Zum in Bavarian and Scrambling*

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Introduction

If we neglect the ever present influences from Standard German (SG) on Bavarian (B) which has led to corrupted versions of the dialect, it is fair to say that B lacks the *zu*-infinitive.¹ SG *zu* is in B either the cliticized form *z'* or *zum* (also *zun*) i.e., *zu* and a cliticized dative determiner (*zu+(de)m*).² I agree with Merkle (1984: 44 f.) and Zehetner (1985: 148) who both note that *zu*-infinitives are felt as not belonging to the dialect. In this article, I will ignore the additional complications that arise with *z'*, and concentrate on syntactic properties of *zum* only.³ B uses various strategies for the expression of the SG infinitival construction with *zu*, from nominalizations (sometimes combined with prepositions) via the *zum*-gerund to finite sentences which are introduced with the complementizer *daß*. The SG sentence in (1a), for example, would have to be translated as (1b):

- (1) (a) SG: Er hat versucht, ihnen zu entkommen
(b) B: Er hod g'schaut, daß-a eana auskummt
 he has looked that he them escapes

zum+V appears in SG in a limited number of cases, e.g.

- (2) (a) SG: Das braucht er zum Arbeiten
 this needs he to work
(b) B: Des braucht-a zum Arwatn
(3) (a) SG: Das ist zu-m Lachen/Wahnsinnigwerden
 this is to-the laugh /crazy-become
 "This is ridiculous/drives one nuts"
(b) B: Des is zum Lacha/Naarischwean

In (2) *zum*+V has roughly the meaning of a purpose clause. A near paraphrase would be *Das braucht er, um damit zu arbeiten* ("This he needs in order to work with it") or *Das braucht er, um arbeiten zu können* ("This he needs to be able to work"). *zum*+V is also attested in idiomatized impersonal constructions like (3) which seem to be confined to a small number of verbs expressing emotional states.⁴ In B, *zum*+V has a

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much wider range of application. There is a systematic correspondence between SG *zu* and B *zum* in coherent control constructions:

- (4) (a) SG: Er hat zu singen angefangen /aufgehört
 he has to sing started /stopped
(b) B: Er hod zum Singa oog'fangt /aafg'head

Using *zum* in such contexts outside the dialect leaves a distinct "southern" flavor, whereas the use of *zu* in the dialect proper, in my view and in the view of many other speakers, is simply impossible. As we shall see below, the syntactic differences between SG *zu*- and B *zum*-constructions are indeed quite remarkable, although there don't seem to be noticeable semantic differences.

The article is organized as follows: Section 1 provides some historical and cross-Westgermanic background; 2 presents the most obvious differences between *zum* and *zu* as they show up in the different incorporation or stranding behavior; 3 turns to the central issue, the licensing of phrasal arguments; 4 shows that unlike in SG *zu*-infinitives, [NP *zum*+V] is not a constituent; an analysis of these phenomena in terms of head movement and scrambling to a VP-external functional projection is given in section 5; 6 contains a discussion of another difference between SG and B, namely that B lacks the equivalent of NP-raising from *zu*-infinitives.

1 Historical background

As the following quotes show, the infinitives of Indoeuropean and Germanic in particular seem to have been verbal nouns rather than verbs in the strict sense.

"Die Infinitive in den indogermanischen Sprachen gehen auf Verbalnomina zurück."
Ebert (1978: 28)

"Der deutsche wie der germanische Infinitiv ist streng genommen keine Verbalform, sondern ein Nomen [...], das von der gleichen Wurzel gebildet ist wie das entsprechende Verbum finitum. Dieser Herkunft entsprechend fehlen ihm morphologisch und bedeutungsmäßig die Kategorien des Genus verbi und des Tempus (wie auch die der Modalität, der Person und des Numerus), und nur allmählich und unvollkommen werden im Deutschen die beiden ersteren vom Verbum finitum auf den Infinitiv übertragen im Zusammenhang mit dem Aufkommen der umschriebenen Verbalformen"

Paul, Moser & Schröbler (1969: 381 f.)

In this situation it is not surprising that the I-heads of infinitival sentences, Dutch *te*, English *to* and German *zu*, are homonyms of the respective prepositions. In Middle High German one can clearly see that *ze* assigns dative case to the gerund. The following examples from Paul, Moser & Schröbler (1969: 384) show overt Case marking for dative on the complement of *ze*:

- (5) (a) dô diu maget rehte ersach daz ir ze *sterbenn-e* niht geschach
 as the maid just saw that her to die -[dat] not happened
 "As the maid realized that she did not have to die"
 (b) ... daz er ze *lobenn-e* sol geschehen
 that he to praise-[dat] should happen
 "that he should meet with approval"
 (c) ... wâ er im ze *vindenn-e* wart
 where he him to find -[dat] was
 (d) ... ze *heilenn-e* ir wunden
 to heal -[dat] her wounds

Although dative morphology does not appear any more on the gerund in those varieties of B I am familiar with, the dative clearly appears on the cliticized determiner (*de*)*m*. There is evidence from other archaic Germanic dialects which points in the same direction. Gerritsen (1992) looks at the gradual disappearance of the dative gerund ending *-e* in the West-Flemish dialect of Bruges between the 13th and the 20th century. In Middle Flemish we find examples such as:

- (6) om tvolc mede *te bedrieghen-e*
 in order the-people with to deceive -[dat]

A. de Vins (p.c.) pointed out to me that older speakers of the Zeelandic dialect of the island Goeree still retain this *-e* on gerunds as in

- (7) ... nog 'n hêël aande *te lôôpen-e*
 still a whole end to go -[dat]
 "still a long way to go"

Why does B in addition show a determiner? One remarkable difference between B and SG is that the former shows a persistent use of the article also in cases in which SG never permits it e.g., for mass terms, many abstract nouns or proper names of persons, where the article can never be missing. For example *I ho* **(a) Bia g'hoid* ("I have brought (a) beer") or *I ho* **(an) Hans troffa* ("I have met (the) Hans"). This could explain the obligatory presence of the (definite) determiner before the gerund. Once the determiner was present it may have worked as a rampart against the change from a nominal to a purely verbal form, and consequently against the change of *zu* from a preposition to a functional head. If this is a reasonable description of the historical development, it could be expected that in comparison with SG *zu*, the B *zum*-construction shows some deep rooted differences. In the next sections I will first show that this expectation is indeed fulfilled; I will then move on to a theoretical derivation of these differences.

