Lexical Generalizations in the Syntax of German Non-Finite Constructions

Walt Detmar Meurers

Für Anita und Walter

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Acknowledgments

I always enjoyed reading the acknowledgments in theses since they nicely show what really makes the world of science go round: people. I am grateful to now also have the opportunity to thank some of those people without whom this thesis would not have been written.

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Having wandered from the thesis as such over linguistics into the private domain, it makes sense to continue with a person who figures prominently in all three, Kordula De Kuthy. A heartfelt thank you for the best possible cooperation in linguistics and beyond! Now that we're back to the essentials, I am very happy for this opportunity to thank the Kern family, in particular Ann and BBK, for a magnificent year in San Diego, which as one of its side effects enabled me to write this thesis in English.

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CHAPTER 1

Introduction

The syntactic analysis of German non-finite constructions has received much attention in the linguistic literature, both traditional and generative. While these works are based on a wide range of different background assumptions and grammatical frameworks, also a wealth of empirical phenomena has been explored.

The purpose of the first part of this thesis is to provide an overview of these empirical phenomena in order to situate the theoretical investigations in part three. The overview is not intended to recapitulate the many different theoretical questions under which German non-finite constructions have been examined or the various mechanisms employed in their analyses. Rather, the leading idea of the first part is to provide an empirical overview which assumes something like a "smallest common denominator" of syntactic analyses of German non-finite constructions and recapitulates the observable properties along this basic syntactic skeleton. Despite all the differences between the theoretical proposals, a suitable least common denominator seems to be that (at least on a certain level of syntactic structure) a verbal head selects a non-finite verbal complement in a head-complement construction – a notion we will make more precise at the beginning of part one.

Apart from serving as a theory-neutral starting point, the empirical overview will also highlight the fact that the natural classes into which the observations fall are lexical classes, at least in a first step. While some of these lexical classes and their properties can possibly be derived from more abstract syntactic properties, we believe they should be taken seriously as the empirical desideratum which has to be captured by any more abstract syntactic 'explanation'.

It thus is the empirical desideratum evolving around lexical classes of verbs which constitutes the theme of this overview, and from a more

formal and theoretical perspective on lexical generalizations also that of part two and three of this thesis.

Turning to the formal issues involved, in the second part of the thesis we investigate the status of the lexicon and the possibilities for expressing lexical generalizations in the paradigm of Head-Driven Phrase Structure Grammar. We show that the architecture readily supports the use of principles to express generalizations over a particular class of word objects. A second kind of lexical generalizations expressing relations between classes of words, is often expressed in terms of lexical rules, which however lack a precise formalization in the HPSG paradigm. To provide lexical rules in HPSG with a clear formal foundation and interpretation, we show how lexical rules can be integrated into the formal setup for HPSG developed by King (1989, 1994), investigate a lexical rule specification language allowing the linguist to only specify those properties which are supposed to differ between the related classes, and define how this lexical rule specification language is interpreted.

The third part of the thesis builds on the empirical overview of the first and uses the formal mechanisms introduced in the second part to provide theoretical interpretations for central aspects of German non-finite constructions: the partial topicalization phenomenon and the challenge it poses to a theory of constituency, the status and word order phenomena in coherent constructions which are irregular with respect to the regularities expected of general head-complement constructions, and the apparent violations of locality of case assignment and subject-verb agreement involving subjects as part of non-finite verbal projections. The focus of these chapters is on the theoretical consequences which follow from the empirical observations rather than exploring theoretical issues within a particular grammar architecture. The theoretical work in this thesis is based on the HPSG architecture, a paradigm which supports our emphasis on explicit and empirically adequate theorizing. Nonetheless, we generally separate the empirical argumentation and conclusions from the more technical formulation of the actual theories, so that most of part three (and all of part one) of this thesis should also be accessible and hopefully relevant to researchers working in other paradigms.

Part I

The Empirical Domain

Basic Properties of Non-Finite Constructions

Let us start by making concrete what we in the introduction referred to as least common denominator of syntactic treatments of German non-finite complementation: head-complement constructions and the properties one can assume for such constructions. While the following paragraphs might appear to be overly basic, we start exploring the issue at this fundamental level to establish a clear theory-neutral basis on which we will build our empirical overview of non-finite verbal constructions.

Firstly, in a head-complement construction a head can select certain properties of its complement which are not properties of the head itself. This selection has traditionally been referred to as *government*.

Secondly, one can observe *agreement* when a head and its complement both exhibit certain morphological properties. Most instances of agreement require a level of abstraction to be introduced, since it is not the directly observable concrete morphological realizations, but morphological properties abstracted from the observation which are exhibited by head and complement in such a construction.

Thirdly, a certain subclass of properties of the lexical head sometimes referred to as *head properties* are also properties of the head-complement construction projected from this head. That non-lexical constituents exist and bear properties can of course not be directly observed. Rather, it is the result of the theoretical assumption that grammatical regularities should be formulated as referring to locally present properties. Such postulation of properties of non-lexical constituents can (and should) be limited to cases in which non-lexical constituents behave parallel to a lexical element which overtly exhibits the postulated property.

The fourth point is also related to the locality postulate, the percolation of *subcategorization* information. The subcategorization requirements of

a non-lexical constituent is taken to be derived from that of the head by canceling off the part of the requirement corresponding to the complement which the head just combined with.

A fifth property often assumed for head-complement constructions is that the relative *word order* of a head with respect to its complement (head-first vs. head-last) is the same for all heads of a specific class, at least in the *basic word order* (*Grundwortstellung*).[1] In the HPSG architecture, in which we will work out our analysis in part three, such a uniformity of linearization is not required by the framework. Rather, so-called linear precedence constraints can order the constituents in a local tree (or a larger linearization domain) according to any property of the construction or the constituents. Nonetheless, the idea to restrict linearization possibilities in head-complement constructions in a uniform way for all heads of the same (sub-)category is implicitly present in much HPSG work and explicitly encoded in the proposal of Kiss (1995b, pp. 200ff).

Finally, the syntactic structure of head-complement constructions is paralleled by a semantic level in which *semantic composition* takes the syntactic head as semantic functor and the complement as its semantic argument.

In the following, we introduce the empirical domain of non-finite constructions in German along this skeleton of fundamental properties. We start with the basic properties of non-finite constructions, where 'basic' partly stands for 'regular' with respect to the expected head-complement properties and partly for 'introductory' in the sense of laying the ground for the theoretical proposals focusing on particular subproblems in part three. Chapter 3 then complements the regular aspects of non-finite constructions with the irregular aspects arising in the syntax of so-called coherent constructions. Apart from completing the empirical landscape, the particular perspective on the lexical distinctions and (ir)regularities introduced in chapter 3 will give rise to a particular theoretical interpretation of coherent constructions in chapter 8.

1. Syntax

Turning to basic syntactic properties of non-finite constructions in German, most of the properties expected of head-complement constructions can be observed and play a role in the classification of different non-finite constructions.

[1]Some authors, such as Zwart (1993), go one step further and claim that heads universally precede their complements in the basic word order.

1.1. Government. A verbal head V' governs the verb form of its complement V''. Adopting the terminology of Bech (1955)[2] we will refer to the verb form as the *status* of a verb; and parallel to the government of case for nominal complement we will refer to the assignment of status as *status government*. The verb *will* in (1a) governs the bare infinitive (*first status*) of *hören*, whereas *scheint* in (2a) and *weigern* in (3a) govern the *zu*-infinitive (*second status*) and *hat* in (4a) the past participle (*third status*). Completing the picture, Bech also refers to the finite verb form as *null status*.

(1) a. daß er das Meer hören^2(1) will^1(0)
      that he the sea   hear   wants
      'that he wants to hear the sea'

   b. * daß er das Meer zu hören^2(2) / gehört^2(3) will^1(0)
      that he the sea   to hear   / heard   wants

(2) a. daß er das Meer zu hören^2(2) scheint^1(0)
      that he the sea   to hear   seems

   b. * daß er das Meer hören^2(1) / gehört^2(3) scheint^1(0)
      that he the sea   hear   / heard   seems

(3) a. daß er versucht^1(0), das Meer zu hören^2(2)
      that he tries   the sea   to hear

   b. * daß er versucht^1(0) das Meer hören^2(1) / gehört^2(3)
      that he tries   the sea   hear   / heard

(4) a. daß er das Meer gehört^2(3) hat^1(0)
      that he the sea   heard   has

   b. * daß er das Meer hören^2(1) / zu hören^2(2) hat^1(0)
      that he the sea   hear   / to hear   has

In general, each specific verb is lexically specified to govern a single status, just like it is a lexically property of certain verbs to assign a specific lexical case to one of its nominal arguments. When a specific verb form represent several interpretations, understanding each of these variants as separate syntactic verbs makes it possible to extend this regularity to

[2]Much of the following discussion is based on the proposal of Bech (1955), and we will introduce the relevant terminology as we proceed. In building our empirical overview on Bech (1955), we take a similar starting point as Kiss (1995a). A summary of the relationship to our work is included in chapter 11. For a review of Bech's proposal from the theoretical perspective of the principles and parameters paradigm, the reader is referred to Stechow (1984).

verbs like *haben* (*have*) which in its use as tense auxiliary[3] exemplified above assigns a third status whereas its use as modal auxiliary governs the second status. Finally, a small class of verbs can govern either the first or the second status without any change in meaning (Bech, 1955, ch. 15).[4]

Bech (1955) makes use of status government as observable syntactic selection to define the notion of *subordinative* or *hypotactic chain*. We adopt his notation to mark the rank of the ungoverned verb in a hypotactic chain with the (upper) index 1. Every other verb bears the rank of its governor plus one. In case only the relative relationships are relevant, we write V' for the governor and V'' for the verbal complement it selects. Finally, we include the status of a verb in parenthesis after the index, so that we obtain the following notation to be used throughout this thesis: $V^{rank}(status)$.

Having defined the rank of a verb, Bech (1955, §23) also uses it to identify the arguments of a verb. The (logical) subject of a verb V^n is referred to as N^n, and the (logical) accusative and dative objects are specified as A^n and D^n. Related to this, Bech (1955, §36) defines the notion of a *verb-field* (*Verbalfeld*) F^n which includes the verb V^n and all the elements syntactically depending on V^n. In contrast to the other field notions which, following Bech, we will introduce in the following to structure the observable word-order regularities, one should note that the notion of a verb-field is not defined as a topological unit. Instead, the term provides a means to refer to a verbal head and all elements which are syntactically related to this head, be it as adjuncts or arguments. We introduce the term *dependent* to refer to each element in the verb-field F^n except for V^n itself.

1.2. Head properties. Turning to the second aspect of head-complement constructions, the selection and percolation of head properties, in a sentence like the one we saw in (1a) on page 11, the constituent [*er das Meer hören will*] has to bear certain properties of its head *will*. This

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[3]Note that we here and in the following use the term auxiliary only as mnemotechnically useful, pre-theoretic name of a traditional class of verbs. Höhle (1978, pp. 88ff) shows that for German the notion auxiliary cannot be precisely delimited on theoretical grounds. Which verbs are included in the class of German auxiliaries therefore is arbitrary to a certain degree.

[4]This class includes *brauchen* (*need to*), *heißen* (*ask someone to do something*), *helfen* (*help*), *lehren* (*teach*), *lernen* (*learn*), and (stato)motoric verbs like *gehen* (*go*), *kommen* (*come*), or *schicken* (*send*).

is empirically motivated, for example, by the fact illustrated in (5) that certain complementizers like *daß* combine with finite verbal projection, whereas others, like *anstatt* select a non-finite projection in second status.

(5) a. daß er das Meer hören^2(1) will^1(0) / *wollen^1(1) / *zu wollen^1(2) /
       that he the sea   hear   wants / want   / to   want   /
       *gewollt^1(3)
       wanted

       'that he wanted to hear the sea'

     b. anstatt das Meer hören^2(1) *will^1(0) / *wollen^1(1) / zu wollen^1(2) /
        instead the sea   hear   want   / want   / to wants   /
        *gewollt^1(3)
        wanted

        'instead of wanting to hear the sea'

Based on the examples shown in (6) one can argue that for German mood has to be a head property as well,[5] since in certain constructions like indirect speech, embedded questions, or counterfactual sentences the verbal projections generally has to occur in subjunctive mood.[6]

(6) a. Er schwor, er habe^1(0) nichts davon gewußt^2(3).
        he swore   he have-SM *not   there.of known*
        'He swore not to have known about it.'

     b. Karl fragte ihn, wo   er gewesen^2(3) sei^1(0).
        Karl asked him where he been   is-SM
        'Karl asked him where he (claimed to) have been.'

     c. Wenn Karl gekommen wäre, hätte^1(0) er Anna getroffen^2(3).
        If   Karl come   was had-SM *he Anna met*
        'Had Karl come, he would have met Anna.'

Finally, theories assigning contoured structures to verbal projections, i.e., theories in which a verb does not have to combine with all of its arguments in the same local tree, also need to percolate person and number information along the head projection to permit local checking of subject-verb agreement.

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[5]Alternatively, one could consider integrating mood as a semantic property percolating along the projection of the semantic head.

[6]Below and at relevant places throughout the thesis we annotate the English verb glosses with SM for subjunctive mood.

1.3. Agreement. The third criterion, *agreement* of a head with its dependent plays no role in the context of non-finite verbal constructions. If one extends the notion of agreement to include likeness of conjuncts in coordinate constructions, though, it is relevant to note that in German supina[7] agree in status when they are coordinated. The status shown in the examples in (7) thus are the only grammatical possibilities.[8]

(7) a. Er soll[1](0) heute kommen[2](1) und morgen   gehen[2](1).
         he shall   today come   and tomorrow go
         'He is supposed to come today and leave tomorrow.'

    b. Er versprach[1](0) heute zu kommen[2](2) und morgen   wieder zu
        he promised   today to come   and tomorrow again   to
        gehen[2](2).
        go.
        'He promised to come today and to leave again tomorrow.'

    c. Er ist[1](0) gestern   gekommen[2](3) und heute wieder gegangen[2](3).
        he is   yesterday come   and today again   left
        'He came yesterday and left again today.'

As pointed out by Bech (1955, §§5f), the situation is different in English (8a) and Danish (8b). Either one has to assume that in these languages there is no status agreement with coordinated verbal structures, or *to* and *at* in these languages are to a certain degree independent syntactic entities. In the latter case, the English and Danish examples would be analyzed as a coordination of two bare verb forms which as a whole is marked by *to/at*.

(8) a. to come and go
    b. at komme og gå

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[7]Bech (1955, §§1, 9) distinguishes *supina* from so-called *participia*. The former are the status governed verbal forms we are interested in in this thesis, whereas the latter are non-finite verbs pattering with adjectives.
[8]An interesting exception to this generalization was brought to my attention by Stefan Müller:

(i) Die Bilder sind[1](0) gestern   angekommen[2](3) und heute schon zu besichtigen[2](2).
    the pictures are   yesterday arrived   and today already to be.on.view
    'The pictures arrived yesterday and are already on view today.'

The finite verb *sind* at the same time seems to function as perfect tense auxiliary selecting the third status in the first conjunct and as modal passive auxiliary selecting a second status complement in the second conjunct.

Haider (1993, p. 234) supports Bech's assessment and shows that structures with an independent syntactic element *to* can reasonably be assumed for English, whereas for German *zu* has no properties of an independent element and should be analyzed as morphological part of a verb in second status.[9]

1.4. Word order. The fourth observable property, word order, plays a major role in the classification of different non-finite constructions. We first focus on the general topology of non-finite constructions, before turning to the word-order relations resulting from grammatical phenomena like topicalization and extraposition.

1.4.1. *General topology of non-finite constructions.* Almost all verbs selecting non-finite complements in a German verb-last sentence can be linearized according to the rule that the head V' appears to the right of its verbal complement V'' (= head-last).[10] This is illustrated in (9).

(9) a. daß er ihr einen Ring schenken[2](1) kann[1](0)
       that he her a   ring give   be.able
       'that he is able to give her a ring'

    b. daß er den Spargel   zu schälen[3](2) versprechen[2](1) mußte[1](0)
       that he the asparagus to peal   promise   had
       'that he had to promise to peal the asparagus'

For verb-first and verb-second sentences, apart from the order of the fronted verb, the same word-order regularities hold, as shown in (10).

(10) a. Er wird[1](0) ihr einen Ring schenken[3](1) können[2](1).
        he will   her a   ring give   be.able
        'He will be able to give her a ring.'

     b. Ein richtiger König würde[1](0) einen Walzer tanzen[4](1) können[3](1)
        a   real   king would   a   waltz dance   be.able
        müssen[2](1).
        have
        'A real king would have to be able to dance a waltz.'

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[9]Apart from the two positions mentioned here, the literature also includes hybrid theories, such as the proposal of Stechow (1990, pp. 157f) who argues that *zu* in a coherent construction is a morphological part of the verb whereas in an incoherent construction it is an independent element governing first status.
[10]A small group of verbs require obligatory extraposition of their verbal complement.

In (10) and (9), a (non-fronted) verbal head V' immediately follows the head V" of its verbal complement and all dependents of V" directly precede it. Dependent on the nature of the construction, a number of other word orders are also possible. The relevant notion distinguishing these constructions was introduced by Bech (1955). He discusses two kinds of constructions in which a verb combines with a non-finite complement, *coherent* and *incoherent* ones. Whether a coherent or an incoherent combination (or both) is possible for a verbal head and its non-finite complement is a lexical property of the verbal head. Transferring the classification of the construction a verb can occur in to the verb itself, one can thus classify a verb as obligatorily coherent if it only occurs in coherent constructions, as optionally coherent if it can be realized in both coherent and incoherent constructions, and as obligatorily incoherent if it only ever surfaces in incoherent constructions.

While the various properties distinguishing coherent from incoherent constructions are introduced in detail in the context of the empirical phenomena discussed below, very generally speaking the idea behind this distinction is that the verbal complement in an incoherent construction is an independent syntactic constituent, whereas in a coherent construction the two verb-fields are merged and form a tighter unit. To discuss the topology of such units it is useful to introduce the term *coherence-field* (*Kohärenzfeld*) of Bech (1955, §§55ff). A coherence-field is an inseparable topological unit made up of one or more coherently combined verbal fields. It consists of a sequence of coherently constructing verbs in the *final-field* (*Schlußfeld*) preceded by the *rest-field* (*Restfeld*) which contains the dependents of the final-field verbs. Regarding notation, we write K' for the coherence-field of a verb V', and R' and S' for the rest- and final-fields of this coherence-field. On the basis of this terminology, we can now zoom in on the word-order regularities holding in the two sub-fields, the verbs in the final-field and the dependents in the rest-field.

Order in the final-field. The verbs in the final-field in general follow a strict head-follows-complement order ($V^{i+1} < V^i$) as shown in the examples in (11) provided by Bech (1955, pp. 65f).

(11) a. wenn sie eine fallende Bombe zu pfeifen³(2) beginnen²(1) hörte¹(0)
         when she a   falling bomb to whistle   begin   heard

      'when she heard a falling bomb start to whistle'

      b. daß dies Papier nicht aus seinem Geschäftszimmer genommen⁴(3)
         that this paper not from his   office   taken
         worden³(3) sein²(1) könne¹(0)
         been   have   can

      'that this paper cannot have been taken from his office'

The basic ordering of verbal heads with respect to their verbal complement thus follows the uniform linearization we declared as characteristic of head-complement constructions at the beginning of this chapter.

For coherently constructing verbs there is a well-known exception to this uniform ordering of verbs in the final-field which is illustrated in (12).

(12) Es sei aber   zu erwarten, daß in geraumer Zeit der Landkreis seinen
     it is however to expected   that in certain   time the district   its
     Beitrag   zur   Unterbringung werde¹(0) leisten³(1) müssen²(1).
     contribution to.the housing   will   deliver   have

     'It is however expected, that before long the district will have to help with the housing.'

Instead of occurring as the rightmost verb of the final-field, *werde* in (12) occurs at the left edge of the final-field. As exception to the uniform ordering expected of a head-complement structure, the occurrence of such an *upper-field* (*Oberfeld*) will be discussed in detail in section 2.1 of chapter 3.

Order in the rest-field. A characteristic word-order property of constructions in which a V' coherently selects a verbal complement is that the dependents of V' and V" which form the rest-field can be interleaved. Such *scrambling of rest-field elements* is illustrated in (13).

(13) a. daß es^{A²} der Junge^{N¹} zu kaufen²(2) versuchte¹(0)
         that it   the boy   to buy   tried

      'that the boy tried to buy it'

      b. daß er^{N¹} es^{A²} den Jungen^{A¹} kaufen²(1) sah¹(0)
         that he   it   the boy   buy   saw

      'that he saw the boy buy it'

In (13a) the subject *der Junge* of *versuchte* intervenes between *zu kaufen* and its object *es*. And example (13b) shows that if V' selects an accusative object, this A' can intervene between V" and A".

In an incoherent construction, on the other hand, each verb-field forms a separate coherence-field. The two verbal heads thus surface in two distinct final-fields and the dependents of V' and V" are realized in two independent rest-fields. Since a coherence-field is introduced as a topological unit which cannot be broken up, scrambling of the dependents of V' and V" is predicted not to be possible in an incoherent construction. This is illustrated by the ungrammaticality of example (14) with the obligatorily incoherent verb *fortfahren*.

(14) * daß es$^{A^2}$ die Studenten$^{N^1}$ zu lesen^2(2) fortfuhren^1(0)
     that it   the students   to read   continued

‘that the students continued reading it’

Linearization of coherence-fields in the rest-field. With incoherently selected verbal complement forming their own coherence-field, this topological unit has additional word-order possibilities unavailable to coherently selected verbal complements. It was pointed out by Haider (1985b) that for incoherently selected verbal complements not only the basic word order repeated in (15), where the coherence-field K" is left-adjacent to the final-field of K', but also a Mittelfeld[11] position further to the left as shown in (16) is possible, which we will refer to as *coherence-field left-dislocation*. In these and the following examples, coherence-field boundaries are marked by square brackets.

(15) a. Wahrscheinlich hat^1(0) niemand$^{N^1}$ je$^{Adv^2}$ [solch fette Ratten$^{A^3}$ zu
        probably   has   no.one   ever   such fat   rats   to
        fangen^3(2)] versucht^2(3).
        catch   tried

        ‘Probably no one ever tried to catch such fat rats.’

    b. Sicher hat^1(0) niemand$^{N^1}$ je$^{Adv^2}$ [allen Gästen$^{D^3}$ ein Geschenk$^{A^3}$ zu
        surely has   no.one   ever   all   guests   a   present   to
        geben^3(2)] versucht^2(3).
        give   tried

        ‘Surely no one has ever tried to give a present to every guest.’

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[11]The Mittelfeld is the topological field in-between the complementizer in verb-last or the finite verb in verb-first/second sentences and the right-sentence bracket containing the non-finite verbal elements or particles. For a discussion of the topological fields traditionally assumed for German sentences, the reader is referred to Reis (1980), Höhle (1986), and Kathol (1995, ch. 2).

