Complex Predicates: Verbal Complexes, Resultative Constructions, and Particle Verbs in German

This is a draft! Comments of every kind are very welcome!

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Introduction

The Content

In this book[1] I will examine various phenomena like auxiliary + verb combinations in future, perfect, and passive constructions, causative constructions, subject and object predicatives, resultative constructions, and particle + verb combinations. The properties of all these constructions are studied on a broad empirical basis, mainly with data from German. The analyses that will be provided are formulated in the framework of Head-Driven Phrase Structure Grammar (HPSG).

In chapter 1 some vocabulary that is used throughout the book will be introduced. In chapter 2 I will present the basic building blocks of an HPSG for German. I will discuss the representation of valence and the way constituents that stand in head complement or head adjunct realtion to eachotherare combined. I will provide an analysis for various German sentence types, since this is important in the context of particle verbs where the distribution of particle and verb in verb initial and verb final sentences has to be explained. Furthermore, I will provide an extensive study of fronting data, since the conditions for fronting and the analysis of this phenomenon also play an important role in the syntax of particle verbs.

After having introduced the basic concepts and ideas, I will provide analyses for the future and perfect construction and other so-called coherent infinitive constructions in chapter 3, building on work by Hinrichs and Nakazawa (1989b) and Kiss (1995). This chapter also deals with the difference of raising and control and how these can be captured in an HPSG setting. I will show that subject and object predicative constructions pattern with raising constructions.

While the analysis of the verbal complex in German is fairly well understood in general, how the passive should be analyzed is by no means uncontroversial. In chapter 4 I will therefore discuss two possible ways to analyze the passive in HPSG: object-to-subject raising and lexical rules. Both approaches are not perfect and I will work them out in detail in order to make their predictions clear.

Chapters 5 and 6 deal with secondary predication. It is now common to analyze depictive predicates as adjuncts and resultative predicates as complements. In chapter 5 I will show that depictives can refer to the logical subject of a passivized verb. This has certain consequences for the organization of argument structure. In chapter 6 I will show that resultative constructions in German behave like raising constructions. A lexical rule will be suggested that transitivizes intransitive verbs and adds a result predicate.

The most complex phenomenon that is discussed in this book is the combination of verbs with particles which will be discussed in chapter 7. There are large classes of

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[1]It is available via the WWW: http://www.dfki.de/~stefan/Pub/e_complex.html.

particle verbs that are formed productively and there are also many particle verb combinations that do not have a transparent meaning. Therefore it is often argued that they should be listed as words in the lexicon. This is a highly controversial issue, since particle and verb can be split by morphological and syntactic processes. Whether particle verb combinations are morphological objects or whether they are the result of a syntactic process has been discussed for several decades and it seems as if the issue has taken on religious proportions. Proponents of the word hypothesis claim that particles cannot be fronted, that they cannot be modified, that they cannot be separated from the verb in verb final sentences in German. That all these claims are wrong will be shown in a broad empirical study. Instead of assuming that the combination of particle and verb is always done in syntax or always in morphology, I assume that particle and verb are combined in syntax unless the particle verb combination undergoes further morphological processes, as for instance *un*-prefixation to adjectival participles that are derived from particle verbs. Inflection and derivation applies to the stem directly. Since I analyze particle verb combinations similarly to idiomatic expressions, bracketing paradox will disappear.

I will suggest a lexical rule to derive the productive verb particle combinations. This rule is very similar to the one suggested in chapter 6 for resultative constructions. Both rules refer to a valence feature that is relevant for complex forming predicates. This makes it possible to explain why neither the combination of particles with a verb nor the combination of a resultative predicate with a verb can be iterated and why particles and resultative predicates are mutually exclusive. Because of the uniform representation of complex predicates, the fronting patterns of coherent verbal and adjectival constructions, subject and object predicative constructions (chapter 3), resultatives, and particles can be analyzed by the same mechanism that is presented in chapter 3.2.2.

The 8th chapter of the book will deal with alternative proposals for the analysis of complex predicates.

Finally, I will draw some conclusions in chapter 9.

The Structure

Chapters 4, 5, 6, and 7 are all separated into two parts: a section about the phenomenon and a section about the analysis. The aim is to have all the relevant data and formulations of the generalizations that can be inferred from the data in the first section, and to have the formalization of the general insights in the second part. This is supposed to make the book readable for those who are not interested in all the formal details. Another reason for this split is the lesson I learned from looking at the history of theoretical linguistics. Syntactic theories have changed dramatically during the past decades, and nowadays it is sometimes difficult to find the interesting points among theory-internal discussions that are not relevant anymore.

Since chapter 2 is a more general introductionary chapter, the data is not presented at the beginning of the chapter, but at the beginning of each section. For instance, section 2.8.3 is devided into two subsections, the first one containing an extensive discussion of the data and the second one the analysis.

The Method

In this study I try to use example sentences that occur in real texts. One reason for this is that naturally occurring examples are often much better than handmade ones, which is due to various factors like information structure, stress and focus distribution, world knowledge, and so on. While reading newspapers carefully I discovered that a lot of structures that theoretical linguists claim are impossible can actually be instantiated by appropriate lexical material. In many cases one can falsify authors' claims by reading their own publications. This clearly shows that introspection is not sufficient for doing linguistics.

I do not claim that constructions that cannot be found in corpora do not exist, but I do not accept work containing statements like: „I find X ungrammatical. Therefore constructions like X do not exists." or: „I asked three fellow linguists. They found X ungrammatical. Therefore constructions like X do not exists. To take an example, consider NP extraposition. Of course sentences like (1) are bad.

