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IMPLICATIONS OF DISPLACED AFFIXES FOR THE ANALYSIS OF NON-FINITE MORPHOLOGY AND THE HEADEDNESS OF THE VP IN GERMAN

Roland Hinterhölzl

1 INTRODUCTION

The paper addresses issues concerning the interface between syntax and morphology and provides important implications for the nature of non-finite morphology and for the headness of the VP in German. In particular, I argue that participles and to-infinitives in German involve phrasal affixes and discuss cases of displaced morphology in the verbal complex showing that selectional restrictions of V1 on V2 can be waived, with the relevant affix being realized on V3, seemingly ignoring the selectional requirement of V2 on V3.¹

2 THE PHENOMENON

It is well-known that the infinitival marker zu in Standard German can be displaced in one particular context: in a non-finite verb-cluster comprising the so-called Infinitivo pro Participio (IPP), it is not realized on the auxiliary, but appears with the modal verb in sentence final position, as is illustrated in (1).

(1) a. *ohne das Buch lesen wollen zu haben
   without the book read want.IPP to have
   b. ohne das Buch haben lesen zu wollen
   ‘without having wanted to read the book’

Since the grammatical status of zu-displacement in Standard German is a hotly debated issue – in this respect, compare the contrary statements in VOGEL (2009) and HAIDER (2011) – we can either treat this phenomenon as an isolated case of mismatch between syntax and morphology or view it as displaying a central property of the mapping between syntactic and morphological structure in German.

¹ I thank MARTIN SALZMANN and an anonymous reviewer for helpful comments on an earlier version of this paper. All remaining errors are mine.
The much-discussed *Skandalkonstruktion* in Vogel (2009) indicates that the phenomenon cannot be reduced to the (purportedly idiosyncratic) positioning of the infinitival marker in one specific case in German. In this construction, illustrated in (2), not only the infinitival marker is displaced from V1 onto V2, but also the participial morphology is displaced from V2 onto V3.

(2) a. *Er bedauert, es nicht verhindert (V3) haben (V1) zu können (V2)*
   he regrets it not avoided have to can
   ‘he regrets not having been able to avoid it’

b. *Er bedauert, es nicht verhindert zu haben können*
   he regrets it not avoided to have can

c. *Er bedauert, es nicht verhindern gekonnt zu haben*
   he regrets it not avoided could to have

We will discuss the displacement of participial morphology in more detail in Section 5.1 below. That the phenomenon of displaced morphology is much more wide-spread than one might think is shown by dialectal and historical data. Turning first to data in various German dialects, Höhle (2006) points out that in (East) Middle German dialects any type of non-finite morphology can be displaced in a verb-cluster comprising three elements.

The Thuringian dialect spoken in and around Sonneberg displays three different types of infinitives: the bare infinitive (I), the ge-Infinitive (GI) and the gerundium (G). As is illustrated in (3), the modal verb *müsst* must selects the bare infinitive, the modal verb *können* can selects the ge-infinitive and the temporal auxiliary *werden* become selects the gerundium. Furthermore, note that the semi-modal verb *brauchen* need selects *zu*-gerundium in this dialect.

(3) a. *döös mußmar sough*
das muß man sagen.I
this must one say

b. *mar kaa gesough*
man kann sagen.GI
one can say

c. *ich waersch soughan*
ich werde sagen.GI
I will say

All these infinitival forms can be displaced in the relevant environment, as is illustrated in (4). (4a) displays a case of displacement of the gerundium. (4b) displays a case of displacement of *zu*-gerundium, while (4c) displays a case of displacement of the ge-infinitive. Displacement means that the morphology selected by V1 in the verb cluster does not appear on V2 but is realized on V3, with V2 appearing as (default) infinitive or supinum (S) in this dialect.

(4) a. *ich waersch münd arab dun*
ich werd’s müsset.S herab tun.G
‘I will have to put it down’

b. *ban a sich ned fun an brichd los u:nsta schnütsa*
wen en sich nicht von ihm braucht lassen.I an zu schnautzen.G
‘when he does not need to be shouted at by him’

c. *kasd ma helaf geschri:
kannst-du mir helfen.I schreiben.GI
‘can you help me write’

While the grammatical status of *zu*-displacement in Standard German is disputed, as pointed out above, *zu*-displacement occurs regularly in Swiss German verb clusters (cf. Hodler 1969, Weber 1987), where its grammaticality is undisputed, as is illustrated in (5). The data in (5b, c) are taken from Salzmann (2013a).

(5) a. *Er schunt nüüt wele z wüsse dervoo*
He seems not want to know there-about (Weber 1987, 244)

b. *Ichliebe d freiheit, selber de tag chöne z bestimme*
I love the freedom myself the day can to-determine

c. *So, ich hoff chli chöne ghulfe z ha*
so I hope a-bit can helped to-have

Similar facts can be found in the history of German. Behagel (1924, 367–369) notes that the construction *haben* + infinitive + participle occurs rather frequently in legal writings in the late 13th and early 14th century, as is illustrated in (6b). The same construction, however, can already be found in the Nibelungenlied (Nib.), as is illustrated in (6a).