(16) a. Wahrscheinlich hat^1(0) [solch fette Ratten$^{A^3}$ zu fangen^3(2)]
        probably   has   such fat   rats   to catch
        niemand$^{N^1}$ je$^{Adv^2}$ versucht^2(3).
        no.one   ever   tried

    b. Sicher hat^1(0) [allen Gästen$^{D^3}$ ein Geschenk$^{A^3}$ zu geben^3(2)]
        surely has   all   guests   a   present   to give
        niemand$^{N^1}$ je$^{Adv^2}$ versucht^2(3).
        no.one   ever   tried

In a coherent construction, the verbal head V" is placed in the same final-field as V' so that it is not possible for a rest-field element to intervene between V' and V":

(17) * daß solch fette Ratten$^{A^2}$ zu fangen^2(2) niemand$^{N^1}$ je$^{Adv^2}$ pflegt^1(0)
     that such fat   rats   to catch   no.one   ever   usually.does

Summary. Concerning the possible orders in the Mittelfeld, we thus obtain the following picture. Obligatorily incoherent verbs as V' allow their non-finite complement to occur freely in the rest-field R' as long as it remains a complete unit. Thus immediately left-adjacent to the final-field S' is a possible linearization (18a), as is a position further to the left (18b), but the coherence-field K" cannot be broken up by a constituent belonging to K' like the subject in (18c).[12]

(18) a.   Es erstaunt mich, daß ein jeder$^{N^1}$ [diesen Menschen$^{A^2}$ zu
          it astonishes me   that an everyone this   person   to
          kennen^2(2)] bedauert^1(0).
          know   regrets

          ‘It astonishes me that every person regrets knowing this person.’

    b.   daß [diesen Menschen$^{A^2}$ zu kennen^2(2)] ein jeder$^{N^1}$ bedauert^1(0)
          that this   person   to know   an everyone regrets

    c. * daß diesen Menschen$^{A^2}$ ein jeder$^{N^1}$ zu kennen^2(2) bedauert^1(0)
          that this   person   an everyone to know   regrets

Obligatorily coherent verbs like *pflegen* as V', on the other hand, form a single coherence-field K' with its verbal complement so that (in a verb-last sentence) V' and V" have to occur in the same final-field S'. This

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[12]The class of obligatorily incoherent verbs appears to be rather fragile in that one often manages to force such verbs into a coherent pattern if one tries long enough. This ‘training effect’ does not surface with obligatorily coherent verbs, which when forced into an incoherent pattern always cause ungrammaticality.

permits the basic Mittelfeld order in (19a), but in the absence of a separate coherence-field K" as member of the rest-field R', no coherence-field left-dislocation is available, which rules out the word order in (19b). As the dependents of V' and V" occur in the same rest-field R', they can be permuted as shown in (19c).

(19) a. daß ein jeder$^{N^1}$ diesen Menschen$^{A^2}$ zu kennen^2(2) pflegt^1(0)
          that an everyone this   person   to know   usually.do

      'that usually everyone knows this person'

      b. * daß [diesen Menschen$^{A^2}$ zu kennen^2(2)] ein jeder$^{N^1}$ pflegt^1(0)
          that this   person   to know   an everyone usually.do

      c. daß diesen Menschen$^{A^2}$ ein jeder$^{N^1}$ zu kennen^2(2) pflegt^1(0)
          that this   person   an everyone to know   usually.do

1.4.2. *Extraposition.*

Turning to word-order possibilities associated with general word-order regularities outside the Mittelfeld, let us start with the extraposability of non-finite complements. As shown in (20) a subclass of verbs selecting a non-finite complement allows the complement to be extraposed. In the normal case, the verbal complement includes the non-finite verb and all its dependents.[13]

(20) a. daß er sich   weigert^1(0) / *scheint^1(0) zu kommen^2(2)
         that he REFL[14] *refuses   / seems   to come*

      'that he refuses / seems to come'

      b. daß er sich weigert^1(0), ihr das Buch auszuleihen^2(2)
         that he REFL *refuses   her the book to lend*

      'that he refuses to lend her the book'

      c. daß er sich weigern^2(1) wird^1(0), das Buch verkaufen^4(1) zu lassen^3(2)
         that he REFL *refuse   will   the book sell   to let*

      'that he will refuse to let (someone) sell the book'

      d. obwohl   er begann^1(0), den Fragebogen auszufüllen^2(2)
         even.though he began   the questionnaire fill.out

      'even though he began to fill out the questionnaire'

---

[13] The other case, in which the extraposed verbal head leaves some of its arguments behind in the Mittelfeld, was first noted by Höhle (1986, fn. 4) and has since become known under the name of *third construction* (den Besten and Rutten, 1989).

[14] Here and in the following we use REFL as glossing for a reflexive pronoun as dependent of an obligatorily reflexive verb.

The class of verbal heads which allows the extraposition of their complement is the same class of verbs which above was to allow for preposing of the complement's coherence-field in the Mittelfeld, i.e., it is the class of incoherently constructing verbs. Following Bech (1955, §68 (2)), extraposability of the verbal complement thus is a sufficient condition for incoherence of a construction.

1.4.3. *Pied piping.*

A further word-order possibility available for verbs which can construct incoherently arises in relative clause constructions. If the relative pronoun at the left edge of the relative clause is an argument of V", it can be directly followed by all elements of the coherence-field K", i.e., by V" and its dependents. Bech (1955, §81) illustrates this with the example (21a) and the parallel example (21b) showing the unavailability of this word order for obligatorily coherent verbs like *pflegen* (*be used to*).

(21) a. ein Umstand,   den zu berücksichtigen^2(2) er immer vergißt^1(0)
          a   circumstance which to consider   he always forgets

      'a circumstance which he always forgets to consider'

      b. * ein Umstand,   den zu berücksichtigen^2(2) er immer pflegt^1(0)
          a   circumstance which to consider   he always is.used

      'a circumstance which he is used to always consider'

Since the verbal head and its dependents in this construction seem to follow the dislocation to the left of its pronominalized object, the construction is often referred to as pied piping (Ross, 1967; Riemsdijk, 1985). Note that different from the basic word order we saw in (9) on page 15, in the pied-piping word order the verb V" is separated from its governor V' by the subject N' and an adverbial Adv'. The pied-piping word order thus closely resembles the coherence-field left-dislocation we showed in the examples in (16). Haider (1985b) and others therefore view the pied-piping word order as nothing but an instance of coherence-field left-dislocation.

1.4.4. *Topicalization.*

The various options for topicalization in sentences involving non-finite constructions constitute a very interesting word-order phenomenon, not only because they provides a further empirical criterion for distinguishing coherent and incoherent constructions, but also because from a theoretical perspective they pose significant problems for the fundamental syntactic notion of constituency. We here focus on the word-order properties as such and turn to the constituency problem in chapter 7.

Topicalization of the final-field. We saw above that the word-order prop-
erties of a hypotactic chain of coherently combined verbs caused Bech
(1955) to assume that such a verb sequence is part of the final-field of
a single coherence-field. In (22) we see that this topological unit can
also appear in the Vorfeld, i.e., preceding the finite verb in a verb-second
sentence.[15]

(22) Heiraten^3(1) können^2(1) | wird^1(0) sie ihn aber nicht.
    marry   be.able   will   she him but not
    'But she will not be able to marry him.'

For incoherently combined verbs, (23) shows that the option of such a
verbal sequence in the Vorfeld is not available, which is in-line with the
topological analysis of Bech (1955) which assigns these two verbs to final-
fields of two separate coherence-fields.

(23) * zu heiraten^3(1) bedauern^2(1) | wird^1(0) sie ihn aber nicht.
    to marry   regret   will   she him but not
    'But she will not regret marrying him.'

The topicalizability of a verb sequence thus is a sufficient criterion for the
coherence of the combination of the fronted verbs.

Topicalization of a verb with its dependents. A second option for topical-
ization is to front a verb together with its (non-verbal) dependents. As
shown in (24), this option is available for incoherently selected comple-
ments, which is in line with Bech's proposal to view incoherently selected
complements as separate topological units in that they form their own
coherence-field.

(24) Einen Engländer zu heiraten^3(1) | würde^1(0) sie sicher nicht
    an   Englishman to marry   would   she surely not
    bedauern^3(1).
    regret
    'She would surely not regret marrying an Englishman.'

The verb-field comprising a coherently selected verbal complement, how-
ever, in the Mittelfeld is not analyzed as its own topological unit. It
therefore comes as a surprise that such coherently selected verbal com-
plements can equally well be fronted as shown in (25).

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[15]In this and the following examples, the right edge of the Vorfeld is marked off by '|'.

(25) Einen Engländer heiraten^3(1) | würde^1(0) sie sicher nicht wollen^3(1).
    an   Englishman marry   would   she surely not   want
    'She would surely not want marry an Englishman.'

A conclusion one can draw from this is that even though one has good
reasons to assume that a coherently selected verbal complement does not
form a topological unit when it occurs in the Mittelfeld (e.g., no coherence-
field left-dislocation available), such complements can apparently function
as a topological unit for topicalization. In chapter 7 we will show how
one can make formal sense out of this conclusion.

1.4.5. *Summary.* Summing up the discussion of basic word-order prop-
erties of non-finite constructions, we have seen that the uniform ordering
of a head with respect to its complements which we would expect of a
head-complement construction can in general be observed with non-finite
constructions. More interestingly, this basic word-order regularity can be
extended by incorporating the suggestions of Bech (1955) to distinguish
different topological units for different classes of verbs selecting non-finite
complements. We came across two exceptions to this picture: Firstly, the
briefly mentioned occurrence of a so-called higher-field is an exception
to the expected uniform order by decreasing rank indices of verbs in the
final-field. We therefore turn to an empirical discussion of this phenom-
enon in section 2.1 of chapter 3 before proposing a theory in chapter 8
which incorporates the idea that this exception sheds doubt on the head
status of verbs in the upper-field. The second issue concerns the mis-
match between those topological units available in coherent construction
in the context of topicalization compared to those apparently present in
the Mittelfeld. This issue will be picked up again in chapter 7.

1.5. Subcategorization. Compared to the status government and the
word-order phenomena discussed in the previous sections, the represen-
tation, realization, and percolation of subcategorization requirements is
one step further away from directly observable linguistic properties and
rests on certain theoretical assumptions, in particular on the existence of
constituent structure and the belief that the realization of subcategoriza-
tion requirements is a local process, i.e., only involves nodes in a local
tree. In other words, only after a notion of constituency has been derived
from the observable word-order phenomena and the postulated non-lexical
constituents have been validated through substitutability with lexical el-
ements of the same class does it make sense to invent something like

the percolation and realization of subcategorization requirements within a local domain such as a head-projection. Compared to the previous sections, the discussion in this section will therefore have to be more theory and architecture dependent in that it essentially is a continuation of the word-order discussion on a more theoretical level.

Let us start with the simple case, namely the one of incoherently selected non-finite complements. In section 1.4 we recapitulated Bech's observation that incoherently selected verbal complements form coherence-fields which include all of the dependents of a verb and behave as independent topological units. Apart from the overtly missing subject, such coherence-fields thus constitute saturated constituents. Selection of such saturated constituents as arguments of a verb thus directly conforms to the realization of subcategorization requirements assumed for head-complement constructions in that each verbal head locally realizes its dependents within its own head-projection.

The situation is much more complex with coherent verbal constructions, in particular since the questions which subcategorization requirements should be assumed for a verbal head and how these are saturated is closely connected to the question of what constituent structure should be assumed for sentences containing coherent constructions. The tests usually applied to determine constituency in German do not provide clear evidence for these cases. For example, under the traditional assumptions that only a single constituent can be fronted in German and that constituents which can be topicalized can also occur in their base positions in the Mittelfeld, one would argue on the base of example (26a) that the main verb forms a constituent with its nominal complement. Example (26b) on the other hand supports the opposite conclusion that the modal verb forms a constituent with the main verb since they can be topicalized together, leaving the arguments of the main verb behind in the Mittelfeld.

(26) a.   [Das Meer hören^3(1)] | wird^1(0) er wollen^2(1).
           the sea   hear   will   he want

          'He'll want to hear the sea.'

     b.   [Hören^3(1) wollen^2(1)] | wird^1(0) er das Meer.
           hear   want   will   he the sea

It therefore is not uncontroversial, which constituent structure or structures should be assumed for sentences containing coherent verbal constructions.

In the principles and parameters paradigm, at one level of representation a structure is assumed, in which the verb V" combines with its arguments and the resulting constituent is selected by V'. In the classical analysis of Evers (1975), a verb raising transformation (followed by S-pruning) then applies to this underlying structure to obtain a surface structure in which the verb V" forms a constituent with V' (for German via left, for Dutch via right adjunction). An alternative, more far-reaching proposal by (Haegeman and van Riemsdijk, 1986) substitutes verb raising by a reanalysis mechanism. Reanalysis is supposed to supply multiple structures for one and the same example, all of which are possible inputs for further grammatical processes, such as an inversion rule.

Common to these two approaches (and a family of variants) is the idea that the structures of coherent verbal constructions should be derived from underlying structures in which the embedded verbal head realizes its argument in a way which makes it possible to assume the percolation of subcategorization information expected for head-complement constructions.[16]

The approaches in the HPSG paradigm naturally have the same problem of having to license multiple constituent structures for sentences such as the ones shown in (26). Since the HPSG architecture does not assume multiple levels of syntactic structure,[17] it is an interesting issue how a structure can be assigned to sentence (26b) and how the subcategorization information can be percolated in this structure. The idea pursued in the HPSG paradigm is the following: When a verb V" combines with its verbal governor V' instead of with its own arguments, the resulting constituent must take over the unrealized subcategorization requirements of V". To formalize this inheritance of subcategorization requirements,

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[16]In his chapter 9.4 "Derivationelle Verwirrungen [Derivational Confusions]", Haider (1993) provides a detailed and convincing argumentation showing that the classical idea of deriving coherent from incoherent verbal constructions cannot be sensibly entertained. He instead develops an approach in which the coherent verbal complex is not derived, but directly generated as a complex projection basis. Such an approach is very close to the analyses developed in the HPSG paradigm, including the one we present in part three of this thesis, which provides interesting cross-framework support for an analysis viewing coherent constructions as first class citizens.

[17]The so-called linearization approaches in HPSG (Reape, 1993; Kathol, 1995; St. Müller, 1995, 1999; Richter, 1997; Penn, 1999; and others) can be viewed as assuming multiple levels of constituency. Still, most if not all of these approaches can be understood as positing only one level of syntactic constituency. The additional second level represents something often referred to as phonological constituency, a notion which to our knowledge has not been fully explored.

Johnson (1986) suggested to incorporate the idea of functional composition from categorial grammar (Geach, 1970). Hinrichs and Nakazawa (1989) picked up this idea and showed how the relevant aspect of functional composition can be integrated into the HPSG architecture in form of a specific lexical specification of coherently constructing verbs. This lexical specification often referred to as *argument attraction* or *argument raising* adds the unsaturated subcategorization requirements of the verbal complement to the subcategorization requirements of the verbal head as shown in figure 1.[18]

$$\left[\text{SYNSEM|LOC|CAT|VAL|COMPS } \boxed{1} \oplus \left\langle\left[\text{LOC|CAT|VAL|COMPS } \boxed{1}\right]\right\rangle\right]$$

FIGURE 1. Argument attraction as lexical specification

With respect to the example (26b) we saw on page 24, this lexical specification is part of the lexical entries of *wollen* and *wird*. The verb *wollen* raises the complement *das Meer* from its verbal complement *hören* and the verb-second verb *wird* raises that argument from the COMPS list of *wollen* onto its own subcategorization requirements, from which it is realized together with the subject as part of the Mittelfeld.

It is interesting to note that the formulation of argument attraction as a lexical specification differs from the original functional composition rule of categorial grammar on which it was modeled. In the functional composition, the subcategorization requirements of the complement are transferred to the mother of the construction. In the lexicalized variant of figure 1, it is the head of the construction which inherits the subcategorization requirements of its complement. Different from the original functional composition, the lexical argument attraction specification thus makes it possible to assume completely flat structures, since in a single local tree a verbal head can inherit arguments from any of the verbs lower in the hypotactic chain and realize them together with its own arguments. This option is actually made use of in some of the HPSG proposals like Nerbonne (1994) or Bouma and van Noord (1998) who propose theories licensing entirely flat structures also for sentences traditionally analyzed

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[18]As signature with respect to which this description is to be interpreted we here assume the one defined in the appendix of Pollard and Sag (1994), including the changes of the encoding of valence attributes proposed in chapter 9 of that book. As usual in HPSG, the infix operator $\oplus$ represents a relation concatenating two lists.

as including a verbal cluster. The lexical argument attraction specification is, however, also used in more traditional HPSG approaches licensing verbal clusters[19] with left-branching (Hinrichs and Nakazawa, 1989; Kathol, 1995) or right-branching structures (Kiss, 1995a). Common to all of the HPSG proposals we are aware of is that the lexical argument attraction specification is used to be able to apply the ordinary mechanism for percolating subcategorization specification for all head-complement constructions.

Surfacing at this point from this short discussion of theoretical mechanisms used to map the percolation of subcategorization requirements assumed for head-complement construction onto the situation found with coherent constructions, we will return to the issue in detail in chapter 7 when we discuss the flexible nature of constituents required by the phenomenon of partial VP-topicalization before generalizing the issue to partial constituents of different categories in chapter 9.

2. SEMANTICS

Turning from the observable morphologic and syntactic properties to issues of interpretation, for ordinary non-finite constructions, the semantic functor-argument structure conforms to what would be expected of head-complement constructions. A sentence like (1a), for example, repeated here as (27) can be assigned the simple functor-argument structure in (27a).

(27) daß er das Meer hören[2](1) will[1](0)
    that he the sea hear   wants
    a. want(x,hear(x,sea))

Leaving aside a very limited number of exceptions we discuss in section 4 of chapter 3, the interpretation of the syntactic head V' is always the semantic functor and the verbal argument its direct argument. This simple observation has some practical value in that it makes the functor-argument relation a reliable indication of the selection relation among a sequence of coherently combined verbs in the cases where status government as defining relation behind the notion of a hypotactic chain is not

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[19]In this thesis we will use the term verbal cluster in the broad sense as referring to any structure in which a verbal head combines with a verbal complement that has not itself selected any complements (except for a possibly occurring embedded verbal cluster).

reliable, which is the case when unexpected infinitival forms surface as discussed in section 1 of chapter 3.

Apart from the functor-argument structure, there are three semantic properties of non-finite constructions which we want to include in this empirical discussion even though they might appear to be digressions from the main line of argumentation following the basic properties expected of head-complement constructions. In section 3 we will remind ourselves, however, that these semantic properties, in addition to representing important empirical criteria for a classification of verbal heads selecting non-finite complements, closely relate to the properties discussed above and thus to our main line of argumentation.

2.1. Interpretation of the unexpressed subject of V". In general, the subject of a non-finite verb V" cannot overtly be realized as part of its own head projection – exceptions to this rule and their consequences are the topic of chapter 10. When no overt subject is present, the question arises which referent can fill the semantic subject role of an infinitival construction. The question is addressed under the title of *orientation* (*Orientierung*) by Bech (1955, ch. 3) and has played an important theoretical role under the heading of a theory of control in the principles and parameters paradigm, HPSG, LFG and most other frameworks.

In sentences containing only one NP, the subject of the finite V', it is this subject which is interpreted as the subject of V". Note that the overt subject NP is known to be the subject of V' (and not of V") since the subject agrees with V' in person and number.[20] The case is illustrated in (28).

(28) N' = N"

    a. Karl will[1](0) gehen[2](1).
       Karl wants go

    b. Karl scheint[1](0) zu lachen[2](2).
       Karl seems   to laugh

In subjectless and in passive constructions, N" is interpreted as picking out an arbitrary referent from discourse, similar to the interpretation of *man* (*one*), which is shown in (29).[21]

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[20]In subjectless constructions the verb exhibits an invariant third person singular morphology.

[21]As discussed by Grewendorf (1991, sec. 8.2.6), arbitrary reference of N" is sometimes claimed to only be available with subject infinitives (cf., Manzini, 1983; Sternefeld, 1985). An example for such an orientation of a subject infinitive is shown in (i).

(29) *man* = N"

    a. Jetzt heißt[1](0) es sich beeilen[2](1).
       now means it REFL *hurry*
       'Now one has to hurry.'

    b. Dort wird[1](0) getanzt[2](3).
       there is   danced
       'One dances there.'

    c. Karl wird[1](0) geküßt[2](3).
       Karl is   kissed
       'Someone kisses Karl.'

When V' selects an object NP (A' or D') in addition to the verbal complement (V"), it is usually the object and not the subject of V' which is interpreted as the subject of V" (Bech, 1955, §84). This, however, is only a general tendency and not a rule. In general, the orientation of the non-finite complement therefore depends on a lexical classification of the verb V' which cannot simply be derived from the subcategorization requirements of that verb. In the following, we thus turn to the different classes which have to be accounted for.

A verb selecting a dative complement in general has two options for its coefficient: D':N" and N':N". In accordance with the above mentioned tendency, the largest class of such verbs has the coefficient D':N". An example with the verb *befehlen* is shown in (30). A small class of verbs semantically related to 'promising' or 'threatening' require the subject to fill the role of the unexpressed subject as illustrated in (31). Finally, as shown in (32) the verb *vorschlagen* (*suggest*) allows both options and additionally permits N'+D' to act as a plural referent (Bech, 1955, §114).

(30) D' present, D' = N"

    Karl befahl[1](0) dem Burschen[D1] zu kommen[2](2).
    Karl commanded the boy   to come

(i) Ein Haustier   zu schlachten ist grausam.
   a   domestic.animal to slaughter is cruel
   'It is cruel to slaughter a domestic animal.'

For a more general discussion of the issue of arbitrary control, the reader is referred to Siebert-Ott (1983), Wyngaerd (1994), and Wurmbrand (1998).

(31) D' present, N' = N"

Karl verspricht^1(0) dem Burschen$^{D^1}$ zu kommen^2(2).
Karl promises   the boy   to come

(32) D' present, D'/N'/D'+N' = N"

Ich schlage^1(0) ihm$^{D^1}$ vor, ihr ein Buch zu schicken^2(2).
I   suggest   him   PART her a book to send
'I suggest to him that he/I/we send her a book.'

Since the orientation of a non-finite complement is a lexical property of the verb V', we follow Bech in classifying verbs according to their *coefficient* (*Koeffizient*), where a verb with the coefficient N':N" will only occur in constructions with the orientation N'=N", etc. In addition, we will call the argument of V' appearing in the coefficient, the NP controlling the infinitive or simply the controller.

The conclusion that a lexical classification of verbs is necessary to predict the orientation of an infinitival complement receives additional support from the fact that in a construction in which no dative object is overtly expressed, like the one shown in (33), since this V' has the coefficient D':N", the subject role of V' is interpreted to be an arbitrary referent from discourse, and not the only remaining overtly expressed referent N'.