(1) Er hat geliebt Maria.
     he has loved Maria
     'He loved Maria.'

But does this mean that NP extraposition is impossible in general? No. The examples in (2) show that NP extraposition has to be accounted for in a grammar of German.

(2) a. Unter denen des   alten Indien muten uns am   fremdartigsten $\_i$ an [die
         under those of.the old India seem us at.the strangest   at the
         Kapitel über die Nägelwunden, das Beißen mit den Zähnen und die
         chapters over the nail.wounds   the biting with the teeth   and the
         Anwendung von Schlägen]$_i$.[2]
         use   of hits

         'Amongst the chapters on ancient India those that will appear the strangest
         to us are the ones dealing with scratching, biting and beating.'

     b. Und mit diesem Heute sind $\_i$ gemeint [die Jahre, in denen er das
         and with this   today are   meant   the years in which he the
         „Curriculum" schrieb, 1938 bis 1942]$_i$.[3]
          Curriculum   wrote   1938 to 1942

         'What is meant with this 'today' is the years in which he wrote the Curriculum, 1938 to 1942.'

     c. Ich weiß nicht, was Schiller dazu   sagen würde, aber mich hat $\_i$
         I   know not   what Schiller there.to say   would but me   has
         einigermaßen ergriffen [die moralische Schönheit dieses Victor
         somewhat   seized   the moral   beauty   of.this Victor
         Klemperer]$_i$.[4]
         Klemperer

         'I do not know what Schiller would think of it, but I was quite moved by the moral beauty of this Victor Klemperer.'

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[2] *Das Kamasutram – Orientalische Liebeslehre*, Goldmann Verlag, 1992, p. 18 (in the introduction).
[3] Martin Walser: „Wir werden Goethe retten", Spiegel, 52/95, p. 142
[4] Martin Walser: „Wir werden Goethe retten", Spiegel, 52/95, p. 146

d. Es seien _*i* genannt [die vorherrschende Prädetermination und das
it be   named   the prevalant   predetermination and the
Klammerprinzip (auf beide Besonderheiten komme ich noch zurück)
bracket.principle on both peculiarities   come I   still back
sowie   die Funktionalisierung der   Verbstellung für die
as.well.as the functionalization   of.the verb.position for the
Unterscheidung der   Satzarten   und die kommunikativ (für
differentiation   of.the sentence.types and the communicative (for
Thema-Rhema-Gliederung) nutzbaren Permutationsmöglichkeiten der
theme-rheme.structuring) useable   permutation.possibilities   of.the
Satzglieder]*i*.[5]
sentence.parts

'The prevalent predetermination and the bracket principle should be mentioned as examples (I will come back to both peculiarities later) as well as the functionalization of the verb position for the differentiation of the sentence types and the communicative permutation possibilities of the sentence segments (for theme-rheme structuring).'

e. Von diesem Nebeneinander   gleichstufiger ES, die in verschiedenen
from this   next.to.each.other (of).same.level ES that in various
Leerstellen stehen, ist _*i* zu unterscheiden [die Möglichkeit, die gegeben
empty.areas stand is   to differentiate   the possibility   that given
ist, ES wieder als Teile von ES zu bringen]*i*.[6]
is ES again   as parts of ES to bring

f. Baumann (32), Olympiasieger   von Barcelona, hat alles
Baumann (32) Olympics.winnner from Barcelona has everything
erklärt.   Wie er trainiert hat, härter und intensiver   als je
explained how he trained   has harder and more.intensively than ever
zuvor. Wie er die Saison _*i* gewidmet hat [dem Bestreben, persönliche
before how he the season   dedicated has the   endeavor personal
Bestzeiten zu verbessern]*i*.[7]
records   to improve

'Baumann (32), winner of the Barcelona Olympics, explained everything. How he has trained harder and more intensively than ever. How he dedicated this season to the endeavor to break his personal records.'

g. [Zeuge _*i*] zu sein [des   seligen Taumels der eine große Nation in dem
 witness   to be of.the blissful frenzy   that a   great nation in the
Augenblick ergriff]*i*[8]
moment   seized

'to be witness of the blissful frenzy that took hold of a great nation at that moment'

h. Gegen die Love Parade spreche, daß sie „[Ausdruck _*i*] ist [der
against the Love Parade speaks   that she expression   is of.the

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[5] Heinrich Weber. 1990. Typologische Zusammenhänge zwischen Wortstellung und analytischer Morphologie im Deutschen, *Zeitschrift für Germanistische Linguistik* 18, p. 13
[6] In the main text of (Heringer, 1973, p. 232).
[7] taz, 12.08.97, p. 19
[8] Goethe, quoted from Paul (1919, p. 68).

geistigen Lage der   Nation, einer harmlos gewordenen, vom
spiritual state of.the nation a   harmless got   from.the
System goutierbaren Revolte, die   zugleich   – im   konkreten
system palatable   revolt   which at.the.same.time in.the concrete
Fall: buchstäblich – die Erinnerung an Alternativen (sowohl zur
case literally   the memory   of alternatives both   to.the
bestehenden Gesellschaft wie auch zu sich selbst) verdrängt,   zudröhnt,
existing   society   as also to self self   suppresses, to.drones,
zertanzt,   verkifft]$_i$".[9]
apart.dances up.dopes

'What speaks against the Love Parade is that is has become an expression
of the nation's spiritual state, a revolt gone soft, palatable to the system and
which literally suppresses, blasts out, dances and dopes away all memory
of alternatives (to both existing society and the individual).'

i. … hier läßt sich aber auch [eine einfache Default-Regel $\_i$] annehmen,
        here lets self but also a   simple   default.rule   accept
    [des   Inhalts, daß Verben, für die   nichts   anderes festgelegt ist,
     of.the content that verbs   for which nothing else   set   is
    immer schwach flektiert werden]$_i$.[10]
    always weakly   inflected get
    'But a simple default rule of the content that verbs for which nothing else
    has been set always take weak inflection can also be assumed here.'