(6) a. *ob in diu edelefrouwe het lazen das getau*
whether him the royal woman had let-IPP that done (Nib. 634, 2)

b. *do si so reht wol von irem allerstäben liep het hören*
when she so rightly well from her belovest lover had hear-IPP gerett
said

While double participle constructions are rather rare in the history of German – an example is given in (7a) – they are common in colloquial variants of Frisian,
Swedish and Norwegian (cf. DEN DIKKEN / HOEKSTRA 1997, WIKLUND 2001). (7b) illustrates the double participle in Frisian, and (7c) provides an example from Norwegian. These cases can be analysed as the double realisation of the displaced morphology of the past participle.

(7) a. hand wir unser eigen insigel geton henket
    have we our own seal done hanged (Urkunden Basel 1387)

b. hy soe it dien ha wollen
    he would it do.PART have want.PART
    (DEN DIKKEN / HOEKSTRA 1997, 1058)

c. Jeg hadde villet lest boka
    I had want.PART read.PART books

To summarize this introductory section, displaced morphology regularly occurs in right-branching verb clusters. This is clearly shown by dialectal, crosslinguistic and diachronic data. Since right-branching verb clusters occur obligatorily only in IPP-contexts in Standard German, the phenomenon seems to be exceptional in the standard language but constitutes a completely regular phenomenon in the dialects.

3 A POSSIBLE SOLUTION

The following generalisations can be deduced from the above data. A) Verb cluster formation interferes in some way with the formation of inflected non-finite verbs. B) If verb cluster formation is a syntactic process, then it follows from A) that non-finite verbs, possibly like finite verbs, are derived in the syntax. C) However, if verb cluster formation involves XP-movement of the dependent infinitive into the aspectual domain projected by the selected verb, as is argued in HINTERHÖLZL (2006), then the interference with the formation of non-finite verbs remains unexplained under the standard assumption that inflected verbs are derived under head (X^0) movement. The conclusion that verb formation cannot only involve head movement is corroborated by the observation that head movement cannot account for the differences in morphological placement in left- and right-branching verb clusters.

These considerations lead us to the following hypothesis: if the respective morphology involves phrasal affixes, the affix heading an AspP selecting the VP as its complement will not just attract the verbal head but the entire verb phrase, as is illustrated in (8). (8) shows the piece of structure (an AspP headed by the participial morpheme) selected by the auxiliary, that is V1. In this scenario, only a descending verb cluster guarantees the correct placement of the ending on the last element in the cluster. In (8a), the participial morphology selected by V1 will be fused under the condition of strict adjacency with V2, as required, but in (8b) with V3, leading to a case of displaced morphology. V2 is then typically realized as a default (bare) infinitive.

(8) the participial ending as a phrasal affix

\[
\begin{array}{c}
\begin{tikzpicture}
  \node (VP) {VP} ;
  \node (Asp) [above left=of VP] {Asp} ;
  \node (Asp') [above right=of VP] {Asp'} ;
  \edge {Asp, Asp'} {VP} ;
\end{tikzpicture}
\end{array}
\]


4 AN ALTERNATIVE SOLUTION

The above scenario crucially rests on the assumption that verb cluster formation involves syntactic movement. SALZMANN (2013b) devises an alternative account in which verb clusters and inflected words are built in an articulated PF-component. In this approach, stems and affixes are joined in the interface to PF, where affix-movement crucially interacts with other operations in the PF-component, like verb-inversions in verb cluster formation.

In his account verb clusters are analyzed as complex heads. These complex heads, however, are not formed in the syntactic component but post-syntactically at PF. SALZMANN (2013b) argues that his account is superior to standard accounts in terms of base-generated complex heads, as in HAIDER (2012), as well as to alternative accounts based on stacked VPs, as in WURMBRAND (2001). His main argument concerns the so-called paradox of extraposition, illustrated in (9).

(9) a. *weil er [[sagen [dass Maria krank war] VP] können VP] wollte VP
    b. weil er [[sagen können] wollte] dass Maria krank war
    c. [sagen [dass Maria krank war]] wollte er können

He argues that theories assuming base-generated complex heads cannot explain the data in (9c), namely the topicalisation of a dependent infinitive with its CP-complement, while theories assuming recursive VPs cannot account for the fact that local extraposition is ungrammatical, as illustrated in (9a). As shown in (9b), a CP-complement must be extraposed to the entire verb cluster.

As a solution to this problem, SALZMANN proposes that verb cluster formation involves the creation of a complex head at PF under strict adjacency. In this account local extraposition would block verb cluster formation. SALZMANN assumes right-headed VPs, thus (10b) corresponds to the base structure of (10a). After VP1 inverts with VP2, as illustrated in (10c), the infinitival marker can undergo local dislocation, being prefixed to the causative verb lassen in (10c).

(10) a. ohne es mich haben prüfen zu lassen
    b. ohne es mich [[[prüfen VP] lassen VP] haben VP] zu FP
5 THE ANALYSIS OF DISPLACED PARTICIPIAL MORPHOLOGY

The phenomenon of displaced morphology raises a number of questions. First, the question of how selectional restrictions count as unviolable. Nevertheless, the requirements of V1 on V2 and those of V2 on V3 can seemingly be ignored. Second, the question arises how we can account for the phenomenon of double participles. In the same vein, how can an infinitive become a participle in cases in which the participle morphology is displaced. And most importantly, what happens if a piece of morphology is displaced that has semantic content.

Applying these questions to the data we have discussed in the previous section, the question arises how the correct temporal interpretation of the IPP-instruction in standard German as well as of the participio per infinitivo (PPI) instruction in the history of German, where the participial ending pertaining to it was typically realized on V3, as is illustrated in (11) again, can be achieved.