2 Incorporation

Contrastive data from N-incorporation and particle separation give direct evidence that the form following *zum* must be nominalized, and that as a consequence, *zum*-constructions behave quite differently from SG *zu*-infinitives.

- (8) **N-incorporation** (only for B)
 (i) SG: (a) Er hat *Klavier* zu *spielen* angefangen
 he has piano to play started
 (b) *Er hat zu *klavierspielen* angefangen
 (ii) B: (a) *Er hod *Klavier* zum *spuin* oog'fangt
 (b) Er hod zum *klavierspuin* oog'fangt
- (9) **particle separation** (only for SG)
 (i) SG: (a) Er hat *herumzubrüllen* angefangen
 he has around-to-shout started
 "He started shouting around"
 (b) *Er hat zu *herumbrüllen* angefangen
 (ii) B: (a) *Er hod *rum* zum *blean* oog'fangt
 (b) Er hod zum *rumblean* oog'fangt

Assume that *zu* in SG is a functional head (whose historical lexical origin is of course the preposition *zu*), and that a verb form, which may be characterized as a minimal phonological word, moves to the right of it, presumably because *zu* has diachronically turned into a bound morpheme. This explains why incorporated elements such as *klavier* or *herum*, as in (8) and (9), will strand after V-to-I. The situation in B is entirely different. What we see in (8iib) and (9iib) is still the pattern of a nominal construction, as shown by *das Klavierspielen* ("the playing of the piano"), *das Herumbrüllen* ("the shouting around") versus **Klavier das Spielen*, **herum das Brüllen* etc. The conclusion must be that the presence of the *-m* after *zu* is more than a lexical quirk and should be taken as a morphosyntactic element encoding Case, gender and number information. The same incorporation phenomena can be observed in the so-called *Rheinische Verlaufsform*, a popular way of expressing the progressive aspect with the help of merged P+D *am* (which is underlyingly *an (de)m*).⁵

- (10) (a) Ich bin am Eislaufen
 I am at ice-skate
 "I am ice-skating"
 (b) *Ich bin Eis am laufen
- (11) (a) Ich bin am Aufräumen
 I am at up-cleaning
 "I am cleaning-up"
 (b) *Ich bin auf am Räumen

The most obvious, although not necessarily the correct conclusion is that the *zum/am*-forms are PPs in which the P-head *zu/an* governs an NP of the form $[NP\ dem[N[V]]]$ i.e., the lexical head of the NP is an infinitival verb that has been converted into a noun of neuter gender by a morphological process. Since nominalizations always affect maximal X^0 -constituents, it is not surprising to see that particles as well as incorporated nouns are affected by this process. Both Bhatt & Schmidt (this volume) and Smits (1987) come independently to a different conclusion, namely that *am* and even *aan het* must be something like functional heads governing a VP. Bhatt & Schmidt acknowledge a residual P-status of *am*, but they conclude that now being a functional $I(nfl)$ -category it cannot possibly be prepositional as well. I will refrain from a discussion of their account of the *Rheinische Verlaufsform*, but I will suggest that – as far as it is relevant for the *zum*-construction in B – Bhatt & Schmidt's conclusion may be premature. At the same time all the available evidence suggests that we are dealing here with a case of head movement, much like the process of V-to-I raising. The difference is that in the *zum*-construction a *nominalized* verb is raised. This conclusion is unavoidable given that everything moves along that also participates in gerund formation. To deal with the PP-nature of *zum* we could argue that the gerund is base-generated under *zum*, but notice that there is a most important restriction: Syntactic *phrases* are banned from this context. This is not so in general, as the following examples from SG show, which involve a clear instance of prepositional *zu*:

- (12) SG: Zu dem schnell-en Laufen kam auch noch das stark -e Schwitzen
to the fast -[agr] run came also still the strong-[agr] sweat
"In addition to fast running there was also strong sweating"

In (12) we see prenominal adjectival agreement reflecting the neuter gender of the *de*-verbal head noun. Nothing of this sort is possible in the *zum*-construction (see (13a)); and neither is it possible to use an adverbial modifier as in (13b):

- (13) B: (a) *Er hod zu-m *schnai-n* laffa oog'fangt
he has to-the fast -[agr] run started
(b) *Er hod zum *schnai* laffa oog'fangt
"He started to run quickly"

In order to block cases such as those in (13), a base generation account would have to stipulate that – assuming the DP-hypothesis – the lexical projection in the context $[zum _]$ must be X^0 . A head movement account would instead directly predict that nothing but an X^0 can move into this context. The nature of this category, however, also indicates that *zum*+ X^0 persists in important respects as a PP. We begin to see a challenging tension between *zum* as a functional head and as a phrase with a lexical head, much in the sense of an ongoing grammaticalization of a lexical item.

3 Scrambling or head movement?

Despite the fact that the Bavarian equivalent of the SG sentential infinitive seems to be a PP headed by *zu*, the nominalized verb under this PP can license phrasal arguments. Consider the following examples:

- (14) (a) Er hod *de Sei* zu-m fiadan vagessn
he has the pigs to-the feed forgotten
"He has forgotten to feed the pigs"
(b) De hom *af alle Baam* zu-m rumraggln oog'fangt
they have on all trees to-the around-crawl started
"They have started to crawl around on all the trees"
(c) Sie hod-s *eam* zu-m naafdroong vagessn
she has-it him to-the up-carry forgotten
"She has forgotten to carry it up for him"

There is no doubt that the constituents *de Sei*, *af alle Baam*, and *-s eam* are selected by the verbs *fiadan*, *rumraggln* and *naafdroong* respectively as it would normally be the case. The first is an accusative NP, the second a PP, and (14c) shows two clitics which are related to the verb, namely the accusative *-s* (from *es*) and the dative *eam*.⁶ As one can expect from the discussion above, examples in which they remain in situ are ungrammatical:

