that all the arguments apply analogously to (4) - (6).

6) This statement is not quite correct because, as will be clear soon, the *if*-clause itself is in the COMP of the final clause.

7) I ignore here the alternative possibility of having two COMPs in German.

8) The HEAD-COMP Constraint is to be understood as a descriptive generalization and not as a principle of Universal Grammar.

9) We have to assume that a branching COMP does not block c-command because, otherwise, a relative pronoun could never c-command its trace in a doubly-filled-COMP language such as Bavarian.

10) For a critical discussion of this assumption see Reis (1983)

11) Note that, even though an NP is moved, this is a case which is essentially different from what is usually called NP-movement. In particular, the trace of the preposed NP must be case-marked - just like wh-traces - because the moved NP retains its morphological case.

12) This would also explain why the construction under discussion works only with the complementizer *wenn* (if).

13) For some arguments against NP-movement in German see Haider (1982)

14) Though speaker judgments vary, there seems to be general agreement that (49d) and (50d) are considerably better than (49c) and (50c).

15) Jan Koster (personal communication) tells me that essentially the same judgments hold for the corresponding sentences in Dutch.

16) Henk van Riemsdijk (personal communication) has observed that, for the analysis to go through, it is not sufficient to show that (53) is the correct structure of (49d), but that it also has to be shown why (52) is ruled out as a possible structural description. In other words, the principles need to be stated which "force" *Maria* and $\bar{S}_2$ out of the VP into the positions indicated.
Admittedly I am not able to specify any such principles, though I suspect that this must have something to do with the fact that the subject *Hans* apparently cannot be co-indexed with an element (in this case, PRO of the *if*-clause) inside the VP, as is demonstrated by the sentences (56) - (64).

17) α and β are a constituent if and only if there is a node γ such that γ exclusively dominates α and β.

18) Martin Everaert (personal communication) has observed that only the verb *geküßt* (kissed), but not the entire VP, i.e. the string t_i + *geküßt*, can be preposed, because, if t_i were moved into COMP, then *Maria* would no longer c-command its trace.
While this observation seems to be correct, it does not challenge the fundamental claims of the analysis proposed.

19) One might want to argue that the ungrammaticality of (60c) and (64b) can be explained by principles of the Binding Theory alone. If the adverb or quantifier which is co-indexed with the subject is moved to sentence-initial position, then the subject no longer c-commands and binds it. Note,however, that, if the adverb or quantifier is preposed, it will always leave a trace in its original position, so that the subject can bind this trace.

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