1) a. IPP in Standard German: haben + wollen + lesen
b. PPI in the history of German: haben + wollen + gelesen

twill argue that the selectional requirements, even in cases of displaced morphology, are correctly represented in the syntactic structure and that the realisation at st of pure formal features is secondary. Furthermore, I will argue that there are air strategies in the syntax that supply otherwise uninflected stems with a de- lit ending and provide for the correct interpretation, in cases in which a semantic feature is displaced.

5.1 The IPP-effect and repair strategies

As we have seen above, middle German dialects display other replacement forms than the famous IPP, which HÖHLE (2006) calls Supina. In fact, what we have are forms in which a past ending has been attached to the present stem, as is illustrated in (12). In particular, it is important to note that these forms cannot be analysed as prefixless (strong) participles.

(12) a. de hast darfd drinke (participle = gedorfd)
   du hast dürfen trinken
   ‘you were allowed to drink’

b. ha:darsche nij hesd size (participle = gehe:san)
   habt-ihr-sie nicht heißen sitzen
   ‘haven’t you told them to sit’

c. se hunn waidz danze (participle = gewisan)
   sie haben-ihn weisen tanzen
   ‘they taught him to dance’

Let us now return to the question of what happens if an affix with semantic import is displaced. The displacement of participial morphology in (13) below has the semantic effect that the event of V3 and not the one of V2 is interpreted as having happened in the past. However, we can assume the following simple repair strategy to apply: the relevant semantic feature [+perf] is copied onto the higher head (Asp1) and deleted in the lower head (Asp2), as is illustrated in (13). For the motivation of two AspPs in the left-periphery of VP see Section 5.2 below.

As above (13) shows the piece of structure selected by the auxiliary (V1). If only the semantic feature is copied, we derive the IPP-effect in the standard language and the supinum in the middle German dialect. If the entire feature matrix is copied, constructions featuring double participles are derivable, as is discussed in more detail in the Section 5.3 below (cf. HINTERHÖLZL 2009 for the details of this account).

(13) Repair of the semantic effect of displaced participial morphology

As is illustrated in (13), the relevant semantic feature is copied onto the higher head and enters into an Agree-relation with V2. In this way the semantic feature is
associated with the correct verb and V2 is licensed and – by being assigned the feature [-finite] by default – is spelled-out as a bare infinitive. In HINTERHÖLZL (2009) it is proposed that this [+perf] feature was realized by a zero morpheme in Standard German, since modal verbs lacked a participle at the time at which the construction was grammaticalized explaining why the participles of modal verbs were spelled out directly as default infinitives when the construction was extended from causative and perception verbs (using prefixless participles) to modals. 5

If this account is on the right track, we derive an argument that speaks in favour of our more syntactic account and against the more phonological treatment by SALZMANN (2013a; 2016): the copy and delete operation explains the range of replacement forms found in the dialects and can also account for the occurrence of double participle constructions (to be discussed in further detail in 5.3 below) in other languages. It remains to be seen what a pure phonological account has to say about the development of the diverse replacement forms in different varieties, including the IPP-form and prefixless participles in Standard German. Note furthermore that the account presupposes that VPs are right-branching, otherwise no effects of displaced morphology are to be expected.

5.2 Displaced morphology in left- and right-branching verb clusters

In HINTERHÖLZL (2006) it is proposed that verb cluster formation involves XP-movement of the Aspect phrase (AspP) of the dependent verb into the AspP of the selecting verb. As indicated above, the aspectual layer of the verb is assumed to contain two projections in this account: the lower one serves for word formation and the higher one for checking the subcategorization of the selecting verb.

If it is assumed that the selecting verb is moved via head movement to the highest head in the aspectual layer, that is to Asp1, and the dependent AspP is first moved to [Spec, Asp2] (for temporal linking) and then up to [Spec, Asp1] of the selecting verb to check the subcategorisation of the selecting verb, then the left- or right-branching nature of a verbal cluster follows from two spell-out options: if the dependent AspP is spelled-out in the higher specifier, a left-branching verb cluster is derived, as in (14a), if the dependent AspP is spelled-out in the lower specifier, a right-branching verb cluster is derived, as illustrated in (14b).

(14) a. \[AspP \[V2 \[AspP \[V1 \[AspP \[V3 \[VP \[V1 \ldots \[V2]]]]]]]]
   b. \[AspP \[V2 \[AspP \[V1 \[AspP \[V2 \[VP \[V1 \ldots \[V2]]]]]]]]]

In (14) verb formation and verb cluster formation do not interfere with each other. This is due to the fact that the selecting verb (V1 in (14)) undergoes head-movement to Asp2P. However, things get more complicated if the selecting verb has to combine with a phrasal affix. In this case the selecting verb will not under-

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5 The historic development of the IPP construction is discussed in detail in HINTERHÖLZL (2009) and JÄGER (to appear).

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Displaced affixes, non-finite morphology and the headedness of the VP in German

go head movement but the entire VP pied-piping the selected verb will be moved into [Spec, Asp2P], as we have seen in (13) above. Remember that in (13) V2 is the verb obtaining participle morphology, V3 is a dependent infinitive and V1 (not represented) corresponds to the auxiliary. (13) thus represents only the first step in the derivation of (14). In a second step, the categorial feature of V2 in (13) is licensed by the higher head rendering it inactive and allowing V3 to undergo XP-movement into [Spec, Asp1P] to check the subcategorisation of V2.