(33) D' unexpressed, *man* = N"

Ich riet^1(0), es ihm zu holen^2(2).
I   advised it him to get
'I advised someone to get him the thing.'

Turning to verbs selecting an accusative object in addition to the verbal complement, all such verbs can have the coefficient A':N" exemplified by (34). But verbs semantically related to *bitten* selecting a V" *dürfen* or a passive auxiliary can have the coefficient N':N", which is shown in (35) (Bech, 1955, §113).[22]

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[22]Verbs selecting an obligatory reflexive could be put in either of the two classes, since independent of whether they are analyzed as having the coefficient D'/A':N" or N':N", the semantic referent will be identical as illustrated in (i). (Bech, 1955, ch. 14)

(i) N' = N" or D'/A' = N"

a. daß ich mir$^{D^1}$ einbildete^1(0) pünktlich zu sein^2(2).
that I REFL believed   on.time   to be
'that I believed to be on time'

(34) A' present, A' = N"

a. Sarah sieht^1(0) den Burschen$^{A^1}$ gehen^2(1).
Sarah sees   the boy   leave

b. Sarah bittet^1(0) den Burschen$^{A^1}$ zu gehen^2(1).
Sarah asks   the boy   to leave

(35) A' present, N' = N"

a. Sarah bittet^1(0) den Burschen$^{A^1}$ gehen^3(1) zu dürfen^2(2).
Sarah asks   the boy   go   to be.allowed
'Sarah asks the boy to allow her to leave.'

b. Ich flehte^1(0) sie$^{A^1}$ an, ihr beim Geschirrabtrocknen helfen^3(1) zu
I   implored her PART her at   drying.dishes   help   to
dürfen^2(2).
be.allowed
'I implored her to be allowed to help her dry the dishes.'

c. Er bittet^1(0) ihn$^{A^1}$, nicht schon wieder bestraft^3(3) zu werden^2(2).[23]
he asks   him   not already again punished   to be
'He asks him not to be punished again.'

Just like with verbs selecting dative objects, the coefficient is independent of whether the object is actually realized (Bech, 1955, §168):

(36) A' unexpressed, *man* = N"

a. Ich lasse^1(0) es holen^2(1).
I   let   it get
'I let someone get it.'

b. Ich bitte^1(0), auch mein Zimmer zu durchsuchen^2(2).
I   ask   also my   room   to search
'I ask someone to also search my room.'

(37) A' unexpressed, N' = N"

a. Sarah bittet^1(0) gehen^3(1) zu dürfen^2(2).
Sarah asks   go   to be.allowed
'Sarah asks someone to allow her to leave.'

---

b. Karl beeilt^1(0) sich$^{A^1}$ fortzukommen^2(2).
Karl hurries   REFL   get.away
'Karl hurries to get away.'

[23]Apart from the N':N" orientation, this sentence also supports an A':N" interpretation, e.g., in a context where a father asks his son not to get into trouble again.

b. Er bittet[1](0), nicht schon wieder bestraft[3](3) zu werden[2](2)
he asks   not   already again   punished   to be

'He asks someone/everyone not to be punished again.'

An interesting special case are the verbs *vorschlagen* and *anbieten*. Their coefficient is underspecified since, as shown in (38), N" can be interpreted to be N', D' or N'+D', dependent on the context (Bech, 1955, §§185, 198).[24]

(38)   a. N' = N"

Karl bot[1](0) ihr$^{D^1}$ an,   sie zu küssen[2](2).
Karl offered her   PART *her to kiss*

'Karl offered her to kiss her.'

b. D' = N"

Ich bot[1](0) ihm$^{D^1}$ an,   mit seiner Familie bei uns den Urlaub zu
I   offered him   PART *with his   family   at   us   the vacation to*
verbringen[2](2).
spend

'I offered him that he and his family could spend his vacation at our place.'

c. N'+D' = N"

Karl bot[1](0) ihr$^{D^1}$ an,   gemeinsam in den Urlaub zu fahren[2](2).
Karl offered her   PART *together   on the   vacation to go*

'Karl offered her to go on vacation together.'

Finally, apart from N', A', and D' as direct NP arguments of V', the controller can also be an argument of a preposition in a PP which is a dependent of V' (Bech, 1955, §§85, 155). For example, in (39) the controller is an accusative NP as complement of the preposition *in* which is the head of a PP-complement of V'.

(39) *in* A':N"

Er würde[1](0) nicht weiter in   sie$^{inA^2}$ dringen[2](1), mitzukommen[3](2).
he would   not   further into her   urge   come.along

'He would not urge her further to come along.'

---

[24]Note that the coefficient of these verbs is not contextually underspecified and then syntactically resolved, as is the case for optionally coherent verbs, which in an actual construction are either coherent or incoherent (cf., sec. 3.1.6 of ch. 9). The sentences in (38) have a preferred reading, but the other orientations remain possible as well (except for the adverbial *gemeinsam* forcing a plural antecedent in (38c)).

2.2. Nature of the relation of V' to the controller. A related semantic property of non-finite constructions, which was not distinguished by Bech but has received much attention in the later literature, is the relation between the verb V' and the element in its verb-field controlling the infinitive. On the one hand, the lexical class of *raising*[25] verbs only establish a syntactic relation to this controller; or viewed the other way, the controller does not fill a semantic role of V'. This can be empirically established as follows. Firstly a syntactic relation like subject-verb agreement is ensured (40).

(40)   a. Karl scheint zu kommen.
       Karl seems   to come

b. Die Kinder scheinen zu kommen.
    the children seem   to come

Secondly, V' can select *subjectless non-finite complements* like the impersonal passive (41a) or a complement headed by a lexically idiosyncratic verb (41b).

(41)   a. Dort scheint getanzt zu werden.
       There seems   danced   to be.

'Someone seems to dance there.'

b. Ihn scheint zu frieren.
    him seems   to freeze

'He seems to be cold.'

Thirdly, V' can select a verbal complement requiring a *non-referential subject*, i.e., one that does not contribute a semantic index (42).

(42) Es scheint zu regnen.
    it seems   to rain

And finally, passivization of the non-finite complement does not change the interpretation of the entire construction (43).[26]

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[25]The term *raising* introduced here as well as the term *equi* introduced below have a long tradition in generative grammar (Postal, 1974; Perlmutter and Soames, 1979) and were originally associated with a particular kind of analysis. They have since become traditional names for two classes of verbal complement taking verbs distinguishable by the tests mentioned above. It is in this empirically-descriptive sense that we make use of these terms. Note that we employ the term *control* or *orientation* to refer to any relationship determining the interpretation of N" as introduced in the last section. It therefore covers both equi and raising relationships.

[26]See, e.g., discussion in Pollard and Sag (1994, p. 136) and Kiss (1995a, p. 10).

(43) a. Karl scheint das Buch auszuleihen.
    Karl seems   the book   to borrow

    'Karl seems to borrow the book.'

   b. Das Buch scheint von Karl ausgeliehen zu werden.
    the book seems   by Karl borrowed   to be

    'The book seems to be borrowed by Karl.'

An *equi* verb V', on the other hand, establishes both a semantic and a syntactic relation to the controller in its verb-field, i.e., the controller is a syntactic and semantic argument of V'. The verb *versuchen* in (44) can be classified as an equi verb with the help of the above mentioned tests showing the unavailability of subjectless complements (45) or non-referential subjects (46), and the failure of the passivization of the complement (47) to result in a paraphrase.

(44)   Karl versucht zu lachen.
       Karl tries   to laugh

(45) a. * Hier versucht getanzt zu werden.
    hier tires   danced to be

   b. * Ihn versucht zu frieren.
    him tries   to freeze

(46) * Es versucht zu regnen.
     it   tires   to rain

(47) a.   Karl versucht das Buch auszuleihen.
       Karl tries   the book   to borrow

      'Karl tries to borrow the book.'

   b. % Das Buch versucht von Karl ausgeliehen zu werden.
    the book tries   by Karl borrowed   to be

    'The book tries to be borrowed by Karl.'

Verbs not having the coefficient N':N" are not as easily classified as raising verbs since one cannot use subject-verb agreement to illustrate that an A or D actually belongs to V' and not V". One can, however, observe that the class of AcI verbs differ from object-oriented equi verbs in that they permit subjectless verbal complements or complements requiring non-referential subjects, and we will therefore classify them as subject-to-object raising verbs. The relevant contrast is illustrated by (48) compared to (49).

(48) a.   Karl sieht es regnen.
       Karl sees it rain

   b.   Er   sah ihr schlecht werden.[27]
       Karl sees her sick   become.

(49) a.   Karl bittet Maria zu lachen.
       Karl asks   Maria to laugh

   b. * Karl bittet es zu regnen.
      Karl asks   it to rain

Ending the short overview of the nature of the relation of a verb V' to its controller, i.e., the raising/equi distinction, let us introduce the term *control-level* so that we can speak of the control-level of a verb V' to refer to the raising/equi distinction in the same way we speak of other lexical classifications such as the coefficient (N':N", A':N", ...) or the (in)coherence (obl. coherent, opt. coherent, obl. incoherent) of a verb.[28]

We will return to the raising/equi distinction when we discuss how it relates to the coherence/incoherence classification in section 3.2. Turning to the theoretical interpretation in part three of this thesis, we will show that the control-level of a verb plays a major role for a local account of apparently long-distance case and agreement relations in partial fronting constructions.

2.3. Interpretation of scope bearing elements. After discussing the functor-argument structure, the interpretation of the unexpressed subject and the nature of the relation of V' to the controller, we now take a brief look at the interpretation of scope bearing elements as a further observable semantic criterion for the classification of verbs.

The sentence (50) is ambiguous with respect to what the adverbial *laut* semantically modifies. Either it was the talking which was loud (narrow scope) or it was the promise to talk which was loudly voiced (wide scope). Depending on the semantic plausibility and context, one or the other

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[27]Example due to Höhle (1978, p. 70).

[28]Kiss (1995a, pp. 4ff) and other German linguistics texts use the term *Subjektfähigkeit* to refer to the equi and raising distinction. Since this term does not include the occurrence of accusative controllers in equi and raising (= AcI) constructions, we decided to instead introduce the new term control-level. The intuition behind this term is that what distinguishes raising from equi verbs is the level (syntactic vs. semantic) at which a verb V' relates to the controller figuring in its coefficient.

reading can be prominent; in (51a) the narrow scope reading is preferred, whereas in (51b) it is the wide-scope reading.

(50) daß Karl laut zu reden versprach
   that Karl loud to talk   promised

   a. promise(k,loud(talk(k)))

   b. loud(promise(k,talk(k)))

(51) a. daß Karl laut zu hupen versprach.
      that Karl loud to honk   promised

      'that Karl promised that he would honk loudly'

   b. daß Karl laut zu verlieren versprach.
      that Karl loud to lose   promised

      'that he loud-voicedly promised that he would lose'

The same effect is illustrated with negation as another kind of scope bearing adjunct in (52).

(52) a. Gott schrieb auf die Gebotstafeln, daß der Mensch nicht töten soll.
      god   wrote   onto the commandments that the man   not kill   shall

      'God wrote onto the commandment-boards that man shall not kill.'

      shall(not(kill(x,y)))

   b. Gott bedauerte, daß der Mensch nicht lesen kann.
      god   regretted   that the man   not   read be.able

      'God regretted that man is unable to read.'

      not(be.able(read(x,y)))

As illustrated by the following examples, this scope ambiguity only arises in coherent constructions and not in incoherent ones:

(53) a. daß Karl versprach, laut zu hupen.
      that Karl promised   loud to honk

      'that Karl promised to honk loudly'

   b. daß vor der Kirche laut zu hupen ein jeder   hier versprechen muss.
      that bef. the church loud to honk   an everyone here promise   has

      'that everyone here has to promise to honk loudly in front of the church'

(54) a. daß Karl laut versprach, zu hupen.
      that Karl loud promised   to honk

      'that Karl promised loudly to honk.'

   b. daß vor der Kirche zu hupen ein jeder   hier laut versprechen muss.
      that bef. the church to honk   an everyone here loud promise   has

      'that everyone here has to promise loudly that to honk in front of the church.'

Interestingly, Bech (1955, §§57, 69) seems to have a 'lexicalist dependency' perspective on the issue of such scope bearing elements. While, as far as we see, he is not explicit about this issue, one can interpret him to intend that an adverbial is always interpreted with scope over the verbal head of the *verb-field* the adverbial belongs to. As we discussed in section 1.1, a verb-field F' consists of the verbal head V' and all its dependents (except for V"). The ambiguity in coherent examples such as (50) and (52) then arises from the fact that when two verb-fields form a single coherence field, the rest-field elements of V' and V" can scramble so that an adverbial as one of the rest-field elements occurring in the coherence field can be identified either as belonging to the verb-field of V' or to the one of V". In the first case, one obtains the 'wide scope' reading, in the second, the 'narrow scope' one. In incoherent constructions such as (53) and (54), the adverbial can always be identified as part of the verb-field of a specific verb since each verb forms its own coherence field and each coherence field constitutes a separate topological unit. We come back to this perspective on scope bearing elements at the end of section 5.2 in chapter 8.

3. RELATING THE OBSERVED PROPERTIES

The overview of the fundamental status government, word order, and semantic phenomena has reminded us of four lexical properties which make it possible to structure the observable phenomena. A verb V' selecting a non-finite verbal complement can be classified according to

- the *status* of V" it governs:
  first, second, or third status
- the *(in)coherence* of its combination with F":
  obligatorily coherent, optionally coherent, obligatorily incoherent
- the *coefficient* of V':
  N':N", A':N", D':N", ...
- the *control-level* at which the controller relates to V':
  only syntactic (raising), also semantic (equi)

In light of such a rich lexical classification, the question arises whether and in which way these four properties correlate. On the empirical side, observing such correlations provides generalizations further structuring the empirical domain. On a more theoretical level, it has often been attempted to derive one of the dimensions from one or several of the others. Finally, from the viewpoint of generative linguistics one can try to interpret the correlations as pointing the way to fewer "deeper" classifications from which the above classes can be derived.

In the following, we discuss some of the correlations which can be observed or have been claimed to be observable in the literature.

3.1. Relating status government to coherence.

3.1.1. *First/third status → obligatory coherence?* The most prominent correlation between the status governed by a verb and the coherence of its construction was formulated by Bech (1955, §65) in the so-called *rule of coherence* (*Kohärenzregel*). It states that whenever a verb V' selects a verbal complement V" in first or third status, the construction is coherent. This rule surfaces in different forms in most of the later literature, e.g., when Stechow and Sternefeld (1988, p. 443, our translation[29]) state that "every incoherent infinitive is a *zu*-infinitive.".

While this is an important and useful generalization, Bech (1955, §238) remarks that this rule is not without exception. As we mentioned in section 1.1, a small class of verbs can govern either the first or the second status without any change in meaning. Those verbs of this class which can construct incoherently, in particular *helfen* (*help*), *lehren* (*teach*), *lernen* (*learn*), and (stato)motoric verbs like *gehen* (*go*), *kommen* (*come*), or *schicken* (*send*), apparently can head an incoherent constructions even when they govern a complement in first status. This is illustrated by the following examples from the literature provided by Bech (1955, §§215, 231ff).

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[29]Original: "Jeder satzwertige Infinitiv ist ein *zu*-Infinitiv". Note that we used the term 'incoherent' to translate 'satzwertig' (sentential) as Stechow and Sternefeld (1988, p. 407) explicitly equate the two terms. Kiss (1995a, pp. 14ff) discusses that the notion of 'Satzwertigkeit', which refers to an intuitive parallelism between incoherent infinitives and finite sentential complements, at closer inspection fails to capture an independent theoretical notion. In agreement with his argumentation, the term will not be used in this thesis.

(55) a. ? Wer mich geheißen hätte, die Türe öffnen.
      who me told   had   the door open
      'Who would have told me to open the door.'

   b. ? Daß wir doch lernten, vor   allem aushalten und nicht urteilen.
      that we still learned before all   wait   and not judge
      'But we nonetheless learned mainly to wait and not to judge.'

(56) Wir wollen helfen, die Unterdrückung enden.
      We want help   the suppression   end
      'we want to help end the suppression.'

(57) a. Wollen wir zu den Förstern   gehen, ihnen Lebewohl sagen?
      Want   we to the forest.rangers go   them good-bye tell
      'Do we want to go to he forest rangers to tell them good-bye?'

   b. Hingegen   wollte Agnes nach Tirol reisen, dort vorfühlen.
      On.the.other.hand wanted Agnes to   Tirol travel there get.in.touch
      'Agnes, on the other hand, wanted to travel to Tirol to get in touch.'

   c. Ich mußte hinauf, die Kinder begrüßen.
      i   had.to up,   the children say.hello
      'I had to go upstairs, say hello to the children.'

   d. Ich wollte zur   Garderobe, meinen Mantel holen.
      I   wanted to.the wardrobe   my   coat   get
      'I wanted to go to the wardrobe to get my coat.'

The status of these counterexamples is, however, not entirely clear, and they do not appear to constitute a homogenous group. Examples like the ones in (55) have an archaic tone to them and could be paratactic constructions, with the phrase after the comma having an imperative interpretation. And for the example (56), Bech (1955, §§215, 231) points out himself that the verb *wollen* occurring in verb-second governs a first status, so that one could attempt to analyze these constructions as involving a coordination of two verbal complements in first status. Such an analysis would not explain Bech's observation, though, that these constructions only arise when the verbal complement in the first conjunct is one of the verbs optionally governing a first or a second status. In this empirical overview, we cannot pursue this issue further. Let us therefore conclude that if one follows the assessment of Bech (1955) that at least some of these examples involve incoherently constructing verbs selecting a complement in first status, one needs to localize the exception to the rule of coherence in the lexical specification of certain verbs, in particular

in the specification of the lexical class of verbs which can govern both first or second status. The rule of coherence then has to be defined in terms allowing reference to such lexical classes (cf., Bech, 1955, §§238).

3.1.2. *Second status → optional incoherence?* Bech's rule of coherence makes it a necessary condition for incoherence that the verbal head selects a complement in second status. Kathol (1995, pp. 237–238) claims that one can strengthen the relationship by adding that all verbs governing a second status can construct incoherently.

A closer look at the data shows that such a generalization permitting incoherent combination for all verbs governing a second status is incorrect. Take, for example the sentence (58) which shows that *wissen* (*know*) is an instance of a verb selecting a non-finite complement in second status. The non-finite complement fails the classical test of incoherence in that it cannot be extraposed (59).

(58) a. Karl weiß sich eine gute Suppe zu kochen.
         Karl knows REFL *a   good soup   to cook*

         'Karl knows how to cook himself a good soup.'

     b. Karl weiß sich zu benehmen.
         Karl knows REFL *to behave*

         'Karl knows how to behave himself.'

(59) a. * daß Karl weiß, sich eine gute Suppe zu kochen
          that Karl knows REFL *a   good soup   to cook*

     b. * daß Karl weiß, sich zu benehmen.
          that Karl knows REFL *to behave*

In general, there are a number of verbs which select a verbal complement in second status and can only construct coherently, which we illustrate with an example each, mostly following Askedal (1982, p. 293): *brauchen* (*need to*)[30] (60) (cf., also Bech, 1955, §§87, 225), *scheinen* (*seem*) (61), *haben* (*have*) (62), *sein* (*be*) (63), *bleiben* (*stay*) (64), *bekommen* (*get*) (65), *pflegen* (*usually do*) (66)(cf., Bech, 1955, §§81, 87, 127), the light verb constructions *zu erkennen geben* (*disclose identity*) (67) and *zu schaffen machen* (*work on something*) (68), and *geben* (*give*) (69) (cf., Tappe, 1984).

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[30]Note that *brauchen* is one of the verbs which can also govern a first status.

(60) a. daß er nicht mehr nach Hause zu fahren brauchte
         that he no   more to   home to drive   need

         'that he did not have to drive home any more'

     b. * daß er nicht mehr brauchte, nach Hause zu fahren
          that he no   more needed   to   home to drive

(61) a. daß er (uns allen) krank zu sein schien
         that he (us all)   sick to be appeared

         'that (to all of us) he appeared to be be sick'

     b. * daß er (uns allen) schien, krank zu sein
          that he (us all)   appeared sick to be

(62) a. daß alle Angestellten die Vorschriften zu befolgen haben
         that all employees   the rules   to follow   have

         'that all employees have to follow the rules'

     b. * daß alle Angestellten haben, die Vorschriften zu befolgen
          that all employees   have   the rules   to follow

     c. obwohl   er als Kunsthänder einen Namen zu verlieren hatte
         even.though he as art.seller   a   name   to lose   had

         'even though he as art.seller had a name to lose'

     d. * obwohl   er als Kunsthänder hatte einen Namen zu verlieren
          even.tough he as art.seller   had   a   name   to lose

(63) a. daß die Vorschriften von allen Angestellten zu befolgen sind
         that the rules   by all   employees   to follow   are

         'that the rules are to be followed by all employees'

     b. * daß die Vorschriften sind, von allen Angestellten zu befolgen
          that the rules   are   by all   employees   to follow

(64) a. daß vieles noch zu erledigen blieb
         that much still to do   remained

         'that much remained to be done'

     b. * daß vieles noch blieb   zu erledigen
          that much still remained to do

(65) a. als   er die Nachricht zu hören bekam
         when he the news   to hear got

         'when he got to hear the news'

     b. * als   er bekam, die Nachricht zu hören
          when he got   the news   to hear

(66) a. daß er mir zu helfen pflegt
        that he me to help   is.used
        'that he is used to helping me'

   b. * daß er pflegt, mir zu helfen
        that he is.used me to help

(67) a. daß er sich sofort   zu erkennen   gab
        that he REFL immediately to be.recognized gave
        'that he immediately disclosed his identity'

   b. * daß er sofort   gab, sich zu erkennen
        that he immediately gave REFL to be.recognized

(68) a. daß er sich sofort   an dem Auto zu schaffen machte
        that he REFL immediately at the car to work made
        'that he immediately turned to working on the car'

   b. * daß er sich sofort   machte, an dem Auto zu schaffen
        that he REFL immediately made at the car to work

(69) a. Er gab ihr die Medizin zu trinken.
        he gave her the medicine to drink

   b. * obwohl   er ihr gab, die Medizin zu trinken
        even.though he her gave the medicine to drink

The examples in (69) taken from Tappe (1984) are particularly interest-
ing since *geben* is an object-oriented equi verb which, as we discuss in
section 3.2.2 and 3.3.1 below, are usually considered prime examples of
incoherently constructing verbs.

3.2. Relating the control-level to coherence.

3.2.1. *Raising → obligatory coherence?* An assumption underlying many
of the proposals in the principles and parameters paradigm is that rais-
ing verbs cannot construct incoherently, or viewed the other way around,
verbs heading incoherent constructions have to be equi verbs. Haider
(1990a, p. 128, our translation[31]), for example, states that there "is gen-
eral agreement about the fact that the so-called raising verbs are obliga-
torily coherent".