Rather than ruling out sentences like (2), one should allow for NP extraposition in
general and then try to find the constraints for this phenomenon in order to explain why
(1) is bad.

In many cases acceptability is influenced by information structure, and phrasal pat-
terns that seem to be impossible if one looks at hand made examples only can be ob-
served. To make it possible for the reader to check the context of the examples I use
throughout the book, I decided to provide the exact references to the source of the
examples.

In this book the reader will find a lot of examples that contradict claims that have
been made by many other authors. If there is a substantial class of counter examples,
I think it is important they are discussed, even if no analysis can be provided. In such
cases the data discussion at least provides a starting point for further work.

Used Corpora

The object of my studies is the language that surrounds me every day: I use data from
the newspaper and the magazines I read, from TV-programs I watch and conversations
I hear. Most of the examples are from the *taz*, which is a newspaper that appears nation-
wide in Germany (http://www.taz.de). Others are from the magazine *Der Spiegel*, from
the computer magazine c't, and from the *zitty*, a small independent "what's on" maga-
zine for Berlin. I also considered examples from novels and some from scientific texts
about linguistics. Of course it is clear to me that the language of linguists changes
according to their research topic and according to the theories they have at a certain

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[9]Wiglaf Droste, Spiegel, 28/98, p. 110
[10]In the main text of (Wunderlich, 1987).

stage, but in many cases I quote examples that show that a claim of the author is wrong and this excludes the possibility that the production of the respective sentences was influenced by the author's theoretical work.

It is very convenient to use electronic corpora to find data to justify certain claims about idioms and derivational morphology. For these particular surveys I used mainly the taz CD roms, which contain 13 years of the newspaper. I also used the COSMAS corpus that is provided by the Institut für Deutsche Sprache (IDS) Mannheim (http://corpora.ids-mannheim.de/~cosmas/). The version that is accessible via the World Wide Web contains 128 million words. The examples from *Die Zeit* and *Mannheimer Morgen* were found with COSMAS. Thorsten Brants found some examples in the *negra* corpus for me. The *negra* corpus is an annotated corpus of parts of the *Frankfurter Rundschau*. The annotation is done in Saarbrücken at the Computational Linguistics Department. I also use a few examples from the Verb*mobil* corpus, which consists of some CD roms of spoken language (Burger, Weilhammer, Schiel and Tillmann, 2000). On Verb*mobil* in general see (Wahlster, 1993).

Acknowledgments

from other researchers.

Chapter 1

Topological Fields

In this chapter I will introduce some vocabulary that will be used throughout the book. Other introductions to the topological fields that can be used to describe the German clause can be found in (Reis, 1980; Höhle, 1986; Askedal, 1986).

German sentences are classified according to the position of the finite verb. There are sentences with the finite verb in final position (1.1a), with the finite verb in initial position (1.1b), and with the verb in verb second position (1.1c).

(1.1)   a. Peter hat erzählt, daß er das Eis gegessen *hat*.
            Peter has told   that he the ice-cream eaten   has

            'Peter said he ate the ice-cream.'

     b. *Hat* Peter das Eis gegessen?
            has Peter the ice-cream eaten

            'Did Peter eat the ice-cream?'

     c. Peter *hat* das Eis gegessen.
            Peter has the ice-cream eaten

            'Peter ate the ice-cream.'

One can observe that the finite verb and its non-finite verbal complement are adjacent only in (1.1a). In (1.1b) and (1.1c) they are discontinuous. On the basis of this distribution the German clause is partitioned. In (1.1b) the verbs are at the left and at the right periphery of the clause. They are called the left and the right sentence bracket. In embedded sentences the finite verb is always a part of the right sentence bracket. In yes/no questions the finite verb is in initial position, and in main clauses it usually is in second position.

The notion of sentence bracket allows the German sentence to be partitioned into *Vorfeld*, *Mittelfeld*, and *Nachfeld*: The *Vorfeld* is the topological field to the left of the left sentence bracket, the *Mittelfeld* is the part between the left and the right sentence bracket and the *Nachfeld* is the topological field to the right of the right sentence bracket. The table on the following page gives some examples.

The right sentence bracket may contain several verbs. These verbs are called verbal complex or verb cluster. Predicative adjectives behave like verbs in several respects and I therefore regard the adjective in (1.2) to be located in the right sentence bracket.

(1.2)   Karl ist seiner Frau treu.
       Karl is his   wife faithful

       'Karl is faithful to his wife.'

Vorfeld	left bracket	Mittelfeld	right bracket	Nachfeld
Karl	schläft.			
Karl	hat		geschlafen.	
Karl	erkennt	Maria.		
Karl	färbt	den Mantel	um	den Maria kennt.
Karl	hat	Maria	erkannt.	
Karl	hat	Maria als sie aus dem Zug stieg sofort	erkannt.	
Karl	hat	Maria sofort	erkannt	als sie aus dem Zug stieg.
Karl	hat	Maria zu erkennen	behauptet.	
Karl	hat		behauptet	Maria zu erkennen.
	Schläft	Karl?		
	Schlaf!			
	Iß	jetzt dein Eis	auf!	
	Hat	er doch das ganze Eis alleine	gegessen.	
	weil	er das ganze Eis alleine	gegessen hat	ohne mit der Wimper zu zucken.
	weil	er das ganze Eis alleine	essen können will	ohne gestört zu werden.
	wer	das ganze Eis alleine	gegessen hat.	