If the AspP containing V3 in (13) is spelled out in the higher specifier, displacement of a phrasal affix in Asp2 is avoided, while spell-out of the AspP in the lower specifier will lead to morphological replacement and to repair operations, as indicated above. So far so good, this conforms to our observation that effects of displaced morphology are typically found in right-branching verb clusters.

However, the account presented so far is incomplete. Note that an IPP-effect also occurs in the left-branching order V3V2 in modern German, as is illustrated in (15), (16) and (17).

(15) a. *Hans hat das Buch nicht lesen gekannt
   b. Hans hat das Buch nicht lesen können
   c. Er hat das nicht gekannt
   d. Er hat des net kinna.I
   (Standard German)
   (Upper Austrian)

(16) a. Hans hat die Maria nicht kommen gehört
   b. Hans hat die Maria nicht kommen hören
   (Standard German)

(17) a. Hans hat die Maria sitzen gelassen
   b. Hans hat die Maria kommen lassen
   (Standard German)

While with respect to (15), we could say that modal verbs have either lost the participle form entirely, as is indeed the case in certain dialects (cf. 15d) or only use it with nominal complements (15c) and use the zero-affix in all other occasions, this cannot be assumed for perceptual and causative verbs, as is evident in (16) and (17).

HINTERHÖLZL (2006) notes that the infinitival forms that do not trigger an IPP-effect in standard German are realized as Doelforms in Frisian, which can be analysed as nominal infinitives (cf. WOLF 1997). This in turn implies that verbs selecting verbal infinitives will display the IPP-effect. As is illustrated in (15–17), we can thus assume that modal verbs only select verbal infinitives, perception verbs can select both nominal and verbal infinitives and the verb lassen in its causative meaning selects a verbal infinitive, but in its permissive reading selects
a nominal infinitive (see HINTERHÖLZL 2006, 171–175 for a more detailed discussion).

We assume that the derivation proceeds in a cyclic parallel fashion, in which an attracting head with feature [+/- f] attracts the closest constituent with the respective feature. If Asp2 hosts a phrasal affix selecting for a verbal non-finite category, then it follows that the entire VP with the dependent AspP in its complement domain is moved into [Spec, Asp2P], as we assumed above. In a similar vein, if V2 in the case of a participial construction selects a nominal infinitive, Asp1 will be specified for the feature [+N] and will attract the dependent AspP containing V3 into the higher specifier. If V3 is spelled out in the higher specifier as is obligatory in the standard language, an IPP-effect is voided. This is illustrated in (18) below.

In (18), the participial morphology can correctly attach to the adjacent verb V2, since the AspectP containing V3 has been subextracted (due to its nominal feature) from the verbal category containing V2 and V3, and V3 has been spelled-out in the higher position.

If, on the other hand, a verbal infinitive V3 is selected by a causative, modal or perception verb V2, V3 in (18) cannot be subextracted for reasons of minimality and an IPP-effect cannot be avoided. In this case, however, the repair operation described above can obtain, attracting V2 that counts as the closest element with the feature [+V] to Asp1. While movement of the entire VP in [Spec, Asp2P] containing V2 would lead to a crash of the derivation – the category of V3 remains unchecked – V2 can undergo head movement to Asp1 containing a zero morphe. The order V3V2 in (15b–17b) in the standard language is then derived by the successive movement of the entire Asp2P to check the subcategorisation of V2, as is illustrated in (19e). (19) illustrates the entire derivation with the option in which the formal feature [+part] is deleted by the repair operation. (19c) displays the Asp1P of V2 at the end of the derivation. V2 has been moved into the highest Asp-head and is realized with default morphology. The entire complement of this Asp1-head, that is Asp2P, has been moved into its specifier to check the subcategorisation of V2.

(19) a. \[\text{Asp1P} [\text{Asp2P} [\text{VP} V2 [\text{AspP} [V3]] [+\text{part}]] [\text{VP} V2 [V3]]]] \text{attraction of VP}
   b. \[\text{Asp1P} [\text{Asp1} V2 [\text{Asp2P} [\text{VP} V2 [\text{AspP} [V3]] [+\text{part}]] [\text{VP} V2 [V3]]]] \text{raising V2}
   c. \[\text{Asp1P} [\text{Asp2P} [\text{VP} V2 [\text{AspP} [V3]] [+\text{part}]] [\text{Asp1} V2]] \text{checking of V3}

Note that movement of the entire Asp2P does indeed serve to check the subcategorisation of V2, since as will be discussed in detail in Section 6.1 below, a participle contains the features that are required by a verb selecting for a verbal infinitive. Note, in particular, that pied-piping of the entire Asp2P versus a possible operation of subextraction of V3 is made necessary to check the subcategorisation of the higher verb, namely V1, in the next cycle, leading to the order V3V1V2 in the standard language. The complete derivation of a verb cluster with three verbs leading to the V3V1V2-order is discussed in detail in Section 7.2 below.