While this is true for most raising verbs, there are verbs which appear
to falsify the generalization, the so-called *phase verbs*, the verb *drohen* in

[31]Original: "Einigkeit besteht auch darüber, daß die sog. Anhebungsverben obligat
kohärent sind."

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the variant meaning 'danger of an unwelcome event happening' (Haider,
1993, p. 242f), and finally we could add the impersonal use of *versprechen*
(*promise*).[32] As illustrated by the examples (70), (71), and (72), each of
these verbs can occur in structures combining two properties: First, the
verbal complement is extraposed, which identifies the construction as in-
coherent. And second, the verb fails to require the presence of a thematic
subject, which makes them plausible candidates for raising verbs.[33]

(70) a. Als mir erneut anfing, schlecht zu werden, …
        when me again began sick to become
        'When I started to become sick again, … '

   b. Es hatte aufgehört zu regnen.
        it had stopped to rain
        'It had stopped raining.'

(71) a. Im Herbst schließlich stoppte Apple die Auslieferung einiger Power
        in autumn finally stopped apple the delivery of.some Power
        Books, weil   sie drohten sich zu überhitzen und in Flammen
        Books because they threatened REFL to overheat and in flames
        aufzugehen.[34]
        go.up
        'In autumn, finally, Apple stopped the delivery of some Power Books since
        there was a danger that they would overheat and go up in flames.'

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[32]Incoherent examples with the phase verbs are also mentioned by Bech (1955, §117).
He also reports the particular variants of *drohen* and *versprechen*, but only with co-
herent examples (Bech, 1955, §126).

[33]The other test identifying raising verbs we discussed above, passivization of the
verbal complement in order to check whether one obtains a paraphrase of the active
sentence, does not provide clear results. Passivization in a coherent construction (ib)
seems to be possible with roughly the same interpretation as the active form. Extra-
posing the passivized complement to ensure incoherence as in (ic), however, seems to
result in a sentence which is of questionable grammaticality.

  (i) a. obwohl   der Lehrer nicht sofort begann, den Schüler zu bestrafen
          even.though the teacher not directly began the student to punish
          'even though the teacher did not directly begin to punish the student'

     b. obwohl   der Schüler vom Lehrer nicht sofort bestraft zu werden begann
          even.though the student by.the teacher not directly punished to be began

     c. ?? obwohl   der Schüler nicht sofort begann, vom Lehrer bestraft zu werden
          even.though the student not directly began by.the teacher punished to be

[34]Thanks to Stefan Müller for this example from taz (20./21.01.96, p. 7).

b. Das elektronische Stabilitätsprogramm ESP überwacht die
the electronic   stability.program   ESP monitors   the
Fahrzeugbewegungen und greift   in kritischen Situationen ein,
vehicle.movements   and intervenes in critical   situations   PART
wenn der Wagen droht,   außer Kontrolle zu geraten.[35]
when the car   threatens out.of control   to get

'The electronic stability program ESP monitors the movements of the car
and intervenes in critical situations when the car is in danger of getting out
of control.'

c. obwohl   ihm nun droht   der Führerschein entzogen   zu werden
even.though him now threatens the driving.license taken.away to be

'even though he is now in danger of losing his drivers license'

(72) obwohl   heute verspricht ein wunderschöner Tag zu werden
even.though today promises   a   wonderful   day to become

'even though today looks like it will develop into a wonderful day'

The lexical class of phase-verbs as well as *drohen* and *versprechen* thus
seem to be exceptions to the generalization that raising verbs always con-
struct coherently.

Interestingly, this collection of exceptional verbs could be argued to have
a common property, namely that each of these verbs exists in two forms: a
raising and an equi variant. For *drohen* and *versprechen* the semantics of
the two variants is different enough to make it easy to distinguish them.
For the phase verbs, the existence of the two variants is less obvious.
Perlmutter (1970), however, argues for distinguishing a raising from an
equi variety of *begin* in English – a proposal one could carry over to the
German phase-verbs.[36]

Note that establishing the existence of an equi variety for each of the verbs
in the above examples does not make these examples less exceptional since
the absence of a thematic subject role shows that it is the raising and not
the equi variety which constructs incoherently there. But if the same
verb also exists as an equi variety, for which an incoherent construction
would be expected, the nature of the exception caused by these verbs
bears an interesting similarity to the exceptions to the rule of coherence
discussed in section 3.1.1. The exception there also arose from the fact
that a verb with two variants, one governing first, the other second status,
permitted an incoherent construction not only in the expected case when

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[35]Thanks to Stefan Müller for this example from Spiegel (41/99, p. 103).
[36]Thanks to Stefan Müller for bringing this paper to my attention.

a second status is governed, but also in the exceptional case when the
complement bears first status. A conclusion one could draw from this
is that what actually plays a role in licensing a particular construction
are the properties of the lexical class an item belongs to. More abstract
generalizations, such as the one that only verbs selecting second status
complements or equi verbs can construct incoherently, are either derived
epiphenomena or they represent earlier language stages which have since
been reinterpreted in terms of lexical classes.

Semantic properties → obligatory coherence? Related to the idea that
verbs syntactically but not semantically selecting a controller can only
construct coherently, it has sometimes been suggested that the class of
verbs constructing coherently can be derived from semantic properties of
the predicate. While such a regularity could be based on a wide variety
of lexical semantic distinctions, it is instructive to realize that verbs with
essentially the same interpretation, such as *wollen* and *wünschen* (*want*)
differ significantly with respect to their syntactic properties.[37] The verb
wollen selects a complement in first status and obligatorily constructs co-
herently, whereas *wünschen* governs a second status and optionally con-
structs incoherently. It is unclear how these syntactic differences could
be derived purely from the semantic properties of these two predicates.

3.2.2. *Equi → optional incoherence?* Equi verbs have also been claimed
to relate to a certain mode of construction. One of the fundamental
generalizations underlying the proposal of Stechow and Sternefeld (1988,
p. 443) is that "if an equi verb can coherently embed a *zu*-infinitive it
can also embed this infinitive incoherently." (our translation[38]). In other
words, all equi verbs selecting a complement in second status are predicted
to have the option of constructing incoherently.

We already came across an example at the end of section 3.1.2 which sheds
some doubt on this generalization. Tappe (1984) pointed out that the
object-oriented equi verb *geben* governing a complement in second status
can construct coherently, as shown by the rest-field scrambling example
in (73). Interestingly, this verb cannot head an incoherent constructions,
as shown by the ungrammaticality of the extraposition in (74a) and the
equally ungrammatical pied-piping word order in (74b).

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[37]Thanks to Arnim von Stechow for pointing this out to me.
[38]Original: "Falls ein Kontrollverb einen *zu*-Infinitiv kohärent einbetten kann, kann es
diesen Infinitiv auch inkohärent einbetten."

(73) a. obwohl   es ihr der Mann zu trinken gab
         even.though it her the man   to drink   gave

(74) a. * obwohl   er ihr gab, die Medizin zu trinken
         even.though he her gave the medicine to drink

     b. * die Medizin, die   zu trinken er ihr gab
         the medicine which to drink   he her gave

The verb *geben* thus appears to represent an instance of an equi verb selecting a *zu*-infinitive which in contradiction to the generalization envisaged by Stechow and Sternefeld (1988) can construct coherently but not incoherently.[39]

3.3. Relating the coefficient to coherence.

3.3.1. *Object-oriented equi → obligatory incoherence?* Bech (1955, §§88, 191ff) pointed out that the coefficient of a verb is an important indicator for the (in)coherence of the constructions it can occur in. More specifically, he states that there is a strong tendency for object-oriented verbs to construct incoherently.[40]

Reshaping the tendency observed by Bech (1955) to a generalization over equi verbs, Stechow and Sternefeld (1988, pp. 445f, attributing the idea to Tappe 1982) claim that only subject-oriented equi verbs can construct coherently, i.e., object-oriented equi verbs have to construct incoherently. They mention as a possible counter-example sentences like the one shown in (75), in which the dative complement of *helfen* controls a coherently selected complement, which can be deduced by the rule of coherence since the complement bears first status.

(75) Wir helfen ihnen sparen.
     we help   them   save
     'We help them save money.'

To explain this counter-example away, they suggest to analyze *sparen* not as a verbal but as a nominal complement derived from *beim Sparen.* Independent on whether this explanation can be fruitfully entertained,

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[39]An alternative would be to follow Marga Reis (p.c.) in viewing Tappe's *geben* construction as a syntactic idiom which is a relict of what Ebert (1976) calls the *shared construction*, where the NP is at the same time selected by both verbs.

[40]Bech (1955, §125) reports the same tendency for verbs subcategorizing for an object NP having the coefficient N':N".

there appear to be other examples for coherently constructing object-oriented equi verbs which do not fall into this class.

Bech (1955, §191) reports some supposedly coherently constructed examples such as the one with the object-oriented equi verb *verbieten* in (76).

(76) so daß er nun böse und wild geworden sei, weil   sein eigener Vater
     so that he now angry and wild become   is   because his   own   father
     ihm zu leben verbiete
     him to live   forbid
     'so that he now became angry and wild, since his own father forbid him to live'

Since the sentence neither exhibits scrambling of rest-field elements nor a dependent of V" with scope over V', the example could, however, equally well be analyzed as an incoherent construction.[41] Bech himself claims that such example do not occur with a transitive V" and if one replaces V" in (76) with a transitive verb to enforce coherence with rest-field scrambling one does obtain a sentence of questionable grammaticality (77).

(77) ?? daß er sie ihm zu heiraten verbietet
        that he her him to marry   forbids
        'that he forbids him to marry her'

A reasonably well-formed instance of such a construction is provided by Haider (1990a, p. 128) though. The sentence (78) shows the dative-object-oriented equi verb *versprechen* in a coherent construction.

(78) ? weil   es ihr jemand zu lesen versprochen hat
       because it her someone to read   promise   has
       'because someone promised her to read it'

As a further type of example illustrating the possibility of coherent constructions with such verbs, he presents the 'remote passive' sentence in

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[41]As already pointed out by Grewendorf (1991, pp. 275f), Bech (1955) appears to have rashly classified sentences in which an infinitival complement appears in the Mittelfeld as coherent whenever the verbs occur in a sequence which could form the final-field of a single coherence-field. In the absence of further evidence for the existence of such a single coherence-field, such as rest-field scrambling or dependents of V" with scope over V', such sentences, however, are in fact ambiguous between coherence and incoherence as nothing prohibits an independent coherence-field K" from occurring as rightmost element in the rest-field of K'.

(79a), which he attributes to Tilman Höhle.[42] Askedal (1988, p. 13) points out the parallel example (79b) from Stefan Zweig as presented by Bech (1955, §350).

(79) a. der Erfolg wurde uns nicht auszukosten erlaubt
         the success was   us not   enjoy   permitted
         'we were not permitted to enjoy our success'

    b. Keine Zeitung   wird ihr zu lesen erlaubt.
        no   newspaper is   her to read permitted
        'She was not permitted to read the newspaper.'

Finally, as we already mentioned in sections 3.1.2 and 3.2.2, Tappe (1984) shows that the object-oriented equi verb *geben* governing a complement in second status occurs in coherent constructions and can actually only construct coherently.

There thus appear to be a variety of counter-arguments which would have to be addressed if one wants to keep entertaining the claim that object-oriented equi verbs cannot construct coherently.[43]

3.3.2. *Subject-orientation* ↔ *optional coherence?* While we above discussed the tendencies observed by Bech in terms of object-orientation as a sufficient condition for incoherence, Haider (1993, p. 250) interprets Bech (1955, §88,125) under the perspective of what verbs are candidates for coherence. The regularity under this perspective would then be that coherence is an option exactly for subject-oriented verbs without nominal objects.

As we already saw above, restricting coherence to subject-oriented verbs is too strict, as there are object-oriented verbs which can construct coherently, and Haider comes to the same conclusion.

The new aspect of the generalization Haider investigates is that if coherence cannot be reduced to subject-orientation, subject-orientation might at least be a sufficient condition for coherence. He points out, however,

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[42]The fact that such 'remote passivization' is only possible in coherent constructions is discussed in section 3.4.2 of chapter 10.

[43]Haider (1993, p. 251) comes to a similar conclusion and therefore does not entertain the general claim that object-oriented equi verbs can only construct incoherently. Instead he narrows it down to the claim that verbs which select an accusative object in addition to the non-finite complement, i.e., generally accusative-object-oriented equi verbs, cannot construct coherently. We are not aware of counter-examples to this generalization.

that there are subject-oriented verbs without nominal objects which do not allow a coherent construction, and he illustrates this with the verbs *Abstand nehmen* (*abstain*), *fortfahren* (*continue*), *verzichten* (*renounce*), and *vorgeben* (*pretend*) in (80).

(80) a. *daß sich Max dieser Anrede nicht zu bedienen Abstand nahm
         that REFL *Max this   address not   to use   distance take*

    b. *daß sich Max nicht darum   zu kümmern fortfuhr
        that REFL *Max not   about.that to care   continued*

    c. *daß sie Max nicht wiederzusehen verzichtete
        that her Max not   see.again   renounced

    d. *daß sich Max nicht dafür   zu interessieren vorgab
        that REFL *Max not   for.that to be.interested pretended*

One can thus conclude that even though subject-orientation and coherence are often closely related, there appears to be no direct generalization correlating the two in general. It is neither possible to reduce coherence to subject-orientation nor is subject-orientation a necessary condition for coherence.

3.4. Summary. In the last sections we investigated a number of generalizations from the literature which were claimed to relate coherence to other phenomena such as status government, the control level or the coefficient of a verb.[44] Many of these generalizations have played a central role as basis for higher-level 'explanations' in generative linguistics. We showed that even though these generalizations nicely characterize the majority of examples, each one comes with a number of exceptions which, unless properly taken into account, invalidate any higher-level 'explanation' built on these generalizations.

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[44]Note that we usually only picked one exemplary reference from the literature to introduce each claim. Most of the generalizations discussed are explicitly or implicitly made in many other publications. To add one more example, Haider et al. (1995b, p. 9) state that "Control constructions (with the exception of dative control verbs which are obligatorily incoherent) have the option of entering into either a coherent or an incoherent construction". We saw above that as it stands this sentence is doubly incorrect: certain dative-object-oriented equi verbs can construct coherently (cf., sec. 3.3.1), and there are equi verbs which only construct incoherently (or only coherently) (cf., sec. 3.3.2 and 3.3.1).

CHAPTER 3

Irregular Properties of Coherent Constructions

After reviewing the basic properties of non-finite constructions, this chapter introduces a number of systematic deviations from the regularities expected for head-complement structures which arise in coherent constructions.

1. STATUS GOVERNMENT

In section 1.1 of chapter 2, status government was introduced as defining criterion for hypotactic chains: in a hypotactic chain, a verb V' governs the status of a verb V". Which of the three status is governed is a lexical property of the verb V', and a specific verb will always govern the same status. There are two systematic deviations from this syntactic regularity. Firstly, the much discussed *substitute infinitive* also referred to as *infinitive pro participio* (*IPP*). These are cases in which a verb V" selected by a verb governing the third status surfaces in the first status instead of the third. Secondly, a much less discussed phenomenon which we will refer to as *substitute zu-infinitive* in which a verb surfaces in the second instead of the governed third status.

In the generative literature, the substitute infinitive is usually discussed in connection with an irregular word order of the final-field arising in coherent constructions, the so-called upper-field phenomenon we briefly mentioned in the discussion of the final-field in section 1.4.1 of chapter 2. In the following discussion, we depart from this tradition of viewing the irregular status and word-order phenomena as two sides of the same coin since even though in verb-last sentences the substitute infinitive usually arises in conjunction with the verb *haben* in the upper-field, the two phenomena are to a certain degree independent. The substitute infinitive also surfaces in sentences in which no verb occurs in the upper-field, namely

when *haben* is the matrix predicate in a verb-first or verb-second sentence. And even in verb-last sentences, the ordinary upper-field linearization of verbs at the left edge of the final-field is not the only irregular word order correlating with irregular status government but positions further to the left as well as to the right of the most deeply embedded verb seem to have the same effect. In the following, we therefore first turn to a discussion of the status phenomena in sections 1.1 and 1.2 before dealing with the word-order phenomena in section 2. In section 3 we then turn to the relation between the status and word-order phenomena.

1.1. Substitute infinitive. In (81) we see a typical example for the occurrence of a substitute infinitive. While the status government relations in (81a) are as expected – the finite verb *hat* assigns the third status to its complement *gehört*, and *gehört* governs the first status of its complement *singen* – in sentence (81b), which is interpreted in exactly the same way, we find the infinitive of *hören* instead of the past participle. In the example, we add a lower index to the status to mark the status which would regularly be assigned.

(81) a. Er $\text{hat}^1(0)$ sie $\text{singen}^3(1)$ $\text{gehört}^2(3)$.
        he has   she sing   heard
        'He heard her sing.'

      b. Er $\text{hat}^1(0)$ sie $\text{singen}^3(1)$ $\text{hören}^2(1_3)$.
        he has   her sing   hear

As mentioned above, the generative literature on coherent constructions has usually discussed this status phenomenon as a side-effect of certain word-order regularities. The focus of these works is on the constituent structure involved and the formal mechanisms which have to be assumed to obtain the relevant word orders. Extensive empirical discussions of the status irregularities as such can mostly be found in the non-generative literature, such as Merkes (1895, 1896) or Aldenhoff (1962).[1] Apart from diachronic considerations concerning the origins of the past participle and substitute infinitive verb forms, which are only indirectly relevant to our synchronic investigations, Merkes and Aldenhoff present a detailed lexical

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[1]Interesting discussions of the topic can also be found in Kehrein (1856, pp. 38–41, §48–50), Grimm (1898, pp. 168–169), Erdmann (1886, §153), Blatz (1896, pp. 612–616), Curme (1922, pp. 257–259), and in particular Wilmanns (1906, pp. 161–163, §87), who discusses the substitute infinitive, its relation to word order, and in a footnote on p. 163 also the often ignored substitute *zu*-infinitive cases we turn to in section 1.2.

classification distinguishing verbs which can or have to occur as substitute infinitives from those which always surface as ordinary participles, which we turn to next.

1.1.1. *Which verbs occur as substitute infinitives?* As pointed out by most authors, there is a fair amount of dialectal and inter-speaker variation concerning the classification of verbs which can or have to occur as substitute infinitives. The situation seems to be clearest with the six modal verbs *dürfen* (*be allowed to*), *können* (*be able to / be possible*), *mögen* (*may*), *müssen* (*have to*), *sollen* (*shall*) und *wollen* (*want to*). These modal verbs selecting a non-finite complement in first status do not have a regular past participle form. They form the perfect tense with *haben* and then always surface as substitute infinitive, which is illustrated by (82).

(82) Er $\text{hat}^1(0)$ heute Schokolade $\text{essen}^3(1)$ $\text{dürfen}^2(1_3)$ / $*\text{gedurft}^2(3)$.
      he has   today chocolate   eat   be.allowed / be.allowed
      'He was allowed to eat chocolate today.'

Aldenhoff (1962) and Merkes (1895, 1896) discuss few exceptions to this regularity, such as the sentences shown in (83a) and (83b), and Bech (1955, p. 66) mentions the sentence (83c) without a discussion. At least in current high German, however, these cases no longer appear to be grammatical, so that we have starred them below.

(83) a. * die Mutter $\text{hätte}^1(0)$ den Namen nicht $\text{tragen}^3(1)$ $\text{gedurft}^2(3)$
        the mother had-SM   the name   not   carry   be allowed
        'the mother would not have been allowed to carry the name'

      b. * ich wünschte, daß ich es früher $\text{tun}^3(1)$ $\text{gedurft}^2(3)$ $\text{hätte}^1(0)$
        I   wished   that I it earlier do   be allowed   had-SM
        'I wished I would have been allowed to do it earlier.'

      c. * Christian machte eine heftige Bewegung danach, obgleich   sie es
        Christian made   a   harsh   move   for it even though she it
        ihm ohnedies $\text{hatte}^1(0)$ $\text{reichen}^3(1)$ $\text{gewollt}^2(3)$
        him anyway   had   give   wanted
        'Christian made a harsh move for it, even though she had wanted to give it to him anyway.'

Note that the above said only concerns the use of these verbs as modal verbs selecting a non-finite complement. Some of these verbs also have a

use in which they do not select a non-finite complement. Since these uses of verbs will surface throughout this chapter, let us introduce the term *full verb use* for them here. The modal verb *mögen*, for example, exists as a transitive verb meaning *like*, and *wollen* as synonym of *desire/want* selects an NP or a sentential complement. Furthermore *können* is used in collocations like *nicht umhin können* (*be obliged to do something*), and *sollen* can select an NP and a PP complement where the PP describes the intended location of the NP. The examples in (84)–(87) show that in perfect tense constructions these verbs can occur in a regular past participle form.[2]

(84) Er hat^1(0) seine Schwester sehr gemocht^2(3).
he has   his   sister   much liked

'He really liked his sister.'

(85) a. Er hat^1(0) es nicht anders gewollt^2(3).
he has   it not   differently wanted

'He did not want it differently.'

b. Oma   hätte^1(0) sicher gewollt^2(3), daß Du zu Weihnachten in   die
grandma had   surely wanted   that you at Christmas   into the
Kirche gehst.
church go

'Grandma would have surely wanted you to visit church at Christmas.'

(86) Er hatte^1(0) damals   nicht umhin gekonnt^3(,) ihr das Erbe
he had   back.then not   around be.able   her the inheritance
auszuzahlen.
pay.out

'Back then, he had been obliged to give pay her off the inheritance.'

(87) a. Es hätten^1(0) darauf [auf die vier Schnecken des   Turmes] noch
it had   on.this onto the four spirals   of.the tower   still
vier leichte Turmspitzen gesollt^2(3).[3]
for light spires   at.shall

'On top of the four spirals of the tower there should have been four light spires added.'

b. Die Bierkiste hätte^1(0) doch in   den Keller gesollt^2(3)!
the beer-case had   well into the cellar should

'The beer case should have been put into the cellar.'

[2]Some of these full verb uses also have a substitute infinitive form. They are discussed on pages 69ff of section 1.1.3.

Apart from the modal verbs, the literature does not provide a clear picture regarding which verbs can or have to occur as substitute infinitives. Merkes (1896, pp. 145–169) critically discusses the different views presented in the older linguistics literature and provides an overview of the different claims made in a table which is replicated in figure 1 on the following page. He comes to the conclusion that a substitute infinitive form is usually used for the following verbs: *brauchen* (*need to*), *heißen* (*ask someone to do something*), *helfen* (*help*), *hören* (*hear*) and *sehen* (*see*). Different from modal verbs, these verbs also have a past participle form, which is however rarely used for perfect tense constructions.