I will justify this in more detail in chapter 3.1.4.

As the examples in the table on the preceding page show, not all topological fields have to be filled in a sentence. In (1.3) we have elements in the *Vorfeld*, in the left sentence bracket, in the *Mittelfeld*, and in the *Nachfeld*, but the right sentence bracket is empty.

(1.3) Er gab der Frau   das Buch, die er kennt.
       he gave the woman the book who he knows

       'He gave the book to the woman he knows.'

That the relative clause in (1.3) is not part of the *Mittelfeld* is obvious if one embeds the finite verb under a perfect auxiliary. Since non-finite verbs are located in the right sentence bracket, the *Mittelfeld* is clearly separated from the *Nachfeld* and (1.4b) shows that the relative clause cannot appear in the *Mittelfeld* unless it forms a continuous constituent with *der Frau*.

(1.4) a. Er hat der Frau   das Buch gegeben, die er kennt.
         he has the woman the book given   who he knows

     b. * Er hat der Frau   das Buch, die er kennt, gegeben.
         he has the woman the book who he knows given

     c. Er hat der Frau,   die er kennt, das Buch gegeben.
         he has the woman who he knows the book given

Chapter 2

An Introduction to HPSG

In the next sections, I will sketch some basic architectural facts about Head-Driven Phrase Structure Grammar (HPSG) in general (on HPSG see (Pollard and Sag, 1987, 1994)) and the specific version of HPSG that I am assuming (Müller, 1999a). I will show how syntactic relations between heads and their dependents are described. I will discuss the organization of the lexicon in general and lexical redundancy rules in particular. I will provide a linearization based account for the German clause and extensively discuss the properties of the position before the finite verb in main clauses, i.e., the *Vorfeld*. It is important to provide an analysis of the verb placement in German, since this is of some relevance when the distribution of verb and particle in particle verb constructions is discussed. An approach to the relatively free constituent order in the *Mittelfeld* is important, since such order freedom can also be observed in constructions with depictive predicates and with predicate complexes, resultative constructions and particle verb constructions. Finally, I will provide an extensive discussion of fronting phenomena, since this is relevant for the fronting data that will be discussed in connection with particle verbs.

2.1   Signs

Every modern linguistic theory uses features to describe linguistic objects. In HPSG the features are grouped according to the part of the properties that is described by a certain set of features. The linguist talks about feature descriptions that contain a certain part of the information that is present in the feature structure that models the object. HPSG is a theory about linguistic signs in the sense of Saussure (1915). These linguistic signs are form/meaning pairs.

   (2.1) shows a feature description for a sign that contains the features that will be used throughout this book.

$$
\begin{bmatrix}
\text{PHONOLOGY} & \begin{bmatrix} \textit{list of phonemes} \end{bmatrix} \\[2pt]
\text{SYNSEM} & \begin{bmatrix}
\text{LOCAL} & \begin{bmatrix}
\text{CATEGORY} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \textit{head} \end{bmatrix} \\
\text{SUBCAT} & \begin{bmatrix} \textit{list of synsem-objects} \end{bmatrix} \\
\text{VCOMP} & \begin{bmatrix} \textit{list of synsem-objects} \end{bmatrix}
\end{bmatrix} \\
\text{CONTENT} & \begin{bmatrix} \textit{cont} \end{bmatrix} \\
\textit{local}
\end{bmatrix} \\
\text{NONLOCAL} & \begin{bmatrix} \textit{nonloc} \end{bmatrix} \\
\text{LEX} & \textit{boolean} \\
\textit{synsem}
\end{bmatrix} \\
\textit{sign}
\end{bmatrix}
\tag{2.1}
$$
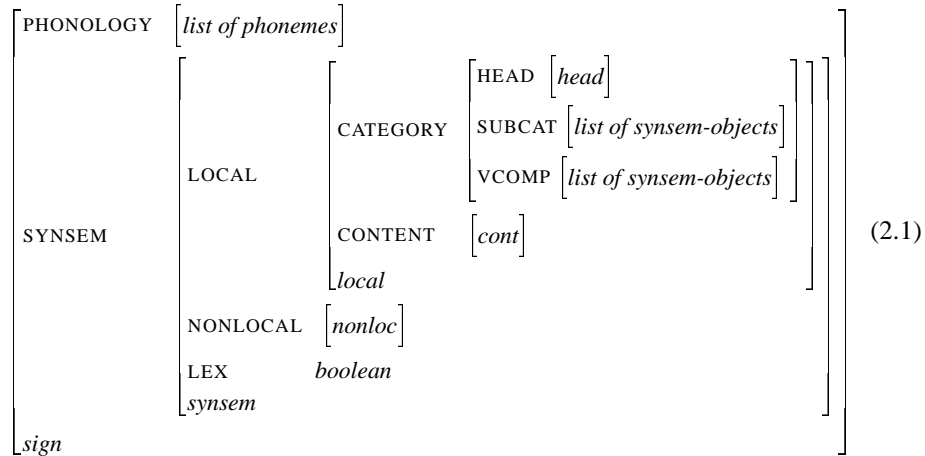
Values of features may be complex (SYNSEM) or simple (LEX). The value of a feature is restricted by its type. The type of a feature structure is written in *italics*. Types are represented in type hierarchies. The type *boolean* for instance, has the two subtypes $+$ and $-$. In feature descriptions only the values *boolean* and $+$ and $-$ are possible values for LEX. Subtypes inherit all properties of their supertype. To give a non-linguistic example, consider the type hierarchy in figure 2.1. Both printers and scanners are
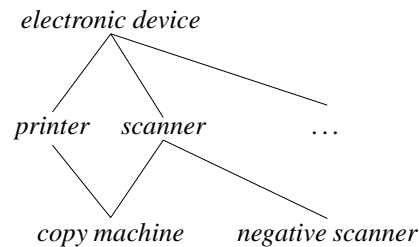
Figure 2.1: Subtypes of *electronic device*