5.3 Double Participles and Last Resort

Let us now come back to the question of how double participles are derived with the help of the above discussed repair operation of copying the semantic feature [+perf] plus the formal feature [+part] onto the higher head. The [+part] feature is by default realized by a phrasal affix, requiring XP-movement of V2 into Asp1P in (13) above. This derivation crashes, because XP-movement of the closest constituent containing the features [-finite] and [+V] would again lead to pied-piping of V3 and leave the category of V3 unchecked. Thus, I propose that in this case the less economic option of attracting only the constituent containing V3 into [Spec, Asp2P] is allowed as a means of last resort. In this situation, V2 contained in the VP can be attracted by the participial affix in Asp1, if and only if the categorial features of V3 [-finite] [+V] have become inactive. I propose that the categorial features of a head become inactive, when they are checked against the subcategorisation of the selecting verb. In other words, feature checking renders active (unchecked) features inactive and interpretable for the PF-component, implying that the checked category is ready to be sent to PF for vocabulary insertion and spell-out. The derivation of a double participle construction is illustrated in (20). In the first step, V3 as a last resort operation is moved into [Spec, Asp2P], as is illustrated in (20a). In the second step, the copy operation copies the features of Asp2 onto the higher head Asp1, as is illustrated in (20b). At the same time, the category of V3 must be checked (indicated by the shadowed letters), in order to allow for the third step to apply, in which Asp1 attracts the closest active category [+V] [-finite], that is, the VP containing V2 into its specifier. At this point both verbs can be spelled out as (past) participles.

(20) a. \[\text{Asp1P} [\text{Asp2P} [\text{AspP} [V3]] [+\text{Part}]] [\text{VP} V2 [V3]]]] V3 into [Spec, Asp2P]
   b. \[\text{Asp1P} [\text{Asp1} [+\text{Part}]] [\text{Asp2P} [\text{VP} [\text{AspP} [V3]] [+\text{Part}]] [\text{VP} V2 [V3]]]]
   c. \[\text{Asp1P} [\text{VP} V2 [V3]] [+\text{Part}]] [\text{Asp2P} [\text{AspP} [V3]] [+\text{Part}]]]
In other words the repair operation of copying features — that serves for word formation — onto the higher head leads to a shift of the checking of the subcategorisation of the dependent verb onto the lower head (Asp2). That this analysis may be on the right track is shown by facts of zu displacement in West Flemish, where the infinitival marker te seems to be displaced leftwards, as is illustrated in (21).

(21) **mee Jan te [willen nen boek kaopen] een**
    with Jan to want, IPP a book buy have
    ‘with Jan having wanted to buy a book’

(21) can be analysed as movement of the constituent headed by the IPP into [Spec Asp2] to check the subcategorisation of the auxiliary. The infinitival marker having been copied from the lower head onto Asp1 will then attract this constituent to its specifier, which however is spelled-out in the lower position, as is typical for infinitives in the predominant right-branching verb clusters in Dutch and West Flemish, as outlined in the previous section. In a final step, the infinitival marker will then fuse with the right adjacent IPP of the modal at PF.

In conclusion, the double participle pattern found in Frisian, Norwegian and Swedish dialects is due to a repair operation and a last resort strategy resolving the conflicting demands of two phrasal affixes and the necessary subcategorisation checking of the selecting verb. In Standard German, the IPP involving a zero-morpheme became the default option, since the construction was grammaticalized before modals developed a new weak participle, as is discussed in detail in HINTERHÖLZL (2009). However, we will come back to the above described last resort operation, when we discuss why the infinitival marker is not regularly found displaced in Standard German in Section 7 below.

6 DISPLACED MORPHOLOGY AND UNINFLECTED VERBS

If this account is on the right track, then the following questions arise. In the case of displaced particle morphology, the question arises of how an infinitive is converted into a participle, as is the case in the double participle constructions in Frisian and Norwegian (cf. (7) above). Furthermore, the question arises of how to define default morphology.

6.1 On the spell-out of displaced morphology

To approach these questions, let us summarize our observations about displaced morphology in Section 2 above. According to these data, selected infinitives can be spelled-out as participles, to-infinitives, ge-infinitives and as gerundia. In this section, I will show that as far as other non-finite forms are concerned, displaced features are spelled-out as long as the result conforms to the maximal morphological template of verbal forms in the language.

For instance, BADER (1995) points out that a displaced infinitival particle is usually spelled-out in the dialect of Bern, if the selected verb is a bare infinitive, but remains unrealized if the selected verb is itself a to-infinitive, as is illustrated in (22). Since both the verbs scheinen and probieren select for a to-infinitive V3 should in principle be spelled-out with two infinitival markers, but only one of them is realized on V3.

(22) **wüa dr Hans sine Fründe schint probiere z häffe**
    weil der Hans seinen Freunden scheint probieren zu helfen
    since Hans his friends seems (to) try to help

SALZMANN (2013b) observed that in the dialect of Bern participles as V2 can in principle appear in the order V2V1 or in the order V1V2, but if the selecting auxiliary is a to-infinitive only the left-branching realisation of the verb cluster is possible, avoiding the complex form z gläxe, as is illustrated in (23).

(23) a. **das er s’Buech hättgläse / gläse hätt**
    that he the book has read / read has
b. **ohmi s’Buech ha z gläse**
   c. **ohmi s’Buech z ha gläse**
   d. **ohmi s’Buech gläse z ha**
    without the book read to have

While (22) and (23) show that a verb in German cannot realize two prefixes, the data in (24) shows that the explanation for this state of affairs is not a hypothetic ban on accumulated features. As the example from the Thuringian dialect of Steinbach in HÖHLE (2006) shows, two displaced features can be realized on the same verb as long as one of them is prefixed to the verb and the other is suffixed to it. Remember that in this dialect the future auxiliary selects for a gerundium and the verb can for a ge-infinitive.