- (15) (a) *Er hod zum *de Sei* fiadan vagessn
(b) *De hom zum *af alle Baam* rumraggln oog'fangt
(c) *Sie hod zum *-s eam* naafdroong vagessn
(c') *Sie hod-s zum *eam* naafdroong vagessn

The appropriate generalization (once again) is that the complements of *zu+m* are X^0 -categories, and that phrases (XPs) must not incorporate in X^0 .⁷

How can XP-arguments to the left of *zum* be licensed? Two analyses come to mind: (a) At D-structure, the complement of a fully prepositional *zum* is a lexical clause in the sense of Speas (1990) i.e., a projection of the verb that includes the subject. In this way, the arguments of the verb could be θ -licensed, but then they would have to scramble out of the domain of *zum*. (b) A lexical clause (e.g. a VP including the external argument) is generated, and its head is moved into the complement position of *zum*, taking along incorporated material because of the nominalization requirement discussed above. Both analyses have to cope with one obvious problem, namely that *zum* requires a nominal form, while this form is still able to license Case like a verb.⁸ Analysis (a) is, however, afflicted with a number of additional problems.

As is widely known, extraction should not be possible from a definite DP. The relevant restriction is shown in the example in (16).⁹

- (16) [Über wen]_i hat Klaus [eine/*die Geschichte e_j] erzählt?
about who has Klaus a the story told
"Who did Klaus tell a/*the story about?"

Secondly, B as well as Dutch and SG do not allow for extraction from prepositional PPs, as demonstrated in (17):¹⁰

- (17) *Wem_i hat sich Klaus [mit e_i] unterhalten?
 who has [ref] Klaus with talked
 "Who did Klaus have conversation with?"

Given that the *zum*-construction really involves a PP dominating a DP, as we would like to maintain in the face of direct morpho-syntactic evidence, scrambling would have to find a way of crossing the DP- and the PP-barrier. There are other problems as well. One is that it is unclear what the landing sites of the material to be scrambled would be like. Notice that *everything* has to scramble, not just NPs, but also categories that are normally thought to be in a fixed position such as adverbs. For obvious reasons the majority of these problems disappear once we adopt analysis (b). Movement of the gerundial head into the complement of *zum* would just strand everything that cannot be incorporated into the head. Assume for a moment that *zum* is a head similar to SG *zu* to which a gerundial form must move. For ease of reference, let me call its maximal projection the *zum*-phrase. Leaving irrelevant details aside, this gives the following partial S-structure for (14a):

Here *zum* is a head selecting and thus governing VP. Head movement in the sense of Travis (1984) and Baker (1988) yields a structure in which the trace of *fiadan* is properly governed. Thus, no ECP-violation will result. (18) is maximally similar to what is standardly assumed about the structure of *zu*-infinitives in SG, – as a matter of fact a bit too similar, as I want to show next.

4 Constituency

The *zu*-infinitives of SG are autonomous syntactic categories (presumably IPs), as can be shown by traditional constituent tests. Consider *topicalization* to the preverbal position and *extraposition* in SG:

- (19) (a) [Die Schweine zu füttern]_i hat er e_i vergessen
 the pigs to feed has he forgotten
 (b) daß er e_i vergessen hat [die Schweine zu füttern]_i

Given the analysis in (18), we could expect the same possibilities in the *zum*-construction of B. Surprisingly, the B versions of these and similar examples are ungrammatical:¹¹

- (20) (a) *[De Sei zu-m fiadan]_i hod-a e_i vageesn
 the pigs to-the feed has-he forgotten
 (b) *daß-a e_i vageesn hod [de Sei zum fiadan]_i

It seems that in B, [NP e_i *zum*+X_i] is not a constituent. This impression is independently confirmed by observations about the scope of adverbs. Notice that control verbs like *vergessen* ("forget"), *versprechen* ("promise"), *anfangen* ("begin"), *aufhören* ("stop") and a series of others, optionally allow for a *coherent* construal with the verb of the governed *zu*-infinitive, depending on whether verb raising has applied or not.¹² As far as the right lexemes are available in B, the effects of the coherent construction are the same. Consider now the scope of a quantificational adverb such as *dreimal* ("three times") in a construction of SG which allows for both the coherent and the non-coherent construction. We find that the adverb can have either narrow or wide scope, as indicated in the glosses:

- (21) daß er die Schweine *dreimal* zu füttern vergessen hat
 (i) narrow: that he forgot to feed the pigs three times
 (ii) wide: that he forgot three times to feed the pigs

If there is no non-coherent construal in B, because [NP e_i *zum*+X_i] is not a possible constituent, it would follow that comparable cases do not show the same scope ambiguity, and that only the wide scope reading is available. This is exactly what we find:

- (22) daß-a de Sei *dreimoi* zum fiadan vageesn hod
 (i) narrow: *that he forgot to feed the pigs three times
 (ii) wide: that he forgot three times to feed the pigs

This observation corroborates the impression that something goes on here which is not captured by the naive analogue of SG *zu*-infinitives that is suggested by a structure like (18).

Another unexpected observation about extraposition is that although [NP e_i *zum*+X_i] does not form a constituent and thus cannot move, *zum*+X does. Consider the extraposed variants of (14) in (23) and the example in (24) which is taken from Thoma (1912):

- (23) (a) Er hod *de Sei* vagessn *zu-m fiadan*
 he has the pigs forgotten to-the feed
 "He has forgotten to feed the pigs"
- (b) De hom *af alle Baam* oog'fangt *zu-m rumgraggl'n*
 they have on all trees started to-the around-crawl
 "They have started to crawl around on all the trees"
- (c) Sie hod-*s eam* vagessn *zu-m naafdroong*
 she has-it him forgotten to-the up-carry
 "She has forgotten to carry it up for him"
- (24) ... wo sohlen mier anfangen *zu-n agatieren* ...
 where should we begin to-the agitate
 "Where should we begin to agitate?"