Analyzing current German texts, Aldenhoff (1962) presents the same list of verbs except for additionally mentioning certain variants of *lassen*. In addition, he discusses a second class of verbs which can surface as substitute infinitive but usually occur as regular past participles: *fühlen* (*feel*), *machen* (*make*), and *lernen* (*learn*).

AcI verbs. Suchsland (1994, p. 22) claims that AcI verbs embedded under *haben* in a perfect tense construction have to be realized as substitute infinitive as illustrated by the example (88) he provides.

(88) Er hat^1(0) ihn über die Straße gehen^3(1) sehen^2(1$_3$).
he has   him over the street   walk   see

'He saw him walk over the street.'

The following examples from a Donaukurier corpus[4] showing perfect tense constructions in which the AcI verbs *hören* (*hear*) and *sehen* (*see*) surface as ordinary past participles show that this generalization cannot be correct.[5]

[3]Johann Wolfgang von Goethe: *Aus meinem Leben: Dichtung und Wahrheit*. Weimar, Germany: Hermann Böhlaus Nachfolger, p. 82, on the topic of the cathedral in Straßburg.

[4]The text of this newspaper corpus (8.469.700 words/523.353 sentences) is taken from the ECI/DCI Multilingual Corpus I CD-ROM, directory data/eci2/ger04.

[5]Apart from the AcI verb *sehen* selecting a verbal complement in first status as discussion above, the verb *sehen* (and other AcI verbs like *fühlen*) can also embed stative passives. When such a construction is selected by the perfect tense auxiliary *haben* as illustrated in (i), the AcI verb obligatorily appears as a regular past-participle.

(i) a. Die freien Großhändler östlich der   Elbe hatten^1(0) sich bislang deutlich
the free   wholesalers east   of.the Elbe had   REFL until.now clearly
benachteiligt gesehen^2(3) und über Verluste geklagt.
disadvantaged seen   and about losses   complained

'Until now, the free wholesalers east of the Elbe had seen themselves at a clear disadvantage and complained about the losses.'

Übersichts-Tafel.

	lassen	heißen	helfen	sehen	hören	lernen	lehren	brauchen	machen	fühlen	wissen	pflegen	suchen
Adelung (Wörterbuch)	Ersatz	Ersatz	Ersatz	Ersatz	Ersatz, oder d. Part. kommt auch vor	Ersatz, viele Fälle; Er.; in denen der Vorteil des Ersatz "das Wohlklingliche"	Ersatz, viele Fälle, aber zuweilen zum Vorteil des Wohlklgs, Participb.			Ersatz?		Viele Ersatz, häufig auch Particip. Partic.formen zu meiden!	
Adelung (Grammatik)	Ersatz	Ersatz	Ersatz	Ersatz	Ersatz	Ers. = Part.	Ers. = Part.		Particip				
Becker	Ersatz	Ersatz	Ersatz	Ersatz	Ersatz	Ersatz "zuweilen"	Ersatz "zuweilen"	Particip	Ersatz	Ersatz "als weilen"			
Blatz	Ersatz	Ersatz	Ersatz "zuweilen"	Ersatz "zuweilen"	Ersatz "häufig"	Ersatz	Ers. = Part.	Particip	Ers. = Part.	Ers. = Part.	Particip		
Brücke	Ersatz	Ersatz		Ers. lieber als Part.	Ers. lieber als Part.	Ersatz	Ersatz	Ersatz					
Bruck	Ersatz	Ers. lieber als Part.	Ers. lieber als Part.	Ers. lieber als Part.	Ers. lieber als Part.	Ers. lieber als Part.	Ers. lieber als Part.	Ersatz	Ers. = Part.	Ers. = Part.	Particip		
Buschmann	Ersatz	Ersatz	Ersatz	Ersatz	Ersatz	Ersatz	Ersatz, mit unter	Ersatz	Ersatz	Ersatz			
Engelien	Ersatz	Ersatz	Ersatz	Ersatz	Ersatz	Ersatz "mitunter"	Part., oder als Ersatz	Ersatz	Ersatz	Part., aber als Ersatz			
Grimm	Ersatz	Ersatz	Ersatz	Ersatz	Ersatz	Ersatz als Ersatz	Part., oder als Ersatz		Ersatz		Particip	Ersatz	
Heyse	Ersatz	Ersatz		Ersatz	Ersatz	Part. besser	Part. besser						
Jost	Ersatz	Ersatz "häufig"	Ersatz "häufig"	Ersatz "häufig"	Ersatz "häufig"	Ersatz "häufig"		Ersatz					
Kehrein	Ersatz	Ersatz	Ersatz	Ersatz	Ersatz	Ersatz	Ersatz		Ersatz	Ersatz			
Lehmann	Ersatz	Ersatz	Ersatz	Ersatz	Ersatz								
Lyon	Ersatz	Ersatz	Ersatz	Ersatz	Ersatz	Ersatz "schlechter"	Ersatz "schlechter"	Ersatz "schlechter"		Ersatz schlechter			
Meurer	Ersatz	Ersatz	Ersatz	Ersatz	Ersatz, auch weilen, aus genommen	Ersatz "zuweilen"	Particip	Particip	Ersatz	Particip			
Otto	Ersatz	Ersatz	Ersatz	Ersatz	Ersatz	Ersatz, auch Part.	Ersatz, mitunter	Ersatz	Ers. = Part.		Ersatz		
Sanders	Ersatz	Ersatz	Ers. mehr gewöhnlich als Particip	Ersatz	Ersatz	Ers. = Part.	Er. = Part.	Ers. = Part.	Ers. = Part.		Particip		
Schottensack	Ersatz	Ersatz		Ersatz	Ersatz	Partizip, neuerer Zeit lieber als Ers.	Partizip, neuerer Zeit lieber als Ers.	Ers. = Part.		Part. in neuerer Zeit lieber als Ers.			
Sosnosky	Ers., Part., Ers. lieber als Part.	Ers. = Part. = Part. auch d. Part.	Ersatz	Ersatz	Ers. lieber auch d. Part.	Ersatz, auch Part.	Ersatz, mit unter	Ersatz, auch Part.		Kom.: früher	Kon.: früher		
Vernaleken	Ersatz	Ersatz	Ersatz	Ersatz	Ersatz	Ersatz	Ersatz		Ersatz	Ersatz	Ersatz		
Wetzel	Ersatz	Ersatz	Ersatz	Ersatz	Ersatz	Ersatz	Ersatz				Ersatz		
Wilmanns	Ersatz	Ersatz	Ersatz	Ersatz	Part. "häufig"	Ersatz, Part., aber sehr üblich	Partizip, Part. aber sehr üblich	Particip	Ers. = Part.	Ersatz "zu liegentlich"	Particip		
Wustmann	Ersatz, Part. "häufig"												
Dr. X *.													

FIGURE 1. Literature overview from Merkes (1896): Lexical classification of verbs according to their occurrence as substitute infinitive or past participle.

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(89) a. Ich hab's in meiner Schulter krachen gehört – es hat höllisch weh
     I   have.it in my   shoulder crack   heard – it has hell.like hurt
     getan, sagte der 24jährige   Kölner.
     done   said   the 24-year-old person.from.Cologne

     'I heard it crack in my shoulders – it hurt like hell, said the 24 year old man from Cologne.'

   b. Die Frau   hatte einen dumpfen Schlag sowie   Münzgeld
     the woman had   a   muted   hit   as.well.as coins
     klimpern gehört und sofort   die Polizei verständigt.
     thrumming heard and immediately the police   contacted

     'The woman had heard a muted hit as well as thrumming coins and immediately contacted the police.'

   c. Nicht wenige der   Anwesenden hatten das Wesen mit der Flasche
     not   few   of.the people.present had   the being with the bottle
     schon zu vergangenen Anlässen singen gehört, so daß sich die
     already at past   events sing   heard so that REFL the
     Frage,   ob   es dies nun kann oder nicht, schon vorher
     question whether it this now can or   not   already before
     erübrigt   hatte.
     become.unnecessary had

     'Not few of the people present had already heard the being with the bottle sing at previous occasions, so that the question, whether it can sing or not had already been dealt with.'

   d. so wollen Ohrenzeugen den Eintracht-Trainer schließlich in
     so want   ear-witnesses the Eintracht-coach   at.the.end in
     astreinem Serbo-Hessisch vor   sich hinmurmeln gehört haben
     perfect   Serbo-Hessian before REFL murmur   heard have

     'ear-witnesses claim to have heard the coach of Eintracht murmur this in perfect Serbo-Hessian'

---

   b. Durch   die schlechte Auftragslage   speziell   im   Plutoniumzweig
     because.of the bad   situation.of.orders in.particular in.the plutonium.business
     haben[1](0) sich aber einige gezwungen gesehen[2](3), Siemens den Rücken zu kehren.
     have   REFL but some   forced   seen   Siemens the back   to turn

     'Because of the lack of orders in the plutonium business, some companies felt forced to turn their back on Siemens.'

e. 100 angehende Pädagogen wollen Deutschlehrer oder Dolmetscher
   100 beginning   pedagogs   want German.teacher or   translator
   werden, aber sie   haben noch nie jemanden Deutsch sprechen
   become but they have   still not someone   German speak
   gehört.
   heard

   '100 pedagogs in training want to become German teachers or translators, but they never heard anyone speak German.'

(90) a. Ko Murobushi hat Tatsumi Hijikata tanzen gesehen.
      Ko Murobushi has Tatsumi Hijikata dance   seen

      'Ko Murobushi has seen Tatsumi Hijikata dance.'

   b. Der Präsident des   Nationalen Olympischen Komitees (NOK), der
      the president of.the National   Olympic   Committee (NOK) who
      mit seinen 79 Jahren viele Funktionäre kommen und wenige gehen
      with his   79 years many officials   come   and few   go
      gesehen hat, sprach von Herrenmenschen, neuem Kolonialismus und
      seen   has spoke of master.race   new   colonialism   and
      Siegermentalität.
      winner.mentality

      'The president of the National Olympic Committee (NOK), who at his 79 years has seen many officials come and few leave, spoke of master race, new colonialism and winner mentality.'

   c. Ich hatte seit meiner Kindheit nie   solch eine Stille   erlebt,
      I   had since my   childhood never such a   quietness witnessed
      ich lebe in der Stadt und habe noch nie   den Schnee so fallen
      I   live in the city and have still never the snow   so fall
      gesehen, ich hatte keine Ahnung, wie magisch diese kalte
      seen   I   had no   idea   how magic   this cool
      Atmosphäre sein kann.
      atmosphere be   can

      'Since my childhood I had never witnessed such a quietness. I live in the city and I have never seen the snow fall in this way. I had no idea of the magic of this cool atmosphere.'

   d. Es soll Leute geben, verlautet aus gut unterrichteten Kreisen, die
      It shall people give   sounded from well informed   circles   who
      wollen ihn schon einmal lachen gesehen haben.
      want   him already once   laugh   seen   have

      'According to well informed circles, there supposedly are people, who claim to have seen him laugh once.'

e. Während er sich den Vorfall nicht erklären kann, wollen Zeugen
   While   he REFL the incident not   explain can   want   witnesses
   einen älteren Mann davonfahren gesehen haben.
   an   oldish   man drive.away   seen   have

   'While he cannot explain the incident, witnesses claim to have seen an oldish man drive away.'

f. Niemand verbietet einer Nonne das Rauchen, aber haben Sie schon
   Nobody   forbids   a   nun   the smoking   but   have you already
   eine rauchen gesehen?
   one smoke   seen

   'Nobody forbids a nun to smoke, but have you ever seen one smoke?'

g. Als alter Hase im   Ballettgeschäft hat Roland Petit viele Epochen
   As old   hare in.the ballet.business has Roland Petit many   epochs
   erlebt,   die Moden kommen und gehen gesehen, Klassik
   lived.through the fashions come   and go   seen   classic
   sowie   triviale Revuen inszeniert.
   as.well.as trivial   shows   put.on.stage

   'Having been around in the ballet business for a long time, Roland Petit has seen fashions come and go and has put on stage classic as well as trivial shows.'

h. "Wenn wir auch gegen Osnabrück verlieren, na   dann Gute Nacht",
   if   we also against Osnabrück lose   well then good night
   hätte der Stürmer   nach sechs Spielen ohne Sieg   noch
   had   the center.forward after six   games   without victory even
   kräftigeres Ungemach im Frankfurter Umfeld   aufkommen
   stronger   problems   in Frankfurt   environment come.up
   gesehen.
   seen

   "'If we also lose against Osnabrück, that's it." has the center forward seen serious problems arise for Frankfurt after six games without a victory.'

While the general claim that AcI verbs in perfect tense constructions can only surface as substitute infinitives is incorrect, at the same time it is clear that past participle and substitute infinitive are not always interchangeable. The complexity of the issue can be nicely illustrated by taking a closer look at the AcI verb *lassen*.

The verb *lassen* (*let*) exists in a large number of semantic varieties which differ with respect to their realizability as participles or substitute infinitives. Merkes (1895, pp. 100ff), Aldenhoff (1962, pp. 202ff), Höhle (1978, sec. 2.9.1) and others proposed classifications of the varieties of *lassen*.

Focusing solely on the possibility of *lassen* to surface as substitute infinitive or past participle, we obtains two large classes: in a small class of cases, *lassen* can occur both as past participle and as substitute infinitive, whereas most uses of the verb (seven of eight in the classification of Höhle 1978) always surface as substitute infinitive.

The uses of *lassen* which can occur as past participles all appear to express a 'leaving unchanged of a spatial relation', including metaphorically derived uses. The clearest case seems to be when *lassen* embeds a predicate relating to a static location such as *stehen* (*stand*), *liegen* (*lie*), *hängen* (*hang*), *stecken* (*stick*), and *sitzen* (*sit*) or a change in location as expressed by *fallen* (*fall*). As illustrated by the following examples, such uses of the verb *lassen* can occur both as a substitute infinitive or as ordinary participle.[6]

(91) a. Er hat die Koffer   stehen gelassen!
        *he has the suitcases stand   let-*PART2
        'He left the suitcases where they were.'

      b. Auch sie   hatten vor   zwei Tagen die Spaten fortgeworfen, die
        also   they had   before two days   the spade   thrown.away the
        Gewehre liegen gelassen und waren davongelaufen.
        *guns   lie   let-*PART2 *and were   run.away*
        'Two days ago they too had thrown away the spades, left the guns where they were and ran away.'

      c. Den Rock hat sie wieder fallen gelassen.
        *the skirt has she again   fall   let-*PART2
        'She let the skirt fall down again.'

(92) a. Unsere Tür hat der Krieg stehen lassen, zufällig,   aus Versehen.
        *our   door has the war   stand let-*IPP *accidentally by   chance*
        'The war has left our door standing, accidentally, by chance.'

      b. ich hatte meine Zeche bezahlt, mein Gepäck neben dem   des
        I   had   my   bill   payed   my   luggage   next   to.that of.the
        Kumpels liegen lassen und war in der Dämmerung in   dieses
        *buddy   lie   let-*IPP *and was in the dusk   into this*
        Städtchen hineingetaumelt
        little.city   stumble
        'I had payed my bill, put my luggage next to that of my buddy, and then had stumbled at dusk into this little city.'

      c. Der Seconde-Lieutenant von Salomon hatte seine Handschuhe
        the lieutenant   of Salomon had   his   gloves
        achtlos   zu Boden fallen lassen.
        *carelessly to ground fall   let-*IPP.
        'The lieutenant of Salomon had carelessly let his gloves fall to the ground.'

Some of the metaphorical uses derived from the above cases, such as *liegen lassen* in the meaning of *leave unfinished*, or *fallen lassen* as synonym for *abandon* also permit both past participle and substitute infinitive forms of *lassen*.

(93) a. 1786 hatte Goethe den 1910 aufgefundenen sogenannten Urmeister
        1786 had   Goethe the 1910 discovered   so-called   Urmeister
        liegen gelassen
        *lie   let-*PART2
        'In 1786, Goethe had put away the so-called Urmeister manuscript which was discovered in 1910.'

      b. Nein, ich habe den Plan fallen gelassen.
        no   I   have the plan fall   let
        'No, I have abandoned the plan.'

(94) a. Ich habe diese Aufzeichnungen nun wieder wochenlang liegenlassen,
        *I   have these notes   now again   for.weeks   lie.let-*IPP
        weil   ich mich scheute   . . .
        *because I   *REFL *shied.away.from*
        'I had already abandoned these notes for weeks, since I shied away from'

      b. Darum   hat die AEG das auf diese Funkenstrecken angemeldete
        therefore has the AEG the on these spark.spans   registered
        Patent fallen lassen.
        patent fall   let
        'This is why AEG dropped the patent which it had secured on these spark spans.'

In other metaphorical uses derived from the same underlying spatial meaning, such as *liegen/sitzen lassen* for *abandon*, or *ein Wort / eine Bemerkung fallen lassen* with the meaning of *saying something*, as far as we can see only the substitute infinitive of *lassen* is available.

(95) Du hast uns ja   schwer sitzen lassen!
      *you have us   well badly   sit   let-*IPP
      'You abandoned us in a bad way!'

---

[6]These and the following examples are taken from Aldenhoff (1962, pp. 202ff).

(96) ein Wort, das   die Mutter zu dem Mädchen hatte fallen   lassen.
     a   word   which the mother to the girl   *have fall*-IPP *let*

'a word, which the mother had said to the girl'

For all other uses of *lassen*, including 'granting of permission', 'causation', or combinations with complements expressing spatial relations other than the ones mentioned above, only the substitute infinitive form is available.

(97) a. Die Mutter hatte sie das Eis essen lassen.
         the mother had   her the ice eat   let

      'The mother had allowed her to eat the ice-cream.'

      b. Ich habe in Valls Arbeitszimmer ein Mikrophon anbringen lassen.
         I   have in Vall's office   a   microphone install   let

      'I asked for a microphone to be installed in Vall's office.'

      c. und Heuß hat es dabei bewenden lassen
         and Heuß had it there rest   let

      'and Heuß had left it at that'

      d. Vielleicht hat er die Nachtlampe brennen lassen.
         perhaps   has he the night-light   burn   let

      'Perhaps he left the night-light on.'

      e. Teta hatte den ganzen dicken Stoß in   ihren Schoß gleiten lassen.
         Teta had   the whole   thick   pile into her lap   glide   let

      'Teta had let the while pile glide into her lap.'

This preliminary overview of the distinctions relevant for determining the form of *lassen* in perfect tense constructions should be sufficient to illustrate that a high-level generalization like the one entertained by Suchsland (1994) has to be substantially revised to properly account for the rich lexical variation involved. In the absence of a property from which the relevant lexical classes could be deduced, class membership has to be lexically stipulated to obtain empirically adequate theories.

1.1.2. *Past participle vs. passive participle.* So far, we have not been explicit about the environments in which a substitute infinitive can surface in place of an ordinary past participle. In principle, a past participle form

of a supinum can surface in perfect tense as well as in passive constructions.[7] This raises the question whether a substitute infinitive can occur in both environments as well.

The relevant test cases are those verbs which we above listed as occurring as substitute infinitives in perfect tense construction. As illustrated by the following examples partly adopted from Aldenhoff (1962) and Blatz (1896, pp. 612–616), it is always the regular past participle which has to surface when such verbs are passivized.

(98) a. Ich habe ihn fallen sehen.
         I   have him fall   see-IPP

      'I saw him fall.'

      b. Er wurde fallen gesehen   / *sehen.
         he was   fall   seen-PART2 / *see*-IPP

      'He was seen falling.'

(99) a. Er hat alle Bedenken fallen lassen.
         he has all worries   fall   let-IPP

      'He stopped worrying.'

      b. Alle Bedenken wurden fallen gelassen / *lassen.
         all worries   were   fallen let-PART2 / *let*-IPP

      'All worrying was stopped.'

However, only a subset of the verbs which can occur as substitute infinitives can be passivized. There is an interesting correlation between the class of verbs which have no proper participle form in perfect tense constructions and those verbs which cannot be passivized. The modal verbs selecting non-finite complements, for example, have no proper participle forms and cannot be passivized. The different variants of *lassen* discussed above pattern accordingly. According to Aldenhoff (1962), passivization is possible with *heißen* (*ask someone to do something*), *machen* (*make*), *lehren* (*teach*), *lernen* (*learn*), and the relevant variants of *lassen*.

What we said about the inexistence of substitute infinitive forms in passive constructions above only concerns the form of the complement in stative and agentive passive constructions, where the passive auxiliaries *sein* and *werden* select a complement in third status. As we discussed in section 2.1,

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[7]The term past participle generally used thus is an unfortunate choice which would better be replaced with a neutral term like 'second participle'. We still use the traditional term in this thesis to avoid unnecessary confusion.

in sentences where no accusative object A' is realized the subject of the
verbal complement of verbs with the coefficient A':N" is interpreted to be
some referent from discourse parallel to the interpretation of *man*. For
AcI verbs like *hören* (*hear*), *sehen* (*see*), or *lassen* (*let*), one thus obtains
a passive-like interpretation when the accusative object is left unexpressed
– which naturally is independent of a syntactic passive construction with
an auxiliary governing a third status. The construction is exemplified in
(100).

(100) a. Ich hörte sagen, daß ...
          I   heard say   that ...
          'I heard someone say that ... '

       b. Die Mutter läßt ihr Kind taufen.
          the mother lets her child baptize
          'The mother has her child baptized.'

These uses of AcI verbs can also occur as complement of the perfect tense
auxiliary *haben* and then obligatorily surface as substitute infinitive form
(Kehrein, 1856, §16, and works cited there).[8]

(101) a. Ich habe sagen hören, daß ...
          I   have say   heard that ...
          'I have heard someone say that ... '

       b. Die Mutter hat das Kind taufen lassen (vom Pfarrer).
          the mother has the child baptize let   by.a priest
          'The mother had the child baptized (by a priest).'

A potentially confusing example is shown in (102). Here, the auxiliary
werde is not the passive but the future tense auxiliary which governs
the expected first status, and the passive interpretation arises from *sehen*
itself.

(102) der Gedanke, daß man in wenig Stunden werde seinen Sarg in   die
       the idea   that one in few   hours   will his   coffin into the
       Erde senken sehen[9]
       earth lower see
       'the idea that soon one will see his coffin be lowered into the earth'

---

[8]Kehrein (1856) also includes archaic examples with a proper participle which however
do not seem to be well formed in current German.
[9]Example from the literature provided by Kefer and Lejeune (1974, p. 331) in a the-
matically unrelated discussion.

1.1.3. *A sequence of two infinitives as necessary condition?* The occur-
rence of the substitute infinitive, together with the upper-field lineariza-
tion phenomenon we turn to in section 2.1, is often discussed under the
name of *double infinitive construction* (*DIC*). The idea underlying this
choice of terminology is that the substitute infinitive is dependent on be-
ing the second infinitival form in the verb sequence of the final-field. Such
a syntactic condition is very attractive and underlies many proposals since
it appears to generalize over the collection of lexical material which can
surface as substitute infinitive. In the following, we take a closer look at
the range of data to show that this generalization, despite its elegance, is
empirically incorrect.