electronic devices. They have a power supply. This is a property all electronic devices share. *printer* and *scanner* are subtypes of *electronic device*. They inherit the properties of their supertype, for instance having a power supply. A printer is a device that can print information and a scanner is a device that gathers information. A copy machine is a device that can do both. *copy machine* inherits the properties of *printer* and *scanner*. A negative scanner is a special kind of scanner. The type *negative scanner* is more specific than its supertype *scanner*.

After having briefly introduced the type concept, I will now explain the feature description in (2.1) in more detail. The structure in (2.1) is a description of a *sign* in the sense of Saussure (1915). PHONOLOGY (PHON) contains a list of phoneme strings that correspond to the actual utterance. The value of SYNTAX-SEMANTICS (SYNSEM) is a feature structure containing all syntactic and semantic information about the sign. This information is divided into information that is relevant in a local context (LOC) and information that is used to establish nonlocal dependencies (NONLOC). The syntactic properties of a sign are represented under the path SYNSEM|LOC|CATEGORY (SYNSEM|LOC|CAT) and the semantic contribution of a sign is represented under SYN-SEM|LOC|CONTENT (SYNSEM|LOC|CONT). The HEAD value contains all the features

that are projected from a lexical head of a phrase to the complete phrase. SUBCAT
and VCOMP are valence features. Their values are lists of *synsem* objects that have
to be combined with a sign in order to yield a maximal projection. VCOMP contains
elements that form a complex with their head, and SUBCAT all other dependents of the
head. The type *sign* has the two subtypes *lexical-sign* and *phrasal-sign*. Structures
of type *phrasal-sign* have features that specify daughters. For the type *sign*, I assume
the subtypes shown in figure 2.2.[1] The figure shows a multiple inheritance hierarchy.
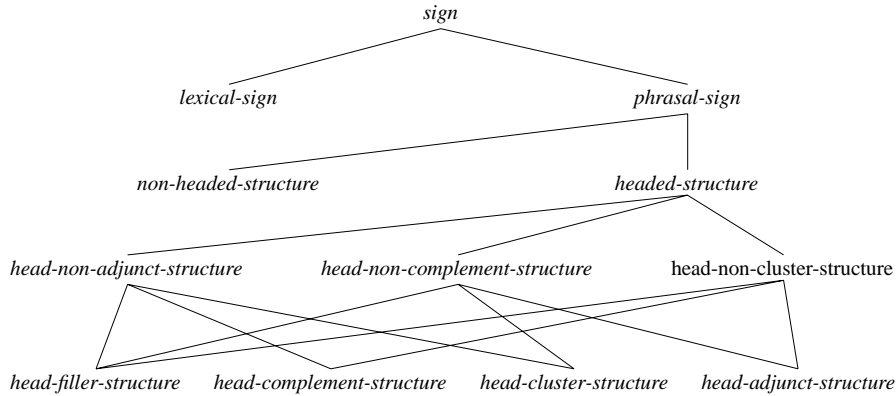
Figure 2.2: Subtypes of *sign*

The leaf nodes below *headed-structure* correspond to phrasal types of grammar rules
(Immediate Dominance Schemata) which will be introduced below. Types that are
organized in hierarchies like the one in figure 2.2 are a good way to refer to a group of
linguistic objects by referring to a type that is a supertype of all members of the group.
Generalizations that hold for members of that group can be specified with reference to
this supertype.

A feature structure of type *headed-structure* always has a feature that specifies the
head daughter.

$$
\begin{bmatrix}
\text{SYNSEM}|\text{LOC}|\text{CAT}|\text{HEAD } \boxed{1} \\
\text{HEAD-DTR} \begin{bmatrix} \text{SYNSEM}|\text{LOC}|\text{CAT}|\text{HEAD } \boxed{1} \\ \textit{sign} \end{bmatrix} \\
\textit{headed-structure}
\end{bmatrix}
\tag{2.2}
$$

The head daughter is a single unique sign. In headed structures the head features of the
head daughter are always identical to the head features of the mother. The identity of
values is expressed by the use of identical numbers in boxes. The paths SYNSEM|LOC|-
CAT|HEAD and DTRS|HEAD-DTR|SYNSEM|LOC|CAT|HEAD lead to the same structure.
The type specification in (2.2) corresponds to the Head Feature Principle of Pollard
and Sag (1994, p. 34). In Pollard and Sag (1987) such principles were formulated as
implicational constraints. I encode such principles in the type hierarchy. See also
(Krieger, 1994) and (Sag, 1997) for such proposals.

The type *head-non-complement-structure* is a supertype of all leaf nodes that are
distinct from *head-complement-structure*. The type *head-non-adjunct-structure* is a

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[1]See also (Sag, 1997) for a similar type hierarchy.

supertype of all leaf nodes that are distinct from *head-adjunct-structure*. *head-non-cluster-structure* is a supertype of all leaf nodes that are distinct from *head-cluster-structure*. All types in the figure are direct or indirect subtypes of *headed-structure*. These types are used to specify constraints on grammar rules of the respective type. Examples for non-headed structures are certain coordinated structures.