In those cases where nothing is scrambled away from *zum*+X as in (23), it is possible to move it further to the right such that *zum*+X is linearly separated from its governing verb (or V-complex) e.g., *wo sohlen mier anfangen [morgen] zun agatieren*, where *morgen* ("tomorrow") modifies the matrix sentence. This is incompatible with the view that *zum*+X is a head and nothing else. Even if it has head-like properties, it seems in addition to receive an analysis according to which it is a PP. This would square with the fact that PPs can normally undergo extraposition, while heads can not.¹³

Let me draw some conclusions from these findings about constituency: If there is a clausal structure from which the head is moved into *zum*, its remnants cannot be licensed in the domain of this clause. Rather it seems to be the case that as long as there are arguments to be licensed by the head that has moved to *zum*, these arguments will obligatorily scramble into the domain of the matrix verb. The effect of this will be that there is no effect of a syntactic constituent that binds the thematic complex together. In the rest of this article I will try to give some substance to this idea and flesh out a theoretical account that essentially derives these properties from the lexical diachronic difference that we have discussed already, namely that B retains the prepositional nature of *zu*, while SG has reanalyzed *zu* as a pure functional head.

5 The analysis

5.1 The nature of the category *zum*+X

We have seen that *zum*-X moves like a normal PP. This is predicted when its syntactic structure is [_{PP} *zu* [_{DP} (*de*) *m* [_{NP} [_N V]]]].¹⁴ But we have also seen strong reasons for the amalgam {P,D,N} to have head status. Following Baker (1988), the head status of the construction can be derived as follows: As long as the complement of the D-head is also a head N, N can raise to the cliticized D-head *-m* forming {-*m*, N}; this amalgam can move to the c-commanding P-head *zu*, now forming {*zu*, {-*m*, N}}. The result is shown in (25):

Two things are remarkable here: First, the string *zu*+*m*+X is ambiguous between the head structure in (25) and the structure of PP i.e., an $X^{\max}$ in which no head movement has applied. The simultaneous availability of both structures explains why on the one hand *zum* can attract an X^0 , while on the other *zum*+X can undergo move- α in the sense of XP-movement. Second – and this is an even more important point –, by the presence of the cliticized D-head *-m*, *zu* cannot afford the luxury of fully turning into a functional head.¹⁵ It will always persist in governing the residues of a DP. As a consequence, in a structure like (18) *zu* cannot (simultaneously) be a head governor for the VP to its left. If there is a head governor for the VP at all, it is the amalgam {*zu*, *-m*}. Let us assume that this is indeed the case. By minimality of government, *zu* remains the head governor for the DP headed by *-m*, and for reasons of head movement, *zum* must remain a governor for the VP in its complement. Assume furthermore that the restructured P+D complex *zum* is not able to serve as a functional head for the VP in its complement position. The nature of a functional head is that it enables the head of its complement to adopt certain features that are syntactically and/or semantically relevant. There is no obvious sense in which the amalgam *zu*+*m* could help the verb of its VP-complement to acquire any of the features that are classically assumed for the verbal complex, namely AGR(eement) and T(ense). It is rather the case that moving into *zum* prevents V from acquiring the relevant features. Recall that the context [*zum* _] requires a *nominal* form. We will return to the question of functional projections in more detail in the next section. With these considerations in mind, we can now be more precise, and change (18) into the representation in (26). The asterisk should indicate that the category P^* is the result of a PP that has been restructured into a head by successive head movement.

(26)

Two things are unconventional here: *First*, P^* is actually a PP and should thus not be able to head a phrase. *Second*, if P^* is not a functional head that can endow V with appropriate features, why should the verb move into it? My tentative answer to the *first* question is that we assume a *two-dimensional* analysis as discussed above with respect to move-XP. There we have seen that one dimension of *zum*+X behaves like a head, while the other behaves like an XP. Let us assume – right or wrong – that according to the “head dimension” *zum* can serve as a head governing the VP, somewhat like the nominal *-ing* in English.¹⁶ The X-bar theoretical result of this combination is P^* . This brings me to the *second* question. If P^* is a head that c-commands VP, the formal requirement for head movement is satisfied. Here we follow Baker’s (1988: 56) definition of barrierhood according to which a potential barrier XP can be removed via government by a head Y, if Y selects XP and – by virtue of X-movement to Y – the two heads X and Y become non-distinct. What is precisely involved here is head movement in the sense of a substitution of the N-slot in the context [*zu*[-*m*[N_—]]]. As far as I can tell, it

is legitimate to say that *zum* is as affixal as the I-element *zu* of SG, and that stranding *zum* would yield a violation of the *Stray Affix Filter*.¹⁷

To summarize, we have shown that the *zum*-complex serves as a head governing the VP; *zum*+X, however, retains the formal structure of a PP and can thus be expected to undergo movement like a maximal category. Furthermore, it does not endow V with the relevant syntactic features.¹⁸ The consequences of this will be explored in the next paragraph.

5.2 Scrambling

Following Pollock (1989), Chomsky (1989, 1992), Chomsky & Lasnik (1991) and other recent work, we may say that at D-structure VP is nothing but a thematic structure induced by X'-syntax indicating what the internal arguments are and – assuming that the external argument is base generated in SpecVP – which role is assigned to the subject. According to this view, the formal licensing of the arguments of the verb is mediated by various functional heads which in Chomsky (1986) were still subsumed under I(nfl). Chomsky & Lasnik (1991) propose the structure in (27) in which the traditional feature node [α AGR, β Tense] is split up into a head for subject agreement (AGRs), a head for tense (T), and a head for object agreement (AGRo), with the possibility of additional heads.¹⁹

(27)

As is known from earlier work, the subject-NP moves to SpecIP in order to get Case. Here, Case is assigned under spec/head-agreement. Similarly, [NP, V'] may have to leave the VP in order to be Case licensed. In this case, NP would move into SpecAGRoP where it agrees with the head AGRo. The central idea is that the satellites of the verb

may come fully inflected from the morphological lexicon (see Chomsky 1992), and that the functional projections are there to *check* their syntactically relevant features. Whatever the verb assigns to them will be checked in the respective specifier positions by spec/head-agreement. Numerous questions arise many of which unfortunately have not found an answer yet. Chomsky & Lasnik, for instance, assume that only *structural* Case is checked in SpecAGR_xP while *inherent* Case is associated with θ -marking. In German, where the head/complement order of (27) would be reversed (but see Zwart, this volume) the structural Case (accusative) seems to be subject to roughly the same constraints as the inherent Cases (dative and genitive). Assuming that VP-adverbs adjoin to VP, one can show that all NPs scramble to the left. We would then have to argue that there are functional checkpoints for *all* Cases. Since this is not the right place to enter a more general discussion of German scrambling, I have to skip those details.²⁰ Let me instead hypothetically assume that the formal licensing of NP-arguments requires movement to SpecAGR-positions for Case checking, while the precise nature of these positions is left open.