The presence of two first status verbs in the final-field is neither a sufficient
nor a necessary condition for the occurrence of a substitute infinitive.
We already established in the last sections that only a small subclass of
verbs governing a complement in first status can be realized as substitute
infinitive. Thus the class of verbs which can or have to occur as substitute
infinitive is smaller than the class of verbs which can follow a verb in
first status. Furthermore the exact membership in this class depends on
dialectal and idiolectal variation, which clearly contradicts the idea of a
uniform syntactic generalization as sufficient criterion.

The double infinitive condition also turns out not to be a necessary con-
dition since the class of verbs which occur as substitute infinitive is larger
than the class of verbs governing a verbal complement in first status. In
the following, we take a look at two sub-cases for which this is true: first, a
class of verbs governing a verbal complement in second status and second,
verbs constructing without a verbal complement.

Substitute infinitives selecting a zu-infinitive. The verbs *brauchen* (*have
to*) and *heißen* (*ask someone to do something*) in section 1.1.1 were classi-
fied as verbs which can occur as substitute infinitives or as past participles,
with the substitute infinitive being the more common option. This be-
comes relevant when we recapitulate that in section 1.1 of chapter 2 the
verbs *brauchen* and *heißen* were introduced as selecting a verbal com-
plement in first or second status.[10] Focusing on these two properties,
Aldenhoff (1962, pp. 201f) observes that the possibility of being realized
as substitute infinitive is independent of whether *brauchen/heißen* selects

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[10]Note that the two verbs differ with respect to other properties though. For *brauchen*
we saw in section 3.1.2 of chapter 2 that it obligatorily constructs coherently, whereas
heißen surfaced in section 3.1.1 of the same chapter as a verb allowing incoherent
constructions even with verbal complements in the first status.

a first or a second status complement. In (103) one sees examples in which a substitute infinitive form of *brauchen* selects a *zu*-infinitival complement. According to Aldenhoff (1962) this is actually the more common option, even though, as shown in (104), a substitute infinitive of *brauchen* can also select a complement in first status.

(103) a. Wir haben^1(0) uns nicht zu schämen^3(2) brauchen^2(1$_3$).
   we have us not to be.ashamed have

   'We didn't have to be ashamed of ourselves.'

  b. Die staatliche Zersplitterung war sehr weit gediehen, so daß Rom
   the national dissipation was very far developed so that Rome
   hier (in Spanien) kaum mit allzu großen Schwierigkeiten hätte^1(0)
   here (in Spain) hardly with all.too big problems had-SM
   zu kämpfen^3(2) brauchen^2(1$_3$), wenn nur die römische Verwaltung
   to fight have.to   if only the Roman administration
   nicht versagt hätte.
   not failed had-SM

   'The national dissipation had already developed quite far so that Rome here in Spain would not have had big problems if only the Roman administration had not failed.'

  c. Dies verstand sich von selbst, dies hatten die Hunde, dies hatte
   this understood REFL *by itself this had the dogs this had*
   der Schieler begriffen, ohne daß Nespoli es hätte^1(0)
   the squinter grasped without that Nespoli it had-SM
   auszusprechen^3(2) brauchen^2(1).
   express   have.to

   'That was clear. The dogs and the squinter had grasped it without Nespoli having to express it.'

(104) und sie hatte^1(0) es nur einmal erleben^3(1) brauchen^2(1$_3$).
   and she had it only one.time live.through have

  'and she only had to live through it once'

It is interesting to note that these exceptions to the rule that a substitute infinitive always follows a verbal complement in first status bear a certain similarity to two exceptions to generalizations we discussed in chapter 2. In section 3.1.1, we saw that verbs which can govern a first or a second status, in violation of the rule of coherence also permit an incoherent construction when governing a first status. And in section 3.2.1 we observed that verbs with a raising and an equi variety allowed for an incoherent construction even in the raising variety, even though for ordinary raising

verbs this option is not available. All three cases thus seem to suggest that it is not a specific property of a verb which licenses a particular construction but only the lexical class a verb is assigned to which ultimately underlies the grammatical options. For the concrete verb at hand, this means that independent of the actual realization in a sentence, the *brauchen* always patterns as would be expected of an obligatorily coherent verb selecting a first status complement.

Substitute infinitives without a verbal complement. The second case in which a substitute infinitive occurs which is not the second infinitive of a verb sequence in the final-field arises when a verb which does not select a verbal complement surfaces as substitute infinitive. According to Aldenhoff (1962, pp. 197ff) and Helbig and Buscha (1991, pp. 123f), the uses of substitute infinitivals occurring without a verbal complement fall into two main classes. Firstly, elliptical uses of verbs ordinarily selecting a verbal complement and complement anaphora. And secondly, full verb uses of verbs which also exist as verbs taking a verbal complement. In the following, we take a look at these two classes and some of the examples provided by Aldenhoff (1962) to illustrate them.[11]

Ellipsis. Starting with the elliptical case, in the simplest form illustrated in (105) the missing infinitival complement can be reconstructed from the preceding sentence, either as a direct syntactic copy (105a), or on a semantic level to ensure proper referents for pronominal elements (105b).

(105) a. Damals hätten wir abtreten sollen. Das ist bald gesagt: Man
   back.then have we step.down should this is soon said one
   hätte sollen, man hätte sollen!
   have should-IPP *one have should*-IPP

   'Back then we should have stepped down. Now it's easy to say that one should have done so.'

  b. Du hast dich einschreiben lassen? Ich hab' doch müssen.
   you have yourself enlist let I have still must-IPP

   'You let them enlist you? I had to.'

Such reconstruction from the previous sentence can involve additional transformations, such as in (106), where supposedly a passivized form of the predicate occurring in the previous sentence would have to be inserted.

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[11]The following examples are all attested examples from the literature, mostly from Southern German authors.

(106) Alsdann haben wir ihn mit uns hinausgezogen, er hat wollen   oder
      then   have   we him with us   pull.out   he has wanted-IPP or
      nicht.
      not

      'Then we pulled him out with us, whether he wanted it or not.'

In other cases, only an indirect relation to the preceding discourse is
available to reconstruct what could have been expressed as a verbal com-
plement, such as in the example in (107).

(107) Ich möchte fragen: Wie komm ich denn dazu? Hab ich denn
      I   want   ask   how come I   well to.that have I   well
      dürfen?
      be.allowed-IPP

      'I want to ask: How come me? Was I even allowed to?'

Given the illustrated range of possibilities for reconstruction of what could
have been a verbal complement and the clear inadequacy of a proposal
based on copying the syntactic elements, it is unclear how the occurrence
of substitute infinitives in the above examples could be reconciled with a
syntactic condition demanding that a substitute infinitive can only arise
as the second infinitive in a verb sequence.

Anaphora. Related to the elliptical cases, one often finds anaphoric el-
ements as complements of a substitute infinitive, which can refer to a
verbal complement in the preceding sentence as illustrated in (108).

(108) Warum haben Sie mich nicht vorher gefragt? Hätte ich das denn
      why   have   you me   not   before asked   had-SM I   that well
      müssen?
      must-IPP

      'Why didn't you ask me beforehand? Would I have had to do so?'

As with the elliptical cases in the previous paragraph, the need to preserve
the referent of the pronominal *mich* rules out the possibility of a mecha-
nism syntactically providing a second infinitive in place of the anaphoric
element *das* in order to satisfy the double infinitive condition.

Full verb uses. We already mentioned in section 1.1.1 that a subset of
the modal verbs also exist as verbs without a verbal complement, such
as *mögen* as synonym for *like*, *wollen* as that of *desire*. Furthermore,
können occurs in the collocations *nicht umhin können* (*be obliged to do*

something) and *miteinander können* (*get along with*). The examples in
(109) show that at least in Southern German some of these uses can also
occur as substitute infinitives.

(109) a. und eben wegen der Leute hast du wollen, daß ...
         and just   because the people have you want-IPP that
         'and exactly because of the people you wanted that ... '

      b. Wir haben es nie   recht gut miteinander   können.
         we have   it never so   well with.each.other can-IPP
         'We never got along so well.'

In standard German, at least the expression *nicht umhin können* can be
realized as substitute infinitive. This is illustrated by the example (110)
taken from Engel (1988, p. 481).

(110) Sie hatte nicht umhin können,   den Besucher anzustarren.
      she had   not   around be.able-IPP the visitor   stare.at
      'She had been unable to keep from staring at the visitor.'

This use of *können* is closely related to a common construction with modal
verbs discussed by Aldenhoff (1962) in which a modal verb selects a di-
rectional preposition or PP argument instead of the ordinary verbal com-
plement. One can either view this as a full verb use of a modal verb or
group it with the elliptic uses discussed above if one assumes that a verb
expressing a not further determined form of movement has been elided.
As shown in (111), despite the absence of a dependent infinitive, such uses
of the modal verbs can also be realized as substitute infinitives.

(111) a. Er hatte mit Tagesanbruch weiterwollen.
         he had   with daybreak   further.want-IPP
         'At daybreak he had wanted to go on.'

      b. Er hatte die Hüfte gebrochen und hätte   sofort in den
         he had   the hip   broken   and should.have directly in the
         chirurgischen Saal müssen.
         surgical   room must-IPP
         'He had broken the hip and should have been moved to the operating room
         immediately.'

      c. Du bist dran   schuld, daß mein Vater hat fortmüssen.
         you are thereon blame   that my   father has away.must-IPP
         'You are to blame for the fact that my father had to go away.'

    d. Seine Töchter hatten ihn ins Bette gepackt, während er nicht
       his   daughters had   him into bed   put   while   he not
      aus   dem alten Ohrensessel hatte fortwollen.
      *out.of his old   armchair   had   away.want-*IPP

      'His daughters had put him into his bed even though he had not wanted to
      leave his old armchair.'

Summing up, there seem to be significant empirical obstacles for any theory restricting the occurrence of substitute infinitives to sentences with a 'double infinitive': substitute infinitives exist for verbs governing a second status, and they arise in sentences without a verbal complement due to elliptical effects, anaphora and full verb uses of modal verb. One should keep in mind though that as we pointed out at the end of the paragraph 'Substitute infinitives selecting a *zu*-infinitive' the exceptions to the double infinitive generalization reported above are not arbitrary. The verbs selecting a second status complement and the ones constructing in sentences without a verbal complement are always verbs which in other uses or realizations would satisfy the double infinitive condition. Thus even though it is incorrect to make substitute infinitives dependent on the occurrence of a double infinitive in a particular construction, the possibility of realizing a substitute infinitive is dependent on the occurrence of a verb from a specific lexical class.

1.2. Substitute *zu*-infinitive. A second kind of substitute status realization is discussed much less frequently than the substitute infinitive: the occurrence of a *zu*-infinitive in place of a past participle which is illustrated by example (112).

(112) Er verstarb, ohne   sich haben^1(1_2) entschuldigen^3(1) zu können^2(2_3)
     he died   without REFL *have   excuse   to be.able*
     'He died without having been able to excuse himself.'

In the generative literature, the construction is mentioned by den Besten and Edmondson (1983), Stechow and Sternefeld (1988, pp. 444f), Sternefeld (1990), Geilfuß (1990), and Haider (1993), with the latter disputing the status of the construction as a well-formed grammatical phenomenon. A look at the discussion in earlier works like Merkes (1895, p. 65–72), Wilmanns (1906, p. 163, §86 fn.), Curme (1922, §178), Aldenhoff (1962, p. 214) and Bech (1963), however, provides significant empirical evidence

for considering the substitute *zu*-infinitive a systematic grammatical phenomenon. For example, even though Merkes (1895) remarks in the schoolmasterly attitude of early scholars that the construction is illogical and should be avoided, he does not draw the existence into question and illustrates the construction with the examples in (113) from the literature. And Wilmanns (1906) provides the examples in (114).

(113) a. Ich glaube^1(0) es haben^2(1_2) tun^4(1) zu können^3(2)3.
        I believe   it have   do   to can
        'I believe having been able to do it.'

      b. Er braucht^1(0) es nicht haben^2($1_{1/2}$) tun^4(1) zu wollen^3(2_3).
        he needed   it not   have   do   to want
        'I didn't have to want to do it.'

      c. Warum sollte Seneca notwendig ein Christ   sein, um so
        why   should Seneca necessarily a   Christian be   for such
      manches wahre, schöne Wort haben^1(1_2) schreiben^3(1) zu
      some   true   beautiful word have   write   to
      können^2(2_3).
      be.able

      'Why should Seneca have to be a Christian, for him to have been able to
      write such true and beautiful words.'

      d. Ich erinnere^1(0) mich, einen Reisenden das eigentümliche Entsetzen
        I remember   me   a   traveler   the peculiar   shock
      haben^2(1_2) schildern^4(1) zu hören^3(2_3), welches er beim Anblick
      have   describe   to hear   which he at.the sight
      eines gewaltigen Eichbaumes empfand.
      of.a huge   oak.tree   sensed

      'I remember having heard a traveler describe the peculiar shock which he
      sensed at the sight of a huge oak tree.'

      e. Wir rechnen^1(0) es dem Verfasser zum Verdienst an, nicht mehr
        *we value   it the author   to   merit   * PART *not more*
      haben^2(1_2) bestimmen^4(1) zu wollen^3(2_3).
      have   ordained   to want

      'We are grateful to the author for not having wanted to ordain more.'

      f. Jedes Verbum Comp.   scheint^1(0) die Reduplikation haben^2(1_2)
        each verbum compositum seems   the reduplication   have
      wegwerfen^4(1) zu können^3(2_3).
      throw.away   to be.able

      'Each verbum compositum seems to have been able to do away with the
      reduplication.'

(114) a. Er scheint^1(0) ihn nicht haben^2(1_2) sehen^4(1) zu können^3(2_3).
    he seems   him not   have   see   to be.able

    'He seems not to have been able to see him.'

    b. Ich freue^1(0) mich ihn haben^2(1_2) begrüßen^4(1) zu dürfen^3(2_3).
    I   be.glad   me   him have   welcome   to be.allowed

    'I am glad to have been allowed to welcome him.'

While the above examples illustrate the productivity of this construction, it is also clear that this construction is much less common than the widespread use of the substitute infinitive. More concretely, the occurrence of the substitute *zu*-infinitive is restricted to a rather specific lexical and syntactic setup. The non-finite verb *haben* must occur as the least embedded verb in the final-field and be realized in the upper-field of that final-field (or one of the other irregular linearizations we turn to in section 2). Furthermore, this *haben* in the final-field must be assigned a second status, either by a finite coherently constructing verb in verb-first or verb-second position, or by an incoherently constructing verb, or by one of the conjunctions selecting non-finite constructions in second status such as *um* (*for*), *ohne* (*without*), or *anstatt* (*instead of*).

Under these conditions, two status irregularities arise. Firstly, the *haben* in the final-field is realized in the first status instead of the second status which it is assigned. And second, the verb selected by *haben* is realized in second status instead of the third status governed by *haben*, i.e., as substitute *zu*-infinitive. The class of verbs which can be realized in such a substitute *zu*-infinitive form seems to be identical to the class of verbs we identified in section 1.1.1 as being able to occur as substitute infinitive.

1.3. Summary. We discussed two systematic exceptions to the regular status government relations in non-finite constructions we introduced in section 1.1 of chapter 1: the frequent occurrence of a substitute infinitive, and the less common case of a substitute *zu*-infinitive.

We established that the substitute status only arise when a perfect tense construction is formed with a verb from a specific lexical class, which, as far as we can see, fails to be definable purely on the basis of properties a verb of this class has in a construction. In particular, we showed that the often assumed occurrence of two adjacent infinitives is neither a necessary nor a sufficient condition for the realization of a substitute infinitive. Verbs thus have to be lexically specified as to whether they can be realized as substitute infinitive. A subset of those verbs lack a regular

past participle form, so that the substitute infinitive is the only available option in perfect tense constructions.

2. WORD ORDER

After focusing on the status (ir)regularities in the previous section, we now turn to a discussion of certain word-order phenomena which are outside of the regular linearization possibilities of non-finite constructions discussed in chapter 2.

2.1. Upper-field formation. A much discussed deviation from the word order expected of coherent verbal complexes is the *upper-field formation* (*Oberfeldumstellung*), in the HPSG literature also referred to as *aux-flip phenomenon* (Hinrichs and Nakazawa, 1989). In addition to the regular word order shown in (115a), in which every verbal head follows its complement, the exceptional word order illustrated in (115b) is equally grammatical and receives the same interpretation.

(115) a. ob   er lachen^3(1) können^2(1) wird^1(0)
    whether he laugh   be.able   will

    'whether he will be able to laugh'

    b. ob   er wird^1(0) lachen^3(1) können^2(1)
    whether he will   laugh   be.able

To talk about these examples in a precise way, let us introduce some additional terminology from Bech (1955). We already made use of the term *final-field* (*Schlußfeld*) in our discussion of the basic word-order phenomena in chapter 2 to refer to the topological unit of verbal elements at the right edge of a sentence with a coherent verb sequence. Every (non-empty) final-field at least consists of a *lower-field* (*Unterfeld*), in which the verbs are always linearized in the regular head-follows-complement order discussed in chapter 2. In contrast to this word order, the highest verbs in a hypotactic chain, i.e., the ones with the lowest rank index, can also be realized preceding lower-field and form the so-called upper-field (*Oberfeld*) as was illustrated in (115b).

If several verbs occur in the upper-field as shown in (116a), the upper-field verbs are linearized so that the head precedes the complement, i.e., the inverse order of what one finds in the lower-field. Finally, (116b) shows that all verbs of the final-field which select an upper-field verb also have to be linearized in the upper-field.

(116) a. ob   er wird[1](0) haben[2](0) lachen[4](1) können[3](1)
           whether he will   have   laugh   be.able

           'whether he will have been able to laugh'

       b. * ob   er haben[2](1) lachen[4](1) können[2](1) wird[1](0)
           whether he have   laugh   be.able   will

The two examples in (117) taken from the Donaukurier Corpus are more natural instances of the upper-field phenomenon.

(117) a. eine wertvolle Uhr, in   die   man eine Widmung hat[1](0)
          a   valuable   watch into which one   a   dedication has
          eingravieren[3](1) lassen[2](1).
          engrave   let

          'a valuable watch, into which one has let someone engrave a dedication'

       b. Weil   er ein solches Vorhaben nie   würde[1](0) haben[2](1)
          because he such a   plan   never would   have
          durchsetzen[4](1) können[3](1), versagte sich der Kanzler.
          fight.through   be.able   denied   REFL the chancellor

          'Because he would have never got the plan through, the chancellor did not want to be involved.'

Generalizing over the word-order possibilities in the final-field, figure 2 represents the schematic word-order possibilities of verbs in the final-field as envisaged by Bech (1955).

$$\overbrace{\underbrace{V^i \dots V^{j-1}}_{\text{upper-field}} \mid \underbrace{V^n \dots V^j}_{\text{lower-field}}}^{\text{final-field}} \text{ where } 1 \le i \le j \le n \text{ and } i < j \rightarrow n - j \ge 2$$
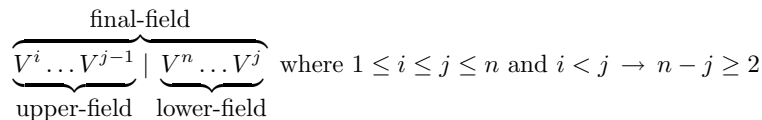
FIGURE 2. The topology of the final-field according to Bech (1955, §61)

In addition to the general properties of hypotactic chains and particularly of coherent verb sequences in the final-field, the occurrence of an upper-field is subject to further conditions. Firstly, the class of verbs which can occur in the upper-field is quite restricted. And secondly, only a lower-field with specific properties is compatible with the presence of an upper-field. Let us first turn to the class of verbs which can occur in the upper-field.

2.1.1. *Which verbs occur in the upper-field?* The class of verbs which can occur in the upper-field is very small. In current German, almost all examples involves occurrences of the auxiliaries *werden* (*will*) or *haben* (*have*).

The verb *werden* selecting a verbal complement in first status can function as future tense auxiliary or have a modal meaning. As illustrated below, both these uses of *werden*, which apparently only exist as finite forms, optionally occur in the upper-field.

(118) a. daß er morgen   kommen[3](1) wollen[2](1) wird[1](0)
          that he tomorrow come   want   will

          'that he will want to come tomorrow.'

       b. daß er morgen   wird[1](0) kommen[3](1) wollen[2](1)
          that he tomorrow will   come   want

(119) a. daß er gestern   zuspätgekommen[1](3) sein[2](1) wird[1](0)
          that he yesterday late.come   be   will

          'that he will have been late yesterday.'

       b. daß er gestern   wird[1](0) zuspätgekommen[3](3) sein[2](1)
          that he yesterday will   late   be

The use of *werden* as passive auxiliary selecting a third status complement, however, can apparently not occur in the upper-field, as is suggested by (120b).

(120) a. Unter der Leiter sollte man nicht stehen, da dort manchmal
          under the ladder should one   not   stand   as there sometimes
          etwas   fallen[3](1) gelassen[2](3) wird[1](0).
          something fall   let   is

          'One should not stand under the ladder, as things are sometimes dropped there.'

       b. * da   dort manchmal etwas   wird[1](0) fallen[3](1) gelassen[2](3)
          since there sometimes something is   fall   let

The perfect tense auxiliary *haben* is the most common verb in the upper-field. In such sentences, the complement of *haben* does not surface in the governed third, but in the substitute first (or second) status we discussed in section 1.1. Since the status government in such cases is not a reliable indicator for rank in the hypotactic chain, the syntactic functor-argument relation has to be deduced from the semantic one.

(121) a. daß er sie dort hat^1(0) tanzen^3(1) sehen^2(1_3)
     that he her there has   dance   seen

    'that he has seen her dance there'

  b. daß er dort hat^1(0) tanzen^3(1) dürfen^2(1_3)
     that he there has   dance   be.allowed

  c. daß er sie wird^1(0) haben^2(1) tanzen^4(1) sehen^3(1_3)
     that he her will   have   dance   seen

    'that he will have seen here dance'

Older variants. According to Fritz (1992), examples with modal verb in the upper-field were quite common in the 17th century. In current German, the construction illustrated by the following literature examples from Bech (1955, p. 66), Kefer and Lejeune (1974, p. 322), and Merkes (1895, p. 89, 93) no longer appears to be accepted by all, but still by many speakers.