(24) **ich waarsch [+G] kaa [+ge] gesoughan [+ge, +G]**
    I will can say

The implication of these data for the correct analysis of default infinitives and of displaced morphology in general is that verb cluster formation involves uninflected forms that are spelled-out only at the point at which the entire verb cluster has been formed and all forms have been licensed in the relevant checking configuration, as already proposed above. In particular, we can assume that the default status of bare infinitives results from the following specifications in the lexicon in Section 7 below.
5). For instance (25a) states that a verb that is only specified for the feature finite] is spelled out as a bare infinitive.

5) a. Verb [-finite] = bare infinitive
b. Verb [-finite, + part] = past participle
c. Verb [-finite, + ge] = infinitive with ge-prefix
d. Verb [-finite, + G] = Gerundium / infinitive with n-suffix
e. Verb [-finite, + zu] = infinitive with zu-prefix

efault infinitives thus are derived, if it is assumed that in case of a displaced e of morphology the feature [-finite], by default, is assigned to the uninflected ἔρωμ. In this approach, a case of displaced participial morphology involving the sowing accumulated features in (26): an AspP has been moved into the of- another AspP marked with the features for a participle. If the outer participial atures are deleted by the repair operation, a bare infinitive will be spelled-out, if e outer participial features are not deleted, the feature specification is compati with that of a regular participle.

6) [Asp [Asp Verb [-finite]] [-finite] [+ Part]]

Some ungrammatical forms *z gläse und *z z häffe can be excluded by the mor phological condition that the infinitival marker and the participial prefix must at ch directly to the stem of the verb.

On the other hand, it should be noted that the feature specifications of a participle, a ge-infinitive, a gerundium and a to-infinitive are compatible with – and thus satisfy the subcategorisation of a verb that selects for a verbal infinitive, since the feature structure of the latter [-finite] is a proper subset of the feature structure of the former elements. In other words, a form that contains less atures than the feature matrix of the selecting verb would violate the subcategorisation of the higher verb, but a form that contains more features due to morpho logical displacement is always compatible with the subcategorisation of its select-

6.2 Default morphology and uninflected verbs

The above described account of default morphology and of the realization of disused morphology in a right-branching VP is supported by verb doubling facts in ius German. Swiss German displays verb doubling with three types of verbs:

- motion verbs goa 'go' and choo 'come', the causative verb laa 'let' and the xtual verb aaffa 'begin' and is illustrated for motion verbs in (27). The lowing data are taken from SALZMANN (2013a).

7) a. I gang go bügle
       I go    PRT iron.INF

b. Er chunn cho luege
       He comes  PRT look.INF

These constructions provide strong direct evidence for our assumption that the German VP is right-branching. SALZMANN (2013a) argues convincingly that these particles are non-finite verbs, since they behave like regular verbs in Swiss German verb clusters, permitting both VPR and VR-orders, as is illustrated in (28).

(28) a. I gang [go de Muetter es Buech chauffe]
b. I gang [de Muetter go es Buech chauffe]
c. I gang [de Muetter es Buech go chauffe]
       I go  the mother the book  PRT buy

SALZMANN argues that elements like go in the contemporary language are (select ed) verbal particles that are licensed as pro-clitics on the following verb or noun phrase. Historically, we can assume that these particles arose from copies left behind from the selecting verb, when the latter was raised to the higher head in the aspctual domain, that is to the phase edge, to enter in an Agree-relation with Tense and the subject in the clause, as is illustrated in (29).

(29) [Asp1 go+Tense+Aggr[VP go dependent verb]]

In this case, the verbal copy could not be spelled out with the default morphology of a bare infinitive, since the relevant feature [-finite] would be in contradiction with the feature specification of the higher copy. Thus, I am arguing that these verbal particles derive from former verbal stems that have been subjected to phono logical reduction processes, like deletion of the stem coda and reduction of the stem vowel, and became reanalysed as verbal particles. As is clear from the struc tural analysis in (28) the sequence [go dependent verb] displays the base order between head and complement in the VP, providing additional evidence for the assumption that crucially underlies the present account, namely that the VP in German is right-branching.

7 ACCOUNTING FOR SEEMINGLY UNDISPLACED ZU

If what we argued for above is correct, namely that the VP in German is rightbranching and if the infinitival marker is indeed a phrasal affix in the standard language, then it comes as a surprise that the infinitival marker gets displaced only in a very restricted set of contexts. In particular, we would like to understand why it gets displaced only in contexts involving the auxiliary haben + participle / IPP, as has been illustrated in (1) and (2) above.
7.1 Displaced zu and last resort

In particular, the question arises why zu is not displaced in constructions like (30) below. According to the present account, the constituent containing [woll [les]] and [hörf [kommen]] would be moved into the Specifier of Asp2, hosting the infinitival prefix. While for (30b), we can assume that V2 can subextract to check the subcategorisation of the selecting verb in Asp1P, since the perception verb may select for a nominal non-finite verb, the parallel derivation is barred in (30a), since we argued above that modal verbs only select for verbal non-finite forms. In the case of (30a), the derivation should crash, since the subcategorisation of the selecting modal verb remains unchecked.