Returning to our main topic, recall that *zum* in B has not turned into a true functional category. If we assume that *zu* in SG is actually [-AGR_s] but [+AGR_o], we can by analogy argue that *zum* fails to license *all* the relevant functional heads that could be used for Case checking. This allows us to predict a Case Filter violation whenever an NP remains in a VP whose V-head has been moved to *zum*. In those cases where an NP-object is grammatical, it must have moved ("scrambled") into an AGR_o-projection of the matrix clause. We can now explain why the structure headed by *zum* is rather different from an IP headed by the functional head *zu* in SG. We have seen above that the *zum*-phrase – PP* in (26) – never shows the status of a constituent. The data in (20) demonstrate that there is no movement of *zum*+X together with the internal NP-argument of X. This effect follows directly if we assume that for reasons of Case checking the NP has to move into some higher SpecAGR_o. How is this movement licensed? As indicated already in connection with Baker's theory, we assume that every maximal phrase is a potential barrier for movement, and that head movement may debarrierize a phrase. Recall now that in B as well as in SG long scrambling is allowed precisely when there is a raising (control) verb involved.²¹ We can therefore conclude that (NP-)movement can proceed because head movement has removed the barriers on the way to SpecAGR_o. After repeated head movement and NP-movement to SpecAGR_oP, (26) will look as in (28):

Whatever Case information the lexical head after *zum* contributes to the newly formed head *zum fiadan vageesn*, this Case must be checked in the matrix domain, where functional heads can occur.²²

This analysis is corroborated by the fact that phrases which are not Case marked can stay in situ. Consider the following contrasts between nearly synonymous sentences of which there is an NP-object in (29), but a PP-object in (30):

- (29) (a) *[Schwammal zu-m suacha] häid -a gwies ned vageesn
mushrooms to-the seek had[subj]-he certainly not forgotten
"He would certainly not have forgotten to look for mushrooms"
(b) *daß-a gwies ned vageesn häid [Schwammal zum suacha]
- (30) (a) ?[Noch Schwammal zum suacha] häid-a gwies ned vageesn
(b) ?daß-a gwies ned vageesn häid [noch Schwammal zum suacha]

According to my intuition, movement of the *zum*-expression together with an object is marginally possible as long as this object is inherently Case licensed.²³

Let us now briefly return to the observation that *zum*-complements do not behave like clauses with respect to the scope of quantificational adverbs, as shown in (22). This fact is easily explained if there is no T-head which would enable the adverb to quantify over an event that is anchored in time.²⁴ The adverb *dreimoi* in (22) can only be T-licensed when it occurs in a domain in which a T-head is available. Under our assumptions this is, of course, the matrix clause. Notice that movement of the Q-adverb together with the *zum*-phrase leads to ungrammaticality, while the SG equivalent is grammatical:²⁵

- (31) (a) B: *daß-a de Sei e_i vageßn hod [PRO *dreimoi* zum fiadan]_i
 (b) SG: daß er die Schweine e_i vergessen hat [PRO *dreimal* zu_T füttern]_i

A last point is worth mentioning. Webelhuth (1989), Müller & Sternefeld (1990, 1991) and various others argue that scrambling in SG is A'-movement. As Müller & Sternefeld convincingly show, the theory would have to guarantee that scrambling (or topicalization) chains must not mix with operator chains such as WH-chains.²⁶ Items which have been moved into an A-position, however, can still undergo other types of movement. Bayer & Kornfilt (1991) note that contingent on the validity of this generalization long scrambling in SG cannot be A'-movement because WH-movement from the "scrambled" positions is flawless. The same conclusion must be drawn from the grammaticality of the following example in B in which *wos* has been moved out of a constituent that – according to our theory – has been scrambled:

- (32) *Wos_i hod-a [e_i fia Sei] zu-m fiadan vageßn?*
 what has-he for pigs to-the feed forgotten
 "What kind of pigs has he forgotten to feed?"

A theory which requires that the NP *wos fia Sei* first moves into an A-position where its Case is checked will correctly predict that operator movement will not be improper. To conclude, although the precise conditions of Case checking in the specifier of a functional projection AGRoP are still far from clear, we have seen that the adoption of object movement into a VP-external position makes interesting predictions for the *zum*-construction in B. In such a theory the natural conclusion is that the projection of *zum* does not establish an AGRo-head or a T-head, and that, as a consequence, an NP has to scramble into the domain of a Case-licensing head. A similar conclusion can be obtained for the peculiar fact that adverbial scope is more constrained in the *zum*-construction than in the *zu*-infinitives of SG.

This concludes the core of my analysis of the *zum*-construction. In the rest of this article I want to draw the attention to another interesting difference between SG and B which may receive an explanation in the present account.

6 Subject-to-subject Raising

The verb *scheinen* ("seem") exists in B as well as in SG. Since there is no direct equivalent of the *zu*-construction of SG, it is not surprising that in B *scheinen*-type constructions are found with finite complements as in (33):

- (33) *wei -s scheint daß -a eig'schlaffa is*
 because-it seems that-he fallen-asleep has

Another and in fact very frequent construction treats the raising verb together with a cliticized expletive *es* as a parenthetical.