Note that daughters are specified at the top level of feature structures of the type *phrasal-sign*. Heads are subcategorized for *synsem* objects. This ensures that direct selection cannot refer to phonology values of signs or to daughters of a projection since phonology and the daughters are not contained in *synsem* objects. Therefore everything that is important for selection has to be percolated up explicitly.

2.1.1   Indices

For the description of the semantic contribution of nominal objects, Pollard and Sag (1994, p. 24) assume feature structures of the sort *nominal-object*. Such structures have an attribute INDEX (IND), which is the HPSG analog of a reference marker in discourse representation theory or of a parameter introduced by an NP used in situation semantics (Barwise and Perry, 1987). The value of IND is a feature structure of type *ind*. The subtypes of *ind* are shown in figure 2.3. Structures of sort *nominal-object* have an
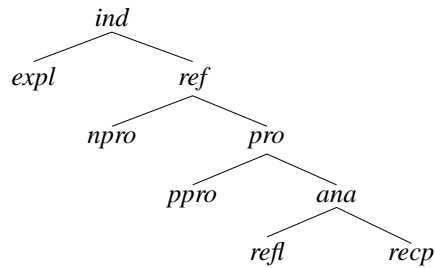
Figure 2.3: Subtypes of *ind*

attribute RESTRICTIONS (RESTR). The value of RESTR is a set of parameterized states of affairs (psoa). (2.2) gives the lexical entry for *Buch*.

Buch ('book'):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix} \text{HEAD} & \begin{bmatrix} noun \end{bmatrix} \\ \text{SUBCAT} & \langle\ \text{DET}\ \rangle \end{bmatrix} \\[3ex]
\text{CONT} & \begin{bmatrix}
\text{IND} & \boxed{1} & \begin{bmatrix} \text{PER} & 3 \\ \text{NUM} & sg \\ \text{GEN} & neu \end{bmatrix} \\[3ex]
\text{RESTR} & \left\{ \begin{bmatrix} \text{INST} & \boxed{1} \\ buch \end{bmatrix} \right\} \\[2ex]
npro
\end{bmatrix} \\[6ex]
loc
\end{bmatrix}
$$

(2.3)

INST stands for INSTANCE. DET is an abbreviation for a *synsem* object that describes a determiner. Throughout the book I will use the following conventions for abbreviations:

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Symbol	Description

XP
$$\left[\text{LOC}|\text{CAT} \begin{bmatrix} \text{SUBCAT} & \langle\rangle \\ \text{VCOMP} & \langle\rangle \end{bmatrix} \right]$$

$\text{NP}[nom]_{[3,sg,fem]}$
$$\left[\text{LOC} \begin{bmatrix} \text{CAT} \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \text{CAS} & nom \\ noun \end{bmatrix} \\ \text{SUBCAT} & \langle\rangle \\ \text{VCOMP} & \langle\rangle \end{bmatrix} \\ \text{CONT} \begin{bmatrix} \text{IND} & \begin{bmatrix} \text{PER} & 3 \\ \text{NUM} & sg \\ \text{GEN} & fem \end{bmatrix} \end{bmatrix} \end{bmatrix} \right]$$

NP_{expl}
$$\left[\text{LOC} \begin{bmatrix} \text{CAT} \begin{bmatrix} \text{HEAD} & \begin{bmatrix} noun \end{bmatrix} \\ \text{SUBCAT} & \langle\rangle \\ \text{VCOMP} & \langle\rangle \end{bmatrix} \\ \text{CONT}|\text{IND} \begin{bmatrix} expl \end{bmatrix} \end{bmatrix} \right]$$

$\overline{\text{N}}: \boxed{1}$
$$\left[\text{LOC} \begin{bmatrix} \text{CAT} \begin{bmatrix} \text{HEAD} & \begin{bmatrix} noun \end{bmatrix} \\ \text{SUBCAT} & \langle \text{DET} \rangle \\ \text{VCOMP} & \langle\rangle \end{bmatrix} \\ \text{CONT} & \boxed{1} \end{bmatrix} \right]$$

$\text{NP}_{\boxed{1}}$
$$\left[\text{LOC} \begin{bmatrix} \text{CAT} \begin{bmatrix} \text{HEAD} & \begin{bmatrix} noun \end{bmatrix} \\ \text{SUBCAT} & \langle\rangle \\ \text{VCOMP} & \langle\rangle \end{bmatrix} \\ \text{CONT} \begin{bmatrix} \text{IND} & \boxed{1} & \begin{bmatrix} ref \end{bmatrix} \end{bmatrix} \end{bmatrix} \right]$$

2.1.2 Parameterized States of Affairs

The semantic contribution of a verbal element is a parameterized state of affairs (psoa).
The type *psoa* has various subtypes. The maximal subtypes correspond to relations like
geben ('give'). It is a relation with three arguments. (2.4) shows an example lexical
entry for the finite 3rd person singular form of the ditransitive verb *geben*.

gibt ('give' finite form):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{VFORM } \textit{fin} \\ \textit{verb} \end{bmatrix} \\[1em]
\text{SUBCAT} & \left\langle \text{NP}[\textit{nom}]_{\boxed{1}\,[3,sg]}, \text{NP}[\textit{acc}]_{\boxed{2}}, \text{NP}[\textit{dat}]_{\boxed{3}} \right\rangle
\end{bmatrix} \\[3em]
\text{CONT} & \begin{bmatrix}
\text{AGENT} & \boxed{1} \\
\text{THEME} & \boxed{2} \\
\text{GOAL} & \boxed{3} \\
\textit{geben}
\end{bmatrix} \\[3em]
\textit{loc}
\end{bmatrix}
\tag{2.4}
$$

VFORM stands for verb form. In (2.4) the referential indices of the NP complements are structure-shared with the values of the semantic roles in the *geben* relation. When two elements are combined in headed or non-headed constructions, information about the referential indices that are contained in those elements is collected. The mother sign contains an explicit representation of all referential indices.