(122) a. daß er noch einmal den Strom des Lebens [...] durch sein Blut
     that he still once   the stream of life   through his   blood
     könnte^1(0) strömen^3(1) hören^2(1)
     be.able   flow   hear

    'that he once again would be able to hear the stream of life flow through his blood'

  b. daß man die Leute in ihrem Schlamme soll^1(0) sitzen^3(1) lassen^2(1)
     that one the people in their mud   shall   sit   let

    'that one shall let the people worry about their problems'

  c. Ich werde dich am   Ende müssen^1(0) hängen^3(1) sehen^2(1).
     I   will   you at.the end   have   hang   see

    'In the end, I will have to see you hang.'

  d. Man hätte^1(0) eine Mücke können^2(1) trappen^4(1) hören^3(1).
     one could.have a   gnat   be.able   walk   hear

    'One could have been able to hear a gnat walk.'

  e. daß sie der Sohn für keinen Preis dem Alten hätte^1(0) wollen^2(1)
     *that she the son for no   price the old   had-*SM *wanted*
     bekannt werden^4(1) lassen^3(1)
     known   become   let

    'that the son for nothing in the world would have wanted to let the old guy get to know her'

The examples show that both epistemic and deontic readings of modal verbs in the upper-field appear to be possible. Furthermore, the differences in control-level – some of the modal verbs are raising, other are equi verbs – appear to have no effect on the upper-field realizability of the verb.

Bech (1955, p. 64) provides the example (123) with the verb *lassen* in the upper-field.

(123) daß man ihn hier läßt^1(0) liegen^3(1) bleiben^2(1)
     that one him here lets   lie   stay
    'that one lets him stay lying around here'

Judgments on the grammaticality of such occurrences of *lassen* in the upper-field vary. They seem to correlate with the grammaticality assigned to modal verb occurrences in the upper-field.

Finally, the auxiliary *sein* governing a third status occurs in perfect tense constructions with some verbs selecting a verbal complement, namely *bleiben* (*stay*) and *sein* itself.

(124) a. daß der Brief abgeschickt^3(3) worden^2(3) ist^1(0)
     that the letter sent   been   is
    'that the letter has been sent'

  b. daß der Mann stehen^3(1) geblieben^2(3) ist^1(0)
     that the man   stand   remain   is
    'that the man stopped'

According to Fritz (1992), in the 17th century it was possible for such occurrences of *sein* to be linearized in the upper-field. The number of documented examples is small, however, since in subordinate clauses the finite tense or passive auxiliary was often dropped. In current German, such upper-field occurrences of *sein* are no longer grammatical (125) and the only attested example for an irregular linearization of *sein*, (125c) by Peter Handke as listed by Kefer and Lejeune (1974), appears to be equally ill-formed.[12]

(125) a. * daß der Brief ist^1(0) abgeschickt^3(3) worden^3(2)
     that the letter is   sent   been

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[12]The other uses of *sein*, as stative passive auxiliary selecting a third status and as a modal auxiliary selecting a second status, are equally impossible in the upper-field.

   b. * daß der Mann ist^1(0) stehen^3(1) geblieben^2(3)
      that the man   is   stand   remain

   c. * Da   in allen bewohnten Räumen laut über den Tod des anderen,
      since in all   inhabited   rooms   loud over the death of the.other
      des ertrunkenen Bruders geklagt^3(3) ist^1(0) worden^2(1).
      the drowned   brother wailing   is   been

      'Since in all inhabited rooms there was wailing about the death of the
      drowned brother.'

Erroneous classifications. Askedal (1991, p. 7) discusses the example (126) of Bech (1955, p. 66) , in which *glauben* (*believe*) could be interpreted as occurring in the upper-field.

(126) daß sie   eine Absicht glaubten^1(0) verbergen^3(1) zu können^2(2), die
      that they an   intention believed   hide   to be.able   which
      so zutage lag
      so open   lay

      'that they believed to be able to hide an intention, which was so clearly visible.'

If one, however, uses the *rank test* (*Rangprobe*) of Bech (1955, §71) as indicator for the coherence of a construction by adding *hatten* as highest verb of the hypotactic chain, *hatten* has to occur to the right of its verbal complement as shown in (127), i.e., in the word order typical for verbs in the lower-field.

(127) daß sie   eine Absicht geglaubt^2(3) hatten^1(0) verbergen^4(1) zu
      that they an   intention believed   had   hide   to
      können^3(2)
      can

It is therefore plausible to assume that *glauben* in (126) and (127) is part of the lower-field. On the other hand, it was already pointed out by Höhle (1986, p. 331, fn. 4) that sentences like (126) do not properly fit into the system of Bech. In this system, the occurrence of the object *eine Absicht* of *verbergen* in between the verb *glauben* and its subject *sie* is only possible if *verbergen* is part of the same coherence-field. This is so, since a is defined as a topological unit that cannot be split or include intervening material (Bech, 1955, §57). At the same time, the extraposition of an infinitive is a sufficient criterion for the incoherence of a combination. The construction thus shows properties of coherence and of incoherence and has since been discussed under the term *third*

construction (den Besten and Rutten, 1989), or, less commonly, as a form of *left nesting* (*Linksverschachtelung*) (Kvam, 1979).[13]

Parallel to the case above, Grewendorf (1991, p. 279) claims that in the sentence (128) the verbs *versuchen* or *beschließen* are part of the upper-field.

(128) Peter hat^1(0) das Examen versucht^3(3) / beschlossen^3(3) zu
      Peter has   the exam   tried   / decided   to
      wiederholen^2(2).
      repeat

      'Peter has decided / tried to repeat the exam.'

Again, using the rank test, this time by transforming the verb-second into a verb-last sentence, shows that the verb-second verb has to surface after *versucht/beschlossen* so that the verbs are identified as being in the lower-field and not the upper-field where the order would be the other way around.

(129) a.   weil   Peter das Examen versucht^3(3) / beschlossen^3(3) hat^2(1) zu
          because Peter the exam   tried   / decided   has   to
          wiederholen^4(2)
          repeat

     b. * weil   Peter das Examen hat^2(1) versucht^3(3) / beschlossen^3(3) zu
          because Peter the exam   has   tried   / decided   to
          wiederholen^4(2)
          repeat

The example (128) therefore is not an example for a coherent construction with *versuchen* in the upper-field, but another instance of the third construction in which *zu wiederholen* has been extraposed without its complement *das Examen*.

2.1.2. *Conditions on the lower-field to support an upper-field.* The occurrence of two infinitives in the lower-field is usually considered to be a necessary condition for upper-field formation and the realization of a substitute infinitive often associated with this word-order phenomenon. Regarding the substitute infinitive, we saw in section 1.1.3 that a sequence of two verbs in first status is not a necessary (and also no sufficient) condition for the occurrence of a substitute infinitive. In the following, we illustrate that a sequence of two verbs in first status also fails to be a

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[13]See St. Müller (1999, sec. 17.5) for further references relating to this construction.

necessary condition for upper-field formation. There are two classes of counter examples for such a condition. Firstly, certain coherently constructing verbs allow for a filled upper-field when they are the highest verb in the final-field even though they select a verbal complement in second or third status. And secondly, there is a class of verbs which supports an upper-field even though the verbs in this class occur in the final-field without a verbal complement.

Upper-field with a past-participle in the lower-field. The question, whether *haben* as V" in the lower-field permits a V' in the upper-field, as far as we know, has not been explicitly discussed in the literature, but one can find some pointers to the issue. For example, Stechow and Sternefeld (1988, p. 412) mention the example (130) and mark it as ungrammatical.

(130) * weil   er sie nicht wird^1(0) verstanden^3(3) haben^2(2)
       because he her not   will   understand   have
       'because he will not have understood her'

Hinrichs and Nakazawa (1994a) do not discuss such examples, but their theory excludes such sentences for the following reason. Hinrichs and Nakazawa (1994a) want to capture Bech's topology of the final-field we displayed in figure 2 on page 74, in particular the restriction that all final-field verbs which govern an upper-field verb also have to be part of the upper-field. They thus want to allow examples like (131b) but exclude sentences like (131c). The generalization they express to do so is that *haben* as V" always has to occur in the same field, i.e., upper-field or lower-field, as a V' in the final-field. This part of their theory of upper-field formation is also incorporated by Kathol (1995, pp. 222ff) and St. Müller (1999, sec. 14.2.1).

(131) a. daß er sie die Lieder singen^4(1) gehört^3(3) haben^2(1) wird^1(0)
          that he her the songs sing   hear   have   will
          'that he will have heard her sing the songs'

     b. daß er sie die Lieder wird^1(0) haben^2(1) singen^4(1) hören^3(1)
          that he her the songs will   have   sing   hear

     c. * daß er sie die Lieder haben^2(1) singen^4(1) hören^3(1) wird^1(0)
          that he her the songs have   sing   hear   will

The generalization proposed by Hinrichs and Nakazawa (1994a) covers the data in (131), but it also has the consequence of excluding sentences like (132) or the example (130) we started with.

(132) ? daß er sie die Lieder wird^1(0) singen^4(1) gehört^3(3) haben^2(1)
        that he her the songs will   sing   heard   have

At closer inspection, constructions in which a *haben* as V" in the lower-field is selected by an upper-field V' do seem to exist, however. This is illustrated by the following examples from Walser[14] and Goethe[15], whose second example shown in (134b) shows that the other perfect auxiliary *sein* supports an upper-field equally well.

(133) a. das   ihr wahrscheinlich aus   dem Munde eines anderen
          which her probably   out.of the mouth of   another.one
          würde^1(0) lächerlich und blöde geklungen^3(3) haben^2(1)
          would   ridiculous and stupid sounded   have
          'which for her probably would have sounded ridiculous and stupid if said by someone else'

     b. nachdem Du sattsam genug mußtest^1(0) die Erfahrung
          after   you sufficient enough had   the experience
          gemacht^3(3) haben^2(1), daß ohne   Geduld ...
          made   have   that without patience
          'after you often enough had to have made the experience that without patience ... '

     c. Ich interessierte mich bloß, welches Gefühl sie dazu   könnte^1(0)
          I   interested   me   only which   feeling you to.that could
          veranlaßt^3(3) haben^2(1)
          motivated   have
          'I was just interested, which feeling could have motivated you to do it.'

     d. wie Johannes der Täufer, der außerdem   Heuschrecken soll^1(0)
          like John   the baptist who furthermore grasshoppers   shall
          gegessen^3(3) haben^2(1)
          eaten   have
          'like John the baptist who furthermore is supposed to have eaten grasshoppers'

(134) a. Wie lange wir mögen^1(0) gesessen^3(3) haben^2(1), weiß ich nicht.
          how long we might   sit   have   know I   not
          'I do not know how long we might have sat there.'

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[14]Robert Walser: *Geschwister Tanner.* Zürich: Suhrkamp Taschenbuch Verlag. pp. 73, 13, 66, 101.
[15]Johann Wolfgang von Goethe: *Aus meinem Leben: Dichtung und Wahrheit.* Weimar, Germany: Hermann Böhlaus Nachfolger, pp. 417, 443.

b. Mancherlei Lustwäldchen [. . .] zeigten, wie angenehm die kleine
   various   pleasure.forests   showed how agreeable   the little
   Residenz ehemals müsse^1(0) gewesen^3(3) sein^2(1).
   residence once   must   been   be

   'Various pleasure forests showed how agreeable the little residence once
   must have been.'

Generally disallowing a V' in the upper-field whenever the perfect aux-
iliaries *haben* or *sein* occur as V" in the lower-field thus seems to be
incorrect. This conclusion is also supported by the empirical survey of
Härt (1981, p. 148), who reports that the construction is quite rare but
does occur.

Upper-field with a zu-infinitive in the lower-field. In section 1.1 of chap-
ter 2 we mentioned *brauchen* as a verb which can govern a verbal comple-
ment in first or second status, and the verb re-appeared in our discussion
of substitute infinitives which can select a *zu*-infinitive in section 1.1.3.

Turning to the possibility of an upper-field verb selecting *brauchen*, we
see in (135) that *brauchen* as highest verb of the lower-field can co-occur
with an upper-field even when it selects a complement in second status.

(135) daß wir uns nicht hätten^1(0) zu schämen^3(2) brauchen^2(1)
      that we us   not   had-SM   *to be.ashamed have*

      'that we would not have had to be ashamed'

Interestingly, this construction is not limited to *brauchen* but also occurs
with *haben*, which in its modal use selects a verbal complement in second
status. The example in (136) from Bech (1955, p. 66) illustrates this.

(136) den wichtigsten   Dienst, den   der Berufene ihr selbst   einst
      the most.important duty   which the selected   her himself once
      würde^1(0) zu leisten^3(2) haben^2(1)
      would   to do   have

      'the most important duty, which the selected person himself at one point would
      have to do for her'

One can thus conclude that the occurrence of an upper-field with a *zu*-
infinitive in the lower-field should not generally be ruled out.

Upper-field without two verbs in the lower-field. When we presented the
topology of the final-field according to Bech (1955, §61) in figure 2 on
page 74, we kept silent about one of the restrictions Bech makes, namely

that two verbs need to be present in the lower-field in order for the upper-
field to be filled, which in our figure is expressed by '$i < j \rightarrow n -
j \geq 2$'. Even though Bech (1955, §61) includes this condition in his
representation of the word order possibilities, he apparently was aware
that such a condition on upper-field formation is too strong. This can be
inferred from his reference to the 'ordinary use' in §60 where he writes:
"The lower-field always contains the maximally subordinated verb of the
final-field and *in ordinary use* the two maximally subordinated verbs of
the final-field." (our font emphasis and translation[16]).

The assessment that a filled upper-field usually co-occurs with two verbs
in the lower-field is correct in that it allows for two classes of examples
in which an upper-field occurs with only a single verb in the lower-field.
Firstly, there are cases in which the verbal complement can be taken to be
elided, which is illustrated by the example in (137a). And secondly, there
are cases like (137b) as verb-last version of the (110) we saw on page 69, in
which a full verb use of a modal verb is involved. The example in (137c)
discussed by den Besten and Edmondson (1983, p. 171) further illustrates
the possibility of an upper-field in the presence of a single lower-field verb.

(137) a. Er behandelte die Leute auf der Bounty besser als   er hätte^1(0)
          he treated   the people on the Bounty better than he had-SM
          müssen^2(1$_3$).
          have

          'He treated the people on the Bounty better than he would have had to.'

       b. daß sie nicht hatte^1(0) umhin können^2(1$_3$), den Besucher
          that she not   had   around be.able   the visitor
          anzustarren^3(2)
          stare.at

          'that she had been unable to keep from staring at the visitor.'

       c. weil   er nicht anders   hat^1(0) können^2(1$_3$)
          because he not   different had   been.able

          'because he had not been able to act differently'

The situation thus is parallel to the cases we discussed in section 1.1.3
where we focused on the occurrence of a substitute infinitive without a
double infinitive. In fact, the above examples can also be seen as further
illustrations of such a substitute status.

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[16]Original: "Das unterfeld enthält immer das maximal untergeordnete verbum des
schlußfeldes, und im normalen usus die zwei maximal untergeordneten verben des
schlußfeldes."

2.1.3. *Alternative linearizations of the upper-field.*

Lower-field split. Apart from the standard topology of the final-field in which the upper-field precedes the lower-field, the word order exemplified in (138) can sometimes be observed.

(138) daß er das Examen bestehen^3(1) wird^1(0) können^2(1)
    that he the exam   succeed   will   be.able
    'that he will be able to succeed in the exam'

Bech (1955) does not mention this word order possibility, in which the upper-field seems to split the lower-field in the middle, explicitly. But he writes in his description of the topology of the verbal complex that "the upper-field *usually* occurs before the lower-field." (p. 63, our font emphasis and translation[17]), which makes it likely that Bech was aware of the word order we will refer to as *lower-field split* (*Zwischenstellung*) as an alternative linearization for the upper-field.

The lower-field split occurs much less frequently than the upper-field preceding the lower-field and the few linguistic publications which mention this construction assign it to specific (sub-)dialects. Den Besten and Edmondson (1983, p. 182), for example, present (139a) and (139b) as utterances of speakers of Middle Bavarian (Munich, Salzburg, Vienna) which "attempt to sound non-dialectal, since the local dialects show no sign of inversion whatsoever" (our translation[18]) and the sentence in (139c) as Southern Bavarian (Carinthia, Tirol).

(139) a. weil   er sich   untersuchen^4(1) lassen^3(1) hat^1(0) wollen^2(1$_3$)
    because he himself examine   let   has   wanted
    'because he had wanted to let someone examine him'

 b. weil   er sie sprechen^4(1) hören^3(2) hat^1(0) können^2(1$_3$)
    because he her speak   hear   has   be.able
    'because he has been able to hear her speak'

 c. damit unser Lager von einer Lawine   nicht getroffen^4(3) hätte^1(0)
    so.that our   camp of   an   avalanche not   hit   had-SM
    werden^3(1) können^2(1$_3$)
    been   be.possible
    'so that our camp had not been possible to be hit by an avalanche'

---

[17]Original: "Das oberfeld steht *gewöhnlich* vor dem unterfeld."
[18]Original: "versuchen nicht-dialektal zu klingen, da die lokalen Dialekte keinerlei Inversion aufweisen"

Lötscher (1978, pp. 18ff) discusses six different systems of verb orders in German dialects. For the Franconian system VIa, he also includes lower-field split examples. Based on his work, Kroch and Santorini (1991, p. 304) present the example (140) for Franconian and, in contrast to den Besten and Edmondson (1983), include an analysis of such data (Kroch and Santorini, 1991, pp. 314ff and 320ff).

(140) daß er singen^3(1) hat^1(0) müssen^2(1$_3$)
    that he sing   has   must
    'that he has had to sing'

Louden (1990) points out that the lower-field split is also possible in Palatinate and in Pennsylvania German. The latter is of particular interest since according to Louden in this dialect the lower-field split word order shown in (141) is the only possible word order, i.e., the finite verb cannot occur in an ordinary upper-field.

(141) Ich wees, as   er lese^3(1) hot^1(0) kenne^2(1).
    I   know that he read   has   be.able

Kefer and Lejeune (1974) provide a number of examples for lower-field split from the literature, which even though they mostly stem from southern German authors, can hardly be taken to represent dialectal speech. This is confirmed by the fact that such sentences with lower-field split are judged as grammatical by many non-southern German speakers.

(142) a. Da   erkennt   er, daß er das Versteck   seines Bruders verraten^3(1)
    there recognized he   that he the hiding.place of.his brother   betray
    wird^1(0) müssen^2(1).
    will   have
    'At that point he recognizes that he will have to betray the hiding place of his brother.'

 b. der erste, mit dem   ich sprechen^3(1) hatte^1(0) können^2(1$_3$)
    the first   with whom I   speak   had   be.able
    'the first person, with whom I had been able to speak'

 c. etwas,   was   immer so sein^3(1) hätte^1(0) sollen^2(1$_3$)
    something which always so be   had   should
    'something, which always should have been that way'

 d. das letzte Mal, wie   ich entlassen^4(3) werden^3(1) hätte^1(0) sollen^2(1$_3$)
    the last   time when I   dismiss   will   have   should
    'the last time, when I should have been dismissed'

   e. weil   die Auseinandersetzung, welche Frage   am   letzten
      because the argument   which question at.the last

      Sonntag entschieden^4(3) hatte^1(0) werden^3(1) sollen^2(1$_3$), keine Zeit
      Sunday decided   have   been   should   no   time

      für die eigentliche Entscheidung ließ
      for the proper   decision   let

      'because the argument, which question should have been decided last Sunday, left no time for the decisions itself.'

It therefore does not come as a surprise that closer inspection also provides examples for the construction outside of the dialectal areas claimed by den Besten and Edmondson (1983) and Lötscher (1978). In (143a) we have included an example stemming from an interview with a Northern German sports manager, and the other examples in (143) were found in the Frankfurter Rundschau, a national German newspaper.[19]

(143) a. Zu dem Zeitpunkt, an dem ich mich entscheiden^3(1) hätte^1(0)
        *at the   time   at which I me decide   had-*SM

        müssen^2(1$_3$), war das Gesangsbuch wichtiger.
        have   was the hymn.book   more.important

        'At the time at which I would have had to decide, the hymn book was more important to me.'

    b. der Glaube, daß jener Clan, der als nächster Mogadischu
        the belief   that the   clan   that as next   Mogadischu

        kontrolliert, sich nach dem Vorbild der Marehan von Siad
        *controls   *REFL *after the   model   of Siad   Barre equally*

        Barre genauso bereichern^3(2) wird^1(0) können^2(1)
        enrich will   be.able

        'the belief that the clan which controls Mogadischu next will be able to enrich following the model of Siad Barre'

    c. Der Steinauer   ging zuversichtlich in   den dritten
        the person.from.Steinau went confidently   into the   third

        Quali-Lauf, in dem er gut abschneiden^3(1) hätte^1(0) müssen^2(1$_3$),
        *qualifying.run in which he well finish   had-*SM *have*

        um sich für das Finale zu qualifizieren.
        *to *REFL *for the finals to qualify*

        'The runner from Steinau confidently went into the third qualifying round, in which he would have had to run well to qualify for the finals'

---

[19]The text of this newspaper corpus (39.569.709 words/2.621.622 sentences) is taken from the ECI/DCI Multilingual Corpus I CD-ROM.

    d. und sie hatten auch keinen Ort, wohin sie fliehen^3(1) hätten^1(0)
        *and they had   also no   place where they flea   had-*SM

        können^2(1$_3$)
        be.able

        'and they also had no place to which they would have been able to flea'

    e. Nicht daß ich das ernsthaft bezweifeln^3(1) hätte^1(0) wollen^2(1$_3$).
        *not   that I   that seriously doubt   had-*SM *want*

        'Not that I would have seriously wanted to doubt that.'

    f. ?? Ja, wir wollen ja nur, daß nicht alles   von der öffentlichen
        yes we wanted yes only that not   everything of   the public

        Hand verlangt^3(3) kann^1(0) werden^2(1).
        hand demanded   can   be

        'Yes, we only wanted that not everything can be asked of the government.'

The conjecture that the lower-field split could be a relatively new word order stemming from Austria and slowly spreading north (Tilman Höhle, p.c.) is plausible but probably incorrect. According to Takada (1994) the lower-field split can already be found in the 17th century in the work of West-Middle German, West- and West-Upper German, and (more rarely) in that of Low-German authors. And Merkes (1895) provides several examples for a lower-field split from the older literature.

The lower-field split examples we saw above all involve three verbs so that one cannot determine whether the upper-field can only be inserted immediately to the right of the leftmost lower-field verb. The examples with four verbs in (144) show that positions further to the right are also possible, as long as one lower-field verb remains to the right.

(144) a. laut   der   der Landeszuschuß nicht bei den Betriebskosten
        according to.which the subsidy   not   for the operating.costs

        berücksichtigt^4(3) hätte^1(0) werden^3(1) sollen^2(1)
        considered   have   be   should

        'according to which the subsidy should not have been considered for the operating costs'

    b. die laut   Erschließungsbeitragssatzung zu 90 Prozent auf
        which according.to statutes   to 90 percent on

        die Anwohner umgelegt^4(3) werden^3(1) hätten^1(0) müssen^3(0)
        the neighbors   apportioned be   have   have

        '90 percent of which should have been apportioned on the neighbors according to the statutes'

c. die Ortskernsanierung in Steinkirchen, die   sicher 1993
the sanitation   of Steinkirchen   which surely 1993
abgeschlossen^4(3) werden^3(1) hätte^1(0) können^2(1)
completed   be   have   could

'the sanitation of Steinkirchen, which surely could have been completed by 1993'

In Meurers (1994a) we therefore concluded that the lower-field split should be considered a possible construction of German syntax which one should be able to deal with in a theory of German non-finite constructions. Apart from the linearization as such, the lower-field split phenomenon appears to share the properties of the ordinary upper-field cases, so that it makes sense to view the lower-field split as nothing but a special linearization of the upper-field.