- (34) (a) *Da Hans scheint-s is no ned eig'schlaffa*
 the Hans seems -it has yet not fallen-asleep
 "It seems Hans hasn't fallen asleep yet"
 (b) *Da Hans is scheint-s no ned eig'schlaffa*

We will not concentrate on the parenthetical use, but rather ask how raising from the subject position of a *zum*-gerund could be possible. As we have pointed out in the beginning of this article, the *zum*-construction is very productive in B and can be used for most cases where SG would use *zu*. In this situation it is rather surprising to see that subject raising from the *zum*-construction leads to sharp ungrammaticality, – a fact that to my knowledge has gone unnoticed so far:²⁷

- (35) (a) SG: *daß er einzuschlafen scheint*
 that-he to-fall-asleep seems
 (b) B: **daß-a zum eischlaffa scheint*

Why should this be so?²⁸ Notice that in the representation in (26) there is a specifier position which can host PRO, namely SpecVP.²⁹ Thus, we cannot say that there is no position for the trace of a subject-NP. Using the example in (35a), let us consider first the situation in SG. When we adopt Baker's account of debarrierizing by head movement, the verb *schlafen* moves to the I-head *zu*, and since there is (presumably) no CP-barrier the verb *schlafen* moves on to *scheinen*.³⁰ Consider next NP-movement. NP-movement can proceed through different A-specifier positions until the top position, SpecAGRs, is reached. Head movement has removed potential barriers. If the subject were PRO, it would remain in SpecVP according to Chomsky's (1989) economy conditions on derivations.³¹ Since *zu* is a governor for VP, but not a proper head governor, the subject position is not properly head-governed. In the absence of a CP-barrier, *zu*+V can move to the matrix verb, in our case *scheinen*, which is a proper head governor. Let us assume that the subject position is properly head governed by *scheinen* by virtue of Baker's Government Transparency Corollary (GTC)

- (36) *Government Transparency Corollary*
 A lexical category which has an item incorporated into it governs everything which the incorporated item governed in its original structural position. (Baker 1988: 64)

Whatever *zu* has insufficiently governed in its original position will now be sufficiently governed by *scheinen*. An NP-trace in the upper Spec-position thus meets the ECP-requirement of proper head government.³²

Equipped with this background, let us now turn to the question why the B version (35b) is ungrammatical. I want to propose that the difference between SG and B again derives from the different status of *zu* versus *zum*. Throughout this article it was assumed that *zu* is a true functional category, while *zum* has retained its lexical and phrasal character. The infinitival verb moves into *zum* substituting an empty N-position, and if there is an appropriate matrix verb, *zum*+X can move on to it. Imagine now that it is not irrelevant for the GTC *what sort of head* has been raised to the matrix verb. In SG it was *zu*+V, – without doubt an X⁰-category. With *zum*+X things are a bit different. Recall that this complex must have retained a dimension according to which it is still a PP. Otherwise it would not be able to undergo movement processes such as topicalization that are not admissible for heads. As a PP, however, *zum*+X does not govern anything. It rather needs to be governed itself. The idea is that precisely such a government relation comes into play here, – a government relation that blocks government transparency. As it stands, the GTC in (36) is not able to respond to this situation. It can be modified as follows:

(37) *Government Transparency Corollary (new version)*

A lexical category X which has an item Y incorporated into it governs every Z which the incorporated item governed in its original structural position unless Y is a potential Y^{max}.

The exception added in (37) makes a Y-head which happens to be a potential phrase YP a closer governee for X than the target Z as would actually be required. The governing force of X is so to speak “stolen away” or “redirected” by the strictly local availability of a Y which is categorically ambiguous between Y⁰ and Y^{max}. If this move is justifiable, it is possible to derive the ungrammaticality of cases like (35b) as an ECP-violation: The raising verb fails to properly head-govern the trace that has been left by NP-movement.

This explanation of the difference between SG and B with respect to NP-raising clearly rests on the stipulation that was added to the GTC in (37). There is, however, some motivation for this addition, namely that *zum*+X retains formal properties of a syntactic phrase, and that as a syntactic phrase of the right type it will be properly governed by a head in a strictly local relation such as sisterhood. The intuitions served by our analysis are (a) that there is no real clausal complement that could give rise to a subject position, and (b) that the minimally available target of government is the *zum*-phrase. We have shown that in this crude form both of these intuition are untenable, but that there are ways of capturing them in a way that leads to a theoretically and empirically satisfactory result.

Notes

- 1 Following most current work, I assume that infinitival *zu* in SG is a functional head following the VP i.e., [_I [_{VP} ... V] [_I *zu*]]; the verb (V+en) right-adjoins to *zu* in the course of the derivation.
- 2 The determiner is obligatorily cliticized to the preposition. Notice that it can never appear as a free morpheme as can be seen in the deviance of cases where the determiner receives stress.
- 3 For differences between *zum* and *z'*, as well as dialectal variations, see Donhauser (1989). Infinitives with the clitic *z'* exist also in Swiss German (see Cooper 1990), but they seem to have somewhat different properties. In B, *z'*-infinitives seem to be confined to infinitival relatives with a quantified head noun. Scattered remarks about *zum* in B can be found in Merkle (1984) and Zehetner (1985), but there is nothing like a satisfactory descriptions of the facts.
Let me add that what appears in this article is primarily based on my own intuitions about my dialect, which is spoken in the southwestern third of the Altmühltal. In critical cases I have also consulted other speakers. My transcription should not be taken too narrowly.
- 4 Note that *zu* is never possible in these cases: **Das braucht er zu arbeiten*, **Das ist zu lachen/wahnsinnig zu werden*.
- 5 See Brons-Albert (1984) and Bhatt & Schmidt (this volume). The corresponding form *aan het* (or *aan't*) is standard in modern Dutch. See Smits (1987) for an account in the GB-framework. Smits did not have functional categories yet, but his proposal could be translated into a more recent version of the theory.
- 6 Nothing hinges on the choice of clitics here.
- 7 See for instance di Sciullo & Williams (1987: ch. 3) and Baker (1988: 71).
- 8 Notice that a verbal noun cannot normally license Case, as seen in the following example:
(i) as *Fiadan *de Sei / vo de Sei hod z'lang dauat*
the feeding the pigs of the pigs has too long taken
“The feeding of the pigs took too long”
The N-head can license a PP-argument, but not an NP-argument, which needs Case. In SG, an NP could be assigned genitive Case, but B does not have this option either, because genitive has disappeared from productive morphology. Conversion of VP to NP would lead to [*as* [*Np de Sei fiadan*]] (“the the pigs feeding”), which according to my intuition is ungrammatical in B as well as in SG.
- 9 See for instance Fiengo & Higginbotham (1981).
- 10 See van Riemsdijk (1978), Koster (1987) and others.
- 11 Donhauser (1989: 298) marks extraposition cases like (20b) with ?. According to my own intuition they are plainly ungrammatical. Also I have never come across a real datum like this in the literature.
- 12 See Evers (1975), and with respect to long distance scrambling and long passivization Bayer & Kornfilt (1990).
- 13 Since there is also V-raising, the issue is a bit more complex than it can be presented here. For reasons of space, I have to put these details aside.
- 14 For the sake of concreteness we adopt the DP-analysis here (see Abney (1987) and for German Bhatt (1990)). Notice that according to this analysis NP corresponds to the traditional N'. Following common usage, we otherwise continue talking about NP (in the sense of DP) where nothing rests on the precise analysis. As Werner Abraham (p.c.) points out, *zum*-X must still be taken as a highly idiomatized PP. As I suggest in the following analysis, its special lexical nature can be seen as the result of head movement.