(30)  a. *ohne das Buch lesen zu wollen*  
without the book read to want  
‘without wanting to read the book’  
b. *ohne die Maria kommen zu hören*  
without the Maria come to hear  
‘without hearing Maria come’

I want to argue that also in this case the last resort operation discussed above obtains moving the more distant V2 into [Spec, Asp2P], as is illustrated in (31a). In the second step, Asp1 can attract V2 to its specifier, since then V2 represents the closest verbal category with the features [+V] [-finite], as is illustrated in (31b). As a final step, zu fuses with the right-adjacent modal verb at MF.

(31)  a.  [
    \[Asp1P  \[Asp2P [les] zu [vp will [les]]]\]

b.  [
    \[Asp1P [les] [Asp2P [les] zu [vp will [les]]]\]

If this account is on the right track, it shows that the morphological operation at MF – usually called local dislocation – is strongly pre-conditioned by the syntax. A phrasal affix will merge with the adjacent word of the phrase that either occupies its checking or its complement domain. Though V2 in (31b) is adjacent to the infinitival marker, it is not in the right local relation with it for Fusion to apply.

7.2 Returning to the Skandalkonstruktion

Let us return to the Skandalkonstruktion in (2) with which we started the paper. We are now in a position to account for its grammaticality and to explain why zu displacement occurs only in this construction in Standard German. The data is repeated for ease of exposition in (32).

(32)  a.  \[\text{Er bedauert, es nicht verhindert haben zu können}\]

b.  \[\text{Er bedauert, es nicht haben verhindern zu können}\]

He regrets it not have prevented / prevent to-can  
‘He regrets not having been able to prevent it’

First, we note that the construction with the infinitive as the most deeply embedded verb is equally good, as is illustrated in (32b). Above we noted that this difference results from the deletion or non-deletion of the feature [+part] in the repair operation. Let us first discuss the derivation of (32a).

In the first step the constituent [kön verhindern] is moved into [Spec, Asp2P] containing the participial phrasal affix, as is illustrated in (33a). In the second step, the modal root is head-moved to Asp1 and is licensed as a default infinitive and the feature [+perf]. In the third step, the entire Asp2P is raised to [Spec, Asp1P] to check the subcategorization of the modal stem, as is illustrated in (33c). This finalizes the derivation in the first phase. I assume, as is standard, that only the phase edge, that is the Specifier and the head of the highest projection, are visible and accessible for the computation in the higher phase. In the second phase, the VP containing the verbal stem haben plus this Asp1P is moved into [Spec, Asp2P] of head containing the infinitival marker zu, as is illustrated in (33d). As before the verbal stem haben is raised to the higher head and is spelled out as a default infinitive. In the final step, the Specifier of Asp1P of the lower phase is raised to the Specifier of Asp1P in the higher phase to check the subcategorization of the auxiliary, as is illustrated in (33e). Since subextraction is possible – the auxiliary selects for a non-finite verb with the feature [+Part] that is not shared by intervening, that is, closer verb forms in the structure, no last resort operation has to apply and the infinitival marker appears displaced showing its true phrasal nature also in the Standard language.

(33)  a.  \[\text{[asp2P [vp können [aspVerhindern] [+Part]]]}\]

b.  \[\text{[asp1P können [asp2P [vp können [aspVerhindern] [+Part]]]}\]

c.  \[\text{[asp1P [asp2P [vp können [aspVerhindern] [+Part]]] können]}\]

d.  \[\text{[asp2P [vp haben [asp1P [vp können [aspVerhindern] [+Part]]] können] [+zu]}\]

e.  \[\text{[asp1P [[vp können [aspVerhindern] [+]have]] haben [asp2P [können] [+zu]]]}\]

Note, in particular, that the order V3V1V2 wears on its sleeves the grammar’s solution to the problem of satisfying the subcategorisation of the higher verb in case this piece of morphology has been displaced onto the lower verb on its sleeves. As pointed out, V3-movement involves pied-piping of the relevant structure, namely Asp2P, representing the selectional requirements of V1. The above data therefore provide strong evidence that verb cluster formation is due to checking operations in the syntax and not due to complex head formation at PF, as proposed by Salzmänn (2013a; 2016).

Before I address the derivation of (32b), let me say a few words about the rare occurrence of the participio pro infinitivo (PPI), as in (32a), in present Standard German. We have seen above (cf. the discussion of (6)) that the construction was
more frequent in earlier stages of the language. Its disappearance is probably due to the rise of the IPP-construction in which an infinitive came to represent a participle in the following periods. In essence, PPI appears only in non finite occurrences of verbs triggering an IPP-effect. A reason could be that while the bare infinitive of modal and causative verbs came to replace the participle, there are no occurrences of a to-infinitive representing a participle. This may lead speakers to only copy the semantic feature such that the participle feature remains visible on V3, although the option of copying both the semantic and syntactic feature and deleting both features on V3 is an option, as is illustrated in (32b).

The derivation of (32b) proceeds in a parallel fashion. The only difference concerns the repair operation in (33b). If it is assumed that the entire feature matrix, namely the semantic feature [+perfl] and the formal feature [+part] are copied onto Asp1 in the first phase and are deleted in Asp2 below, then it follows that a) the zero-morpheme inserted in Asp1 can be taken to check the subcategorisation of the auxiliary in the second phase and b) the dependent verb V3 is realized as a bare infinitive. Note that the semantic feature [+perfl] must be moved to Asp1 in the second phase to be visible for temporal interpretation of the auxiliary and the participial verb / IPP.