2.2 The Order of Elements in Valency Lists

For the elements in the subcat list I assume an order that corresponds to the obliqueness hierarchy that was proposed by Keenan and Comrie (1977), Pullum (1977), Pollard and Sag (1987, p. 120), and Grewendorf (1985, p. 160; 1988, p. 60).

SUBJECT => DIRECT => INDIRECT => OBLIQUES => GENITIVES => OBJECTS OF
     OBJECT OBJECT   COMPARISON

This hierarchy expresses the level of syntactic activity of grammatical functions. Elements higher in this hierarchy can participate more easily in syntactic constructions, like for instance, ellipsis (Klein, 1985, p. 15), topic drop (*Vorfeldellipse*) (Fries, 1988), non-matching free relative clauses (Bausewein, 1990; Pittner, 1995; Müller, 1999b), passive (Keenan and Comrie, 1977), depictive predicates (Chapter 5), and Binding Theory (Grewendorf, 1985, p. 160; Pollard and Sag, 1994, Chapter 6).

 Some authors assume the order subject, indirect object, direct object for this list. It is argued that this ordering is supported by constituent order facts and fronting tests that show that the direct object is nearer to the verb. In (Müller, 1999a, Chapter 11) I discussed reasons for the preferred constituent order and showed how the basic insight by Hoberg (1981), namely that NPs that refer to animated entities tend to precede NPs that refer to inanimate entities, can be captured while keeping the order of complements proposed by the obliqueness hierarchy.

 As the data in (2.5) shows, the fronting test should not be considered hard evidence for a certain order.

(2.5) a. [$_\text{V}$ [$_{\text{NP}[dat]}$ Besonders Einsteigern] empfehlen] möchte ich [$_{\text{NP}[acc]}$ Quarterdeck Mosaic], dessen gelungene grafische Oberfläche und Benutzerführung auf angenehme Weise über die ersten Hürden hinweghilft, obwohl sich die Funktionalität auch nicht zu verstecken braucht.[2]

   'Particularly for beginners, I would like to recommend Quarterdeck Mosaic, since the good design of the graphic interface and the user guidance

---

[2]c't, 9/95, p. 156

will help him/her to scale the first hurdles, although the functionality need not go into hiding either.'

b. [_V Der Nachwelt hinterlassen] hat sie eine aufgeschlagene
the after-world-DAT behind.let has she-NOM an open-hit
Hör zu und einen kurzen Abschiedsbrief: [...][3]
Hörzu-ACC and a short farewell.letter-ACC

'What she left posterity was an open Hörzu (magazine listing radio and TV shows) and a brief letter of farewell.'

In (2.5a) and (2.5b) the dative complement of *empfehlen* ('recommend') and *hinterlassen* ('to leave behind') is fronted together with its verb while the accusative object stays behind in the *Mittelfeld*. Uszkoreit (1987, p. 159), von Stechow and Sternefeld (1988, p. 459), Oppenrieder (1991, Chapter 1.5.3.3.1), and Grewendorf (1993, p. 1301) provide constructed examples that also show that the partial verb phrase fronting with a dative complement is possible. Haftka (1981, p. 721) claimed that such frontings are impossible and similar claims can be found in various other publications (Haider, 1982, p. 16; Grewendorf, 1983, p. 127; Wegener, 1990; Zifonun, 1992, p. 253, footnote 3).

(2.6) Aktiv am Streik beteiligt haben sich „höchstens zehn
active at.the strike took.part have self-ACC at.most ten
Prozent": ...[4]
per.cent-NOM

'At the most ten per cent were actively involved in the strike.'

a. Knapp zwei Jahre ist es nun her, aber [_V noch immer nicht verwunden]
barely two years is it now from but still always not got.over
hat er die parteiinterne Niederlage gegen Rudolf Scharping.[5]
has he the party-internal defeat against Rudolf Scharping

'It is now just over two years ago, but he still has not got over the internal party defeat he suffered against Rudolf Scharping.'

Fanselow (1987, p. 94) claims that the only possibility for adverbs to appear together with a verb in fronted position is that the objects of the verb are fronted as well. This is not true either, as (2.6) and (2.6a) show. Lötscher (1985, p. 215–216) provides further examples that are similar to (2.6) and (2.6a) and that show that the distance to the verb cannot be a criterion for fronting. I therefore assume a representation in an order that corresponds to the obliqueness hierarchy.

2.3 Structural Case

If the case value of an argument changes, when the head is used in other syntactic environments, the argument is said to have structural case.

(2.7) a. Der Installateur kommt.
the plumber-NOM comes

'The plumber is coming.'

---

[3]taz, 18.11.1998, p. 20
[4]taz, 11.12.1997, p. 7
[5]taz, 23.08.1995, p. 3

b. Der Mann sieht den Installateur   kommen.
   the man   sees the plumber-ACC come

   'The man can see the plumber coming.'

c. das Kommen des Installateurs
   the coming   the plumber-GEN

   'the coming of the plumber'

In (2.7), the case of *der Installateur* ('the plumber') is different in all sentences. In (2.7a) *der Installateur* is the subject and bears nominative. In (2.7b) *der Installateur* is the object of the AcI-verb *sehen* ('to see') and gets accusative, and in (2.7c) it is a complement of a noun and gets genitive. Nominative, genitive, and accusative can be assigned structurally.

Another construction where a change of structural case takes place is passivization.