- 15 Recall my above remark that the presence of D may historically have been the stumbling block to a shift from P to I.
- 16 See Reuland (1983).
- 17 See Baker (1988: 140) whose version I quote:
Stray Affix Filter:
 *X if X is a lexical item whose morphological subcategorization frame is not satisfied at S-structure.
 Since we have said that *zum*+X also retains phrasal properties, we could as well say that in the absence of a filled NP-position, its *syntactic* subcategorization frame is not met at S-structure.
- 18 This integrates the insight of historical linguistics (see my quote from Paul et al. (1969) in section 1) in a natural way.
- 19 See Bhatt & Schmidt (this volume) who analyze *am* as an aspectual head, and Haegeman (this volume). Like Chomsky & Lasnik I leave out SpecTP, since nothing hinges on it here.
- 20 For some criticism of Case-driven scrambling in German see Bayer & Kornfilt (1991).
- 21 Factive verbs like *bedauern* ("regret") do not allow for clause union effects. Unfortunately the set of control verbs in B which select *zum*-complements is so limited that I was unable to find convincing examples of non-coherent constructions.
- 22 Simplifying somewhat, we may say that the θ -chain of an NP-argument of the head that has been moved to *zum* can only become visible when the NP's Case is checked (see Chomsky & Lasnik 1991: 78 ff.).
- 23 Informal checking with other speakers revealed to me that these findings are very subtle. Werner Abraham and some speakers of B also accepted examples like those in (29). It could be the case that this is the result of an interference from SG.
- 24 See Guéron & Hoekstra (1988) for a thorough discussion of the syntactic role of T, and especially the role of T in clause union constructions. Interesting from our perspective is their proposal that an XP may adopt the feature [+V] by being T-marked. Assuming that *zum* in B does not involve T, this would enable us to say that the VP-complement really remains a featurally underdetermined XP whose subconstituents have to move away for external licensing. See also Bhatt & Schmidt (this volume).
- 25 It should also be noticed that none of my informants was able to get an ambiguity in sentences like (22). This result is much clearer than the one about Case licensing; see footnote 23. One can imagine that the SG word order NP-*zu*-V leads to stronger interferences than the SG scope ambiguity as it arises in (21).
- 26 Fanselow (1990) has pointed out that scrambled NPs resist overt WH-extraction as well as WH-movement at LF, as shown in (ib) and (iib) respectively:
- (i) (a) Was_i hat der Hans [_{e_i} für Leute] gesehen?
 what has the Hans for people seen
 "What kind of people has Hans seen?"
 (b) ?*Was_i hat [_{e_i} für Leute]_j der Hans e_j gesehen?
- (ii) (a) Wer hat dem Hans WAS erzählt?
 who has the Hans what told
 "Who told Hans what?"
 (b) ?*Wer hat WAS_j dem Hans e_j erzählt?
- 27 The ungrammaticality has immediately been noticed by all the speakers I consulted.
- 28 A simple answer would be that *scheinen* in B does not select a *zum*-complement. In the face of the overall productivity of this construction, however, this proposal would not only be uninteresting but likely to be wrong.

- 29 It would be difficult to argue that there is no specifier position and that the θ -role of PRO can be inferred contextually. B gerunds are in no way confined to cases of subject control. There are also cases of object control (see (i)), and (like in SG, see Bayer & Kornfilt (1990)) in coherent constructions it is even possible to have scrambling in such cases (see (ii)):
- (i) Sie hom an Hans_i [PRO_i zu-m auswandan] iwardet
 they have the Hans to-the emigrate persuaded
 "They have Hans persuaded to emigrate"
- (ii) Sie hom am Hans_i as Audo [PRO_i zu-m mietnema] vaboon
 they have the Hans the car to-the take-along forbidden
 "They forbade Hans to take along his car"
- 30 For SG, see Prinzhorn (1990). I will not touch on the question of morphological versus *abstract* incorporation. Presumably we are dealing with the latter here. See Baker (1988: 200 ff.) and, for a discussion with respect to German, Müller (1991).
- 31 Syntactic movement is costly, and will only take place for a certain reason. Since PRO does not need Case and in fact must not get Case, it will not move. For a lexical NP there is, of course, a reason for movement: It must escape the Case Filter. For slightly different conclusions about the role of PRO see Chomsky & Lasnik (1991: 80 f.).
- 32 See Rizzi (1990: ch. 3) where this remains the core notion of the ECP.