In particular, I propose that the grammaticalisation of the combination of auxiliary plus participle as a temporal category resulted in a situation in which not only the semantic feature [+past] on a verb but also the feature complex [+pres] plus [+perfl] licenses the predicate \( r < s \) (reference time precedes speech time) in Tense via an Agree-relation. For this reason, the zero-morpheme containing the feature [+perfl] must be moved to Asp1 in the higher phase to become available for the Agree-relation with Tense.

If, however, the zero-morpheme contains the features [+perfl] and [+part], then head movement of the zero-morpheme to Asp1, containing the auxiliary, will also suffice to license the subcategorisation of the latter, as is illustrated in (34). If on the other hand, the repair operation has just copied the semantic feature onto the higher head, then V3 must and can be subextracted, as we have seen above, and must be moved to [Spec,Asp1P] in the higher phase, to check the subcategorisation of the auxiliary.

(34)  
   a. weil er das Buch hat lesen wollen  
   b. [Asp1P [Asp1hab [+Pres] + 01 [+Perfl] [+Part] [Asp2P [Asp1P lesen t1 wollen]]]

Finally note that (33) presents a case in which a piece of morphology, namely the participial ending is displaced first to the right but ends up on the left of the verbal cluster due to regular movement and checking operations. Along the same line, we can interpret cases of displaced morphology pointed out by Schallert (2012) in his dissertation on IPP-constructions and verb clusters in the dialects of Vorarlberg and Lichtenstein, where the infinitival marker zu appears displaced onto the dependent verb to the left of the selecting verb, as is illustrated in (35).

(35)  
   a. Er ist lieber hunngig ham glafa als sich vo mir z fahra he is rather crooked to-home run than himself from me to drive lo let (Satteins)  
   b. Mei Víta glap z'gwing kinn my father believes to-win can (St. Veit, Osttirol)

Schallert does not say anything about how marked or unmarked these data are in their respective dialect. Given, however, that the unmarked order with causatives is V2V1 and that modals allow for both the orders V1V2 and V2V1 in these dialects, we do not need to assign different properties to the infinitival marker in these dialects in the present account – for instance, assuming that it occupies the Asp1-head, as we proposed for the West Flemish data in (21) above. We can assume that zu is a phrasal affix occupying the head of Asp2P of the higher verb that gets displaced onto the dependent verb via VP-movement pied-piping the dependent infinitive into [Spec, Asp2P], with subsequent movement of the selecting head and the dependent infinitive into the higher Asp1P, namely into the head of Asp1 and its Specifier, respectively, for the above discussed licensing reasons.

In conclusion, cases of displaced morphology come about for two reasons. First the morphology of participles and to-infinitives involves phrasal affixes. If the formation of these verb forms would involve head movement, no displacement effects would be expected. Second, even though phrasal affixes (being the basis of agglutinative morphology) would at the first glance speak in favour of the head-final character of German non-finite clauses, displacements of these affixes are only expected and explainable if the nature of the German VP is head-initial. While historically we see a change from right-branching verb clusters with rather frequent displacements to the right to left-branching verb clusters that often mask the effect in the standard language, the dialects, as I have shown in the paper, preserve to a larger degree right-branching verb clusters and thus display displaced morphology much more robustly. Furthermore, it is important to point out that we succeeded in providing an account of displaced morphology in which selectional requirements that seem to be violated at the first glance not only are met, but provide a convincing explanation of when displacement effects can be avoided or not. Finally, we can take up the question about the grammatical status of displaced morphology in Standard German, posed at the beginning of the paper, and conclude that cases of displaced morphology are completely regular phenomena in the grammar of German that fall out from general properties of the interface between syntax and morphology.
REFERENCES


ZUR VERTIKALEN VARIATION DES AM-PROGRESSIVS IM MOSELFÄRNISCHEN1

Tim Kallenborn

1 FRAGESTELLUNG


Im vorliegenden Beitrag liegt der Fokus auf der Variation des am-Progressivs und dessen (potentiellen) Alternativkonstruktionen entlang der Dialekt-Standard-Achse, also auf der vertikalen Variationsdimension. Denn der Beitrag behandelt die Frage, ob der am-Progressiv in dialektalen und standardsprachnahen Varietäten unterschiedliche Frequenzen aufweist (quantitative Variation) und mit unterschiedlichen syntaktisch-semantischen Selektionskriterien (qualitative Variation) verbunden ist. Damit verknüpft die Analyse zwei bedeutende Forschungsrichtungen innerhalb der germanistischen Variationslinguistik, die bisher – wenn überhaupt – nur unzureichend zusammengeführt wurden: die moderne Regionsprachenforschung (vgl. grundlegend SCHMIDT / HERRGEN 2011) und die Dialektsyn- tax. Während die moderne Regionsprachenforschung das gesamte vertikale Spektrum regionsprachlicher Varietäten und Sprechlagen unterhalb der kodifizierten Standardsprache fokussiert, sich dabei aber zumeist auf phonetisch-phonologische Fragestellungen konzentriert, nimmt die sogenannte Dialektsyntax – wie der Name impliziert – syntaktische Variation in den Blick, bleibt dabei aktuell aber zumeist auf den Dialekt beschränkt. Zwar liegen auch für einzelne syntaktische Variationsphänomene Hinweise ins vertikale Spektrum vor, diese kon-