Upper-field left dislocation. A second alternative linearization which can be observed with upper-field verbs is similar to the standard upper-field position in that the verb surfaces to the left of the lower-field. But different from the standard linearization it allows non-verbal elements to intervene between the upper-field and the lower-field. This linearization, which we will refer to under the name of *upper-field left dislocation* (*Linksstellung*), has sometimes been discussed under the theoretical perspective of verb-projection raising (Haegeman and van Riemsdijk, 1986), but discussions exploring the empirical dimensions of this word-order possibility are rare. A noteworthy exception is the paper by Kefer and Lejeune (1974). They show that as intervening elements between the left-dislocated verb and the lower-field one can find ordinary objects (145a), predicative complements (145b), objects taking part in light-verb constructions (145c), as well as adverbials (145d).

(145) a.   ohne   daß der Staatsanwalt   hätte^1(0) <u>darum</u> bitten^3(1)
without that the public.prosecutor had-SM   *about.it ask*
müssen^2(1$_3$)
have

'without that the public prosecutor would have had to ask for it'

b.   wenn ich nur ein einziges Mal habe^1(0) <u>glücklich</u> sein^3(1)
if   I   only one single   time have   happy   be
dürfen^2(1$_3$)
be.allowed

'if I have been allowed to be happy for one single time'

c.   Es war ein Wackelkontakt, den   er mit ein paar Handgriffen
it was a   lose.contact   which he with a few hand.moves
hätte^1(0) <u>in Ordnung</u> bringen^3(1) können^2(1$_3$).
had-SM   *in order*   *bring*   *be.able*

'It was a lose contact which he would have been able to fix up without requiring much work.'

d.   daß er es habe^1(0) <u>genau</u> erkennen^3(1) lassen^2(1$_3$)
that he it has   exactly recognized   let

'that he had made sure that it was recognized well'

While the data discussion of Kefer and Lejeune (1974) provides many interesting examples, the empirical generalizations drawn by the authors are rather vague and in one case problematic. More concretely, they remark "that only those elements can be bracketed which are relatively closely related to the immediately following verb" (p. 325, our translation[20]). But neither the kind of relationship nor how relative closeness is to be quantified is made more specific. The problematic generalization concerns the occurrence of subjects. Kefer and Lejeune (1974, p. 324) claim that subjects are excluded from surfacing to the right of an upper field verb (146a). As pointed out by Marga Reis (p.c.), this restriction seems to be too strict in light of grammatical examples such as (146b).

(146) a.   * Sie wußte, daß vielleicht hätte^1(0) <u>Paul</u> kommen^3(1) sollen^2(1$_3$).
she knew   that perhaps   had   Paul come   shall

'She knew that perhaps Paul should have come.'

b.   Daß ihn gestern   hätte^1(0) <u>jemand</u> besiegen^3(1) können^2(1$_3$), ist
that him yesterday had   someone defeat   be.able   is
unwahrscheinlich.
improbable

'It is improbable that someone wold have been able to defeat him yesterday.'

Related to this issue, let us mention that an upper-field can occur with subjectless constructions as in (147), so that upper-field verbs in principle must be permitted to combine with verbal projections which do not (or no longer) subcategorize for a subject.[21]

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[20] Original: "daß die Einklammerungsstelle nur Satzgliedern zugänglich ist, die zum unmittelbar folgenden Verb in relativ enger Beziehung stehen"

[21] Note that example (147) becomes ungrammatical when the adverbial *gestern* is removed. More generally, Marga Reis (p.c.) points out that an upper-field verb can

(147) daß heute hätte^1(0) getanzt^4(3) werden^3(1) sollen^2(1)
   that today have   danced   be   should

   'that today people should have been dancing'

As general setting for these two specific issues, the questions how the notion of relative closeness can be made more precise and what role the subject plays, the central theoretical question is whether in constructions where the upper-field verb occurs to the left of non-verbal material, the upper-field verb still is part of the verbal complex or whether it is part of the Mittelfeld. In the first case, the material to the right of the upper-field verb forms a constituent, potentially including non-verbs. In the second case, the material to the right of the upper-field does not necessarily have constituent status.

The latter possibility is mentioned by Höhle (1986, p. 331, fn. 3). On the other hand, Haider (1993, pp. 283f), Hinrichs and Nakazawa (1994a, p. 34), and others point out the parallels between the partial VP constituents which can be topicalized and those elements which can occur to the right of an upper-field verb. We focus on the theoretical issues involved in the partial topicalization cases in the chapters 7, 9, and 10. A comparison of the results of these investigations with the situation found in upper-field left dislocation has to be left to future work.

2.2. Summary. Investigating certain word order possibilities not respecting the uniform head-follows-complement word order of the final-field, we followed Bech (1955) in dividing the final-field into an upper and a lower-field, where the latter represents the ordinary head-follows-complement order and the upper-field usually precedes the lower-field and shows the inverse order.

We saw that two lexical classes of verbs are relevant for an upper-field to surface. On the one hand, only a very restricted class of verbs can

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never immediately follow the complementizer (ia) even though a finite verb-last verb can immediately follow a complementizer in extraposition contexts (ib).

(i) a. ?? dass hätte^1(0) getanzt^4(3) werden^3(1) sollen^2(1)
   that have   danced   be   should

   'that people should have been dancing'

   b. wenn ansteht^1(0), diese Dinge zu erledigen^2(2)
   when be.at.issue   these things to take.care

   'when it is at issue to take care of these things'

occur in the upper-field, namely finite and first status forms of *werden*, *haben*, and, less regularly, the modal verbs.[22] On the other hand, a class of verbs usually selecting a first-status complement permit their selecting head to surface in the upper-field. We showed that attempts to establish a syntactic regularity which relies on the occurrence of a lower-field sequence of two verbs in first status instead of making reference to the second lexical class are problematic as there are regular occurrences of upper-fields with only a single verb in the lower-field.

Finally, we discussed two less common linearizations of the upper-field. In the first alternative, the upper-field is inserted into the lower-field instead of preceding it (upper-field split) and in the second, the upper-field does not occur adjacent to the lower-field but further to the left (upper-field left dislocation).

3. RELATION BETWEEN STATUS GOVERNMENT AND WORD ORDER

Having introduced the irregular word order and status phenomena which can be observed in coherent constructions, we can now turn to the way in which the word order and status phenomena are related.

Starting with the most important correlation, in a sentence in which a form of the perfect-auxiliary *haben* occurs as V' in an irregular final-field word order, the verb V' always shows a substitute status (substitute infinitive or substitute *zu*-infinitive). The three irregular word orders we discussed (ordinary upper-field, lower-field split, upper-field left dislocation) behave identical in this respect, so that it is plausible to view all three as realizations of the same upper-field phenomenon. The following examples illustrate this with the AcI verb *sehen* having a regular past participle in its paradigm and for the modal verb *dürfen*, for which no regular past participle exists.

(148) a. daß er den Bären tanzen^3(1) gesehen^2(3) hat^1(0)
   that he her dance seen   has

   b. daß er den Bären hat^1(0) tanzen^3(1) sehen^2(1$_3$)
   that he her dance seen   has

   c. daß er den Bären tanzen^3(1) hat^1(0) sehen^2(1$_3$)
   that he her dance seen   has

---

[22]Additional verbs which one could interpret as occurring in the upper-field are discussed in section 6 of chapter 8.

   d. daß er hat^1(0) den   Bären tanzen^3(1) sehen^2(1$_3$)
      that he her   dance seen   has

(149) a. * daß er das Buch kopieren^3(1) gedurft^2(3) hat^1(0)
        that he the book copy   be.allowed has-PART2

      b. daß er das Buch hat^1(0) kopieren^3(1) dürfen^2(1$_3$)
        that he the book has   copy   be.allowed-IPP

      c. daß er das Buch kopieren^3(1) hat^1(0) dürfen^2(1$_3$)
        that he the book copy   has   be.allowed-IPP

      d. daß er hat^1(0) das Buch kopieren^3(1) dürfen^2(1$_3$)
        that he has   the book copy   be.allowed-IPP

When *haben* occurs as verb-second V' the status of V'' can be either a substitute infinitive (150a) or, for verbs having such a form in the paradigm, a past participle (150b). The situation thus is parallel to a verb-last *haben* occurring either in the upper or in the lower field.

(150) a. Er hat^1(0) den Bären tanzen^3(1) gesehen^2(3).
        he has   the bear   dance   seen-PART2

      b. Er hat^1(0) den Bären tanzen^3(1) sehen^2(1$_3$).
        he has   the bear   dance   see-IPP

Haider (1993, p. 283, fn. 1) claims that non-finite forms of *haben* cannot occur in the upper-field and provides the examples in (151).

(151) a. daß er sie nicht hat^1(0) kommen^3(1) hören^2(1$_3$)
        that he her not   has   come   hear

          'that he has not heard her come'

      b. * ohne   sie zu haben^1(2) kommen^3(1) hören^2(1$_3$)
        without her to have   come   hear

          'without having heard her come'

While Haider's example (151b) correctly illustrates that *haben* in second status cannot occur in the upper-field, we already saw in section 1.2 that this is a far more general phenomenon in that verbs in second status can never occur in the upper-field. It is this construction which gives rise to the substitute *zu*-infinitive.

Turning to the other non-finite form, the first status of *haben*, which Haider also claims to be excluded from the upper-field, the examples in

(152) taken from the Frankfurter Rundschau corpus and the constructed examples in (153) suggest that this claim is false.[23]

(152) a. Nur wenige der   Premieren-Zuschauer dürften^1(0) sich
        only few   of.the first-nighters   will   themselves
        daher   von diesem kritischen Anspruch in ihrer
        therefore of   this   critical   demand   in their
        sommerabendlichen Erbauung haben^2(1) stören^4(1) lassen^3(1$_3$).
        summer.eveningly   pleasure   have   disturb   let
        'Only few of the first-nighters will have let themselves be disturbed in their summer-eveningly pleasure by this critical demand.'

      b. Das muß man gesehen haben. Da   muß man hineingetreten sein.
        this must one seen   have   there must one step   into
        Diese Schmach muß^1(0) man an sich   haben^2(1) vorüberziehen^4(1)
        this   disgrace must   one at oneself have   pass
        lassen^3(1$_3$): Dieses Land. Diese Mörder. Diese Justiz.
        let   this   country this   murderers this   legal.system
        'That is something one must have seen. This is something one must have experienced. This disgrace is something one must have been exposed to: This country. These murderers. This legal system.'

      c. Der Generalarzt Kron soll^1(0) sich   Presseberichten zufolge
        the doctor   Kron shall   himself press.report   according.to
        mit einem Hubschrauber der   Bundeswehr zu einer
        with a   helicopter   of.the army   to a
        Familienfeier   haben^2(1) fliegen^4(1) lassen^3(1$_3$).
        family.celebration have   fly   let

---

[23]Haider (1993, p. 283, fn. 1) relates the (incorrect) claim that non-finite *haben* cannot occur in the upper-field to another observation he reports based on the examples in (i), namely that the complement of *haben* according to Haider cannot be topicalized.

  (i) a. * Im   Radio gehört^3(3) glaubt^1(0) er die Nachricht zu haben^2(2).
         in.the radio heard   believes   he the news   to have
         'He believes to have heard the news in the radio.'

      b. Im   Radio gehört^3(3) hat^1(0) er die Nachricht
         in.the radio heard   has   he the news

      c. Gehört^3(3) zu haben^2(2) glaubt^1(0) er die Nachricht im Radio.
         heard   to have   believes   he the news   in the   radio

As far as we see, the status of this observation is questionable since a sentence like (ii) appears to be grammatical even though the complement of a non-finite form of *haben* has been topicalized.

  (ii) Im   Radio gehört^3(3) wird^1(0) er die Nachricht sicher nicht haben^2(1).
      in.the radio heard   will   he the news   surely not   have

(153) a. Er wird das Buch haben^1(0) stehlen^3(1) wollen^2(1$_3$).
   he will the book have   steal   want

   'He will have wanted to steal the book.'

b. Er war krank, so daß er es wird^1(0) haben^2(1) kopieren^5(1) lassen^4(1)
   he was sick   so that he it will   have   copy   let
   müssen^3(1$_3$).
   must

   'He was sick so that he will have had to let someone copy it (for him).'

In contradiction to Haider's claim we thus conclude that in a verb-first or verb-second sentence in which *haben* in first status occurs in the upper-field, the situation appears to be identical to that of verb-last sentences with finite *haben* in the upper-field described above.

Summing up, one can observe the following three regularities correlating status government and word order:

1. substitute status V" ↔ V' *haben* in upper-field or verb-first/second
2. past-participle V" ↔ third status governing V' in lower-field or verb-first/second
3. second status assigned to upper-field V' → V' bears irregular first status and V" bears irregular second status

In general, there appears to be no status government into nor out of the upper-field.[24]

3.1. Finite vs. non-finite status and irregular word order. After focusing on the relationship between irregular final-field orders and irregular non-finite status in the last section, we now turn to the interaction of irregular word orders with finite verbs. The examples in (154) and (155) show the distribution of finiteness in verb-first/second and verb-last sentences with an upper-field.

(154) a. Er hat^1(0) das Attentat   verhindern^3(1) wollen^2(1$_3$).
   he has   the assassination prevent   want

   'He wanted to prevent the assassination.'

b. daß er das Attentat   hat^1(0) verhindern^3(1) wollen^2(1$_3$)
   that he the assassination has   prevent   want

(155) a. Er wird^1(0) das Attentat   haben^2(1) verhindern^4(1) wollen^3(1$_3$).
   he will   the assassination have   prevent   want

---

[24]But see section 6 of chapter 8 for a possible exception to this rule.

b. daß er das Attentat   wird^1(0) haben^2(1) verhindern^4(1) wollen^3(1$_3$)
   that he the assassination will   have   prevent   want

In (154a) the finite verb *haben* as verb-second selects a substitute infinitive as last verb in the lower-field. The parallel case (154b) shows *haben* in the upper-field. Extending the hypotactic chain with the auxiliary *wird* makes it the finite verb, which can be placed in verb-second (155a) or in the upper-field (155b).

Turning to the less common upper-field linearizations, we see an example for a lower-field split in (156) and some for upper-field left-dislocation in (157) taken from Kefer and Lejeune (1974).

(156) a. Zu dem Zeitpunkt an dem ich mich entscheiden^3(1) hätte^1(0)
   at the time   at which I me decide   had-SM
   müssen^2(1$_3$), war das Gesangsbuch wichtiger.
   have   was the hymn.book   more.important

   'At the time at which I would have had to decide, the hymn book was more important to me.'

b. das letzte Mal, wie ich entlassen^4(3) werden^3(1) hätte^1(0) sollen^2(1$_3$)
   the last   time when I dismiss   will   have   should

   'the last time, when I should have been dismissed'

c. daß er das Buch kopieren^5(1) wird^1(0) haben^2(1) lassen^4(1)
   that he the book copy   will   have   let
   müssen^3(1$_3$)
   have

   'that he will have had to make someone copy the book'

(157) a. Er wird^1(0) die Landkarte haben^2(1) zu Rate   ziehen^4(1)
   he will   the map   have   to counseled pull
   können^3(1$_3$).
   be.able

   'He will have been able to consult the map.'

b. gerade ehe Schwester Bauer sich Käse ohne   Brot hatte
   just   before sister   Bauer REFL cheese without bread had
   heimlich in   den Mund schieben können
   secretly into the mouth shove   be.able

   'just before sister Bauer had been able to shove cheese without bread into her mouth'

All of these examples illustrate that independent of the word order in the final-field finiteness is always regularly assigned to the highest verb in a

hypotactic chain. Finiteness thus differs from the non-finite status, where an irregular word order resulted in a failure of the irregularly linearized verb to receive or govern regular status.

4. SEMANTICS

We mentioned in the introduction to the general properties of non-finite verbal constructions in section 2 of chapter 2 that the semantic functor-argument structure in all but a few exceptional examples is parallel to the observable syntactic selection. Let us now take a closer look at these exceptions.

Reis (1979, p. 15) observed that the example (158) from a German news magazine shows a mismatch between the syntactic and the semantic functor-argument structure.

(158) Eine Pariserin namens Dimanche soll[1](0) sich ein gewaltiges
a   Parisian called   Dimanche shall   REFL a huge
Stirnhorn   operativ entfernt[4](3) haben[3](1) lassen[2](1).
bump.on.the.forehead surgically removed   have   let
'A woman from Paris called Dimanche is said to have had a huge bump on her forehead removed.'

Looking at the syntactic relations in this sentence, *entfernt* is the most deeply embedded predicate and since it is in third status it has to be governed by *haben*. From the word order and finiteness marking one can then determine that *haben* is selected by *lassen* as last word in the lower-field, which in turn is selected by finite form *soll* as highest verb of the hypotactic chain.

Semantically, however, the functor-argument structure of the sentence is as sketched in (159). The mismatch is in the reversed relations of the perfect tense operator 'perf' as interpretation of *haben* and the causative 'let' as interpretation of *lassen*.

(159) supposedly(perf(let(x,remove(y))))

The exceptional syntactic character of (158) also becomes apparent when one decomposes the hypotactic chain. Eliminating the highest verb *soll* from the chain, one obtains the sentence (160a) in which *hat* is the highest verb so that the syntactic and semantic structure are again in parallel. If one instead tries to keep the syntactic relations of (158) one obtains the ungrammatical sentence (160b).

(160) a. Sie hat es sich entfernen lassen.
    she has it REFL remove   let
    perf(let(x,remove(y)))

   b. * Sie läßt es sich entfernt haben.
    she lets it REFL remove have

Interestingly, the example discussed by Reis (1979) is not a solitary instance of such a syntax-semantics mismatch. Merkes (1895, p. 72) remarks on the example in (161) which shows a similar mismatch.

(161) Es war ein Schüler, der   das Zeitliche gesegnet hatte, ohne   seine
    he was a   student which the time   blessed   have without his
    Studien vollendet[3](3) haben[2](1) zu können[1](2₃).
    studies finish   have   to be.able
    'He was a student who departed this life without having been able to finish his studies.'

In this sentence, the morphological status marking shows that syntactically the preposition *ohne* introducing the adverbial infinitival clause selects the second status of *können* as highest verb in the hypotactic chain. The modal *können* governs the first status of *haben* which in turn selects the third status of *vollenden*.

The semantic relations are again different from the observable syntactic selection since the example is not interpreted parallel to (162a) but to (162b), i.e., the perfect tense operator stemming from *haben* out-scopes the semantic contribution of *können*.

(162) a. Er kann[1](0) sie (morgen) vollendet[3](3) haben[2](1).
    he be.able   it   tomorrow finished   have
    'He is able to have it finished (by tomorrow).'
    able(perf(finish(x,y)))

   b. Er hat[1](0) sie vollenden[3](1) können[2](1₃).
    he has   it finish   be.able
    'He was able to finish it.'
    perf(able(finish(x,y)))

A promising idea for explaining the existence of such syntax-semantic mismatches is already mentioned by Merkes (1895, p. 33). He reports that in the 14th/15th century, sentences like (163a) were used in the way that sentences like (163b) are employed in current German.

(163) a. Er soll[1](0) das getan[3](3) haben[2](1).
           he shall   it   done   have

           'He is supposed to have done it.'

       b. Er hat[1](0) das tun[3](1) sollen[2](1_3).
           he had   it   do   shall

           'He was supposed to do it.'

Both sentences are still grammatical, but the sentence (163a) can no longer be interpreted in the way that (163b) is, which is indicated by the translations. Merkes remarks, however, that in some dialects the option still exists and points out that the older construction is still used in modern English so that as translation of (164a) one has to use (164b).

(164) a. Er hätte[1](0) das tun[3](1) sollen[2](1_3).
           he had   that do   ought

       b. He ought to[1](0) have[2](1) done[3](3) it.

Summing up, except for a very limited set of exceptions of which we have seen two examples the syntactic and semantic selection are always in parallel. The regular nature of the semantic functor-argument structure is particularly useful in light of the defective status phenomena we discussed in section 1, which can make it impossible to determine the syntactic relations on the basis of status government alone.

5. Summary

After reviewing the basic syntactic and semantic properties of non-finite constructions in chapter 2, in this chapter we focused on certain word order and status phenomena which are irregular with respect to the relations expected for instances of head-complement constructions in which a verbal head combines with a non-finite complement.

As irregular status phenomena we discussed the substitute infinitive and the substitute *zu*-infinitive which both occur in place of a past-participle when a form of the verb *haben* occurs in the upper-field or in verb-first/second. Which of the two substitute status surfaces in this situation is dependent on whether the coherence-field includes a finite verb, in which case the substitute infinitive arises, or whether the highest verb in the coherence-field is assigned a second status, which results in a substitute *zu*-infinitive.

Lower-field uses of verbs always properly govern their lexically specified status (and verb-first/second verbs can do so). As certain verbs such as the modals do not have a regular past participle form, in a perfect construction *haben* obligatorily has to occur in the upper-field or in verb-first/second.

Regarding the upper-field phenomenon as irregular word order possibility in the final-field, we showed that there are three variants. In the most common form, the upper-field is realized left adjacent to the lower-field. Alternatively, the upper-field can be inserted into the lower-field as long as a lower-field verb remains to the right of the upper-field. As second alternative, the lower-field can occur to the left of the upper-field in a way permitting non-verbal elements to intervene between the two. The three linearization possibilities seem to reflect the same syntactic phenomenon since they correlate with the same status properties: only verbs in null and first status can occur in them and such verbs can neither receive nor govern a status. As an upper-field verb can be either finite or in first status, finiteness differs from the non-finite status in that it is assigned to the highest verb in a hypotactic chain, regardless of whether the verb is realized in verb-first/second, the upper-field, or the lower-field.

Investigating the often cited occurrence of a double infinitive as necessary criterion for the realization of an irregular status or word order, we showed that there are several classes of exceptions to such a double infinitive condition. In general one thus cannot determine on the syntactic properties of a construction alone whether a substitute infinitive or upper-field word order can arise. Instead, reference to certain lexical classes of verbs is required, be it to determine which verbs can occur in the upper-field, which verbs in the lower-field support an upper-field, or which verbs can surface as substitute infinitives. Even though the double infinitive condition is empirically incorrect as a syntactic condition on a specific structure, it appears to be useful in determining membership in some of these lexical classes in that only those verbs can support an upper-field or surface as substitute infinitive which exist in a realization in which they could govern a verbal complement in first status.

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