References

- Abney, S. (1987): The English Noun Phrase in its Sentential Aspect. Doctoral dissertation, MIT.
- Baker, M. (1988): Incorporation: A Theory of Grammatical Function Changing. Chicago: The University of Chicago Press.
- Bayer, J. & J. Kornfilt (1990): "Restructuring effects in German". In: E. Engdahl, M. Reape, M. Mellor & R. Cooper, eds. (1990), 21 - 42.
- Bayer, J. & J. Kornfilt (1991): "Against scrambling as move- α ". Ms. Heinrich-Heine Universität Düsseldorf and Syracuse University. To appear in: N. Corver & H. van Riemsdijk, eds. (1992).
- Bhatt, C. (1990): Die syntaktische Struktur der Nominalphrase im Deutschen. Tübingen: Narr.
- Bhatt, C. & C. Schmidt (this volume): "Die *am*-Konstruktion im Kölnischen und im umgangssprachlichen Standarddeutschen als Aspekt-Phrasen".
- Brons-Albert, R. (1984): "Die sogenannte 'Rheinische Verlaufsform': Stör mich nicht, ich bin am arbeiten!" In: Rechtsrheinisches Köln. Jahrbuch für Geschichte und Landeskunde 9/19, 199 - 204.
- Cardinaletti, A., G. Cinque & G. Giusti, eds. (1988): Constituent Structure. Dordrecht: Foris.
- Chomsky, N. (1986): Knowledge of Language: Its Nature, Origin, and Use. New York: Praeger.
- Chomsky, N. (1986): Barriers. Cambridge, Massachusetts: MIT Press.
- Chomsky, N. (1989): "Some notes on economy of derivation and representation". MIT Working Papers in Linguistics 10, ed. by I. Laka & A. Mahajan, 43 - 74.
- Chomsky, N. (1992): A minimalist program for linguistic theory. Ms. MIT.
- Chomsky, N. & H. Lasnik (1991): "Principles and parameters theory". Ms. MIT. To appear in: J. Jacobs, A. von Stechow, W. Sternefeld & T. Vennemann, eds. Syntax: An International Handbook of Contemporary Research. Berlin: de Gruyter.
- Cooper, K. (1990): "Zurich German *z* and verb raising constructions". In: Engdahl, E., M. Reape, M. Mellor & R. Cooper, eds. (1990), 67 - 85.
- Corver, N. & H. van Riemsdijk, eds. (1992): [Proceedings of the 1990 Tilburg workshop on scrambling]. Berlin: de Gruyter.
- Donhauser, K. (1989): "Die Infinitivkonstruktionen mit *z'* und *zum* im Bairischen". In: E. Koller, W. Wegstein & N. Wolf, eds. (1984), 291 - 304.

- Ebert, R.P. (1978): Historische Syntax des Deutschen. Stuttgart: Metzler.
- Engdahl, E., M. Reape, M. Mellor & R. Cooper, eds. (1990): Parametric Variation in Germanic and Romance: Proceedings from a DYANA Workshop, September 1989. Edinburgh Working Papers in Cognitive Science 6.
- Evers, A. (1975): The Transformational Cycle in Dutch and German. Doctoral dissertation, Rijks-universiteit Utrecht.
- Fanselow, G. (1990): "Scrambling as NP-movement". In: G. Grewendorf & W. Sternefeld, eds. (1990), 113 - 140.
- Fiengo, R. & J. Higginbotham (1981): "Opacity in NP". Linguistic Analysis 7, 395 - 422.
- Gerritsen, M. (1992): Deflection in Flemish between the 13th and 20th century: An interplay between analogical and articulatory factors. [to appear in: Language Variation and Change, vol. 4]
- Grewendorf, G. & W. Sternefeld, eds. (1990): Scrambling and Barriers. Amsterdam: John Benjamins.
- Guéron, J. & T. Hoekstra (1988): "T-chains and the constituent structure of auxiliaries". In: A. Cardinaletti, G. Cinque & G. Giusti, eds. (1988), 35 - 99.
- Haegeman L. (this volume): "Some speculations on arguments shift, clitics and crossing in West-Flemish".
- Koller, E., W. Wegstein & N. Wolf, eds. (1989): Bayerisch-österreichische Dialektforschung. Würzburg: Königshausen & Neumann.
- Koster, J. (1987): Domains and Dynasties. Dordrecht: Foris.
- Merkle, L. (1984): Bairische Grammatik. München: Hugendubel.
- Müller, G. (1991): "Abstrakte Inkorporation". In: S. Olsen & G. Fanselow, eds. (1991), 155 - 202.
- Müller, G. & W. Sternefeld (1990): Improper Movement. Arbeitspapier 26. Fachgruppe Sprachwissenschaft, Universität Konstanz.
- Müller, G. & W. Sternefeld (1991): Scrambling as A-bar movement. Ms. Universität Konstanz. To appear in: N. Corver & H. van Riemsdijk, eds. (1992).
- Olsen, S. & G. Fanselow, eds. (1991): Det, COMP und INFL. Tübingen: Niemeyer.
- Paul, H., H. Moser & I. Schröbler (1969): Mittelhochdeutsche Grammatik. Tübingen: Niemeyer.
- Pollock, J.Y. (1989): "Verb movement, Universal Grammar, and the structure of IP". Linguistic Inquiry 20, 365 - 424.
- Prinzhorn, M. (1990): "Head movement and scrambling domains". In: G. Grewendorf & W. Sternefeld, eds. (1990), 199 - 215.
- Reuland, E. (1983): "Governing -ing". Linguistic Inquiry 14, 101 - 136.
- van Riemsdijk, H. (1978): A Case Study in Linguistic Markedness. Dordrecht: Foris.
- Rizzi, L. (1990): Relativized Minimality. Cambridge, Massachusetts: MIT Press.
- di Sciullo, A. & E. Williams (1987): On the Definition of Word. Cambridge, Massachusetts: MIT Press.
- Smits, R. (1987): "Over de *aan het* constructie, lexicale morphologie en casustheorie". In: N. Corver & J. Koster, eds. (1987), Grammaticaliteiten. Tilburg Studies in Language and Literature 7, 273 - 329.
- Speas, M. (1990): Phrase Structure in Natural Language. Dordrecht: Kluwer.
- Thoma, L. (1912): Jozef Filsters Briefwexel. München: Albert Langen. [reprinted 1986, München: Piper]
- Travis, L. (1984): Parameters and Effects of Word Order Variation. Doctoral dissertation, MIT.
- Webelhuth, G. (1989): Syntactic Saturation Phenomena and the Modern Germanic Languages. Doctoral dissertation, University of Massachusetts, Amherst.
- Zehetner, L. (1985): Das bairische Dialektbuch. München: Beck.
- Zwart, J.-W. (this volume): "Clues from dialect syntax: Complementizer agreement".