(2.8) a. Der Mann   hat den Hund   getreten.
          the man-NOM has the dog-ACC kicked

          'The man kicked the dog.'

       b. Der Hund   wurde (von dem Mann) getreten.
          the dog-NOM was   by   the man   kicked

          'The dog was kicked (by the man).'

If the case of the object is dative, no change takes place.

(2.9) a. Der Mann hat ihm   geholfen.
          the man   has him-DAT helped

          'The man helped me.'

       b. Mir   wird geholfen.
          me-DAT was helped

          'Somebody is helping me.'

There is a longstanding debate whether the dative should be treated as a structural case (Fanselow, 1987; Czepluch, 1988; Wegener, 1990; Molnárfi, 1998) or as a lexical case (Haider, 1985a, 1986a; Heinz and Matiasek, 1994; Pollard, 1994; Müller, To Appeara; Meurers, To Appear).

The argument for the structural dative is basically the dative passive, which is possible with the verbs *bekommen*, *erhalten*, and *kriegen*.

(2.10) a. Der   Mann hat den   Ball dem   Jungen geschenkt.
           the-NOM man   has the-ACC ball the-DAT boy   given

           'The man gave the ball to the boy.'

        b. Der   Junge bekam den   Ball geschenkt.
           the-NOM ball   got   the-ACC ball given

           'The ball was given to the boy.'

Some of the proponents of lexical dative assume a special process that converts the dative NP into an NP with structural case (Haider, 1986a, Section 4.1; Heinz and Matiasek, 1994, p. 228; Müller, 1999a, p. 298).

If dative is a lexical case the examples in (2.11) can be explained easily.[6]

---

[6]See also (Haider, 1986a, p. 20) on this point.

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(2.11) a. Er streichelt den Hund.
            he strokes   the dog-ACC

        b. Der Hund   wurde gestreichelt.
            the dog-NOM was   stroked

        c. sein Streicheln des   Hundes
            his stroking   of.the-GEN dog

        d. Er hilft den Kindern.
            he helps the children

        e. Den Kindern   wurde geholfen.
            the children-DAT was   helped
            'The children were helped.'

        f. das Helfen der   Kinder
            the helping of.the-GEN children

        g. * sein Helfen der   Kinder
              his   helping of.the-GEN children

streicheln ('stroke') takes an accusative object that can be realized as nominative in passive constructions, i.e., an NP complement with structural case. The genitive NP in (2.11c) expresses the object of the nominalized verb. Dative NPs on the other hand, cannot surface as genitive complements in nominalizations. The genitive NP in (2.11f) refers to the agent of *helfen*. The agent of *helfen* ('help') has structural case and can therefore surface as genitive in a nominal environment. If the subject role is filled by a possessive as in (2.11g), the phrase becomes ungrammatical. It is hard to imagine how the contrasts in (2.11) can be explained with the dative as structural case.

Another problematic point of the structural dative is that it cannot be distinguished from accusatives in the context of a transitive verb. For ditransitive verbs one can say that the subject gets nominative, the direct object gets accusative and the indirect object gets dative. But with transitive verbs the distinction cannot be made. *treten* ('kick') in (2.8a) and *helfen* in (2.9a) are both transitive and yet one object has accusative and the other one has dative. Authors who see the structural/lexical case issue from a semantic point of view (Kaufmann, 1995, p. 12; Stiebels, 1996, p. 21–26; Olsen, 1997a, p. 313) therefore assume that the dative of transitive verbs is a lexical dative (Stiebels, 1996, p. 22).[7] This predicts that the dative passive is not possible with transitive verbs. It is true that dative passives with transitive verbs are not very frequent (Hentschel and Weydt, 1995), but Wegener (1990, p. 75) explains this with the low frequency of transitive verbs that take a dative object and are non-ergative. Examples like (2.12) are possible.

(2.12) a. Er kriegte von vielen geholfen / gratuliert   / applaudiert.
            he got   by many helped   congratulated applauded
            'Many helped / congratulated / applauded him.'

        b. Man kriegt täglich gedankt.
            one gets   daily   thanked
            'One is thanked on a daily basis.'

---

[7]But see (Wunderlich, 1997b, p. 51).

So I assume that the dative is always lexical. The assignment of structural case works as follows:[8]

Principle 1 (Case Principle)

- *In a list that contains both subjects and complements of a verbal head, the first element with structural case gets nominative unless it is raised to a dominating head.*

- *All other elements of this list with structural case get accusative.*

- *In nominal environments all elements with structural case get genitive.*

For a way to formalize such a principle see (Przepiórkowski, 1999; Meurers, 1999b; Meurers, 2000, Chapter 10.4.1.4).

2.4   Head Complement Structures

Head complement structures are a subtype of headed structures. The type *head-complement-structure* inherits all information of its supertypes and adds the information that there is a complement daughter.

Schema 1 (Head Complement Schema (binary branching))

$$
\begin{bmatrix}
\text{SYNSEM} & \begin{bmatrix} \text{LOC}|\text{CAT}|\text{SUBCAT}\ \boxed{1} \\ \text{LEX}\ - \end{bmatrix} \\
\text{HEAD-DTR} & \left[\text{SYNSEM}|\text{LOC}|\text{CAT}|\text{SUBCAT}\ \boxed{1}\ \oplus \left\langle\ \boxed{2}\ \right\rangle \right] \\
\text{NON-HEAD-DTRS} & \left\langle\ \left[\text{SYNSEM}\ \boxed{2} \right]\ \right\rangle \\
\textit{head-complement-structure}
\end{bmatrix}
$$

The $\oplus$ stands for the *append* relation, which concatenates two lists. The immediate dominance schema is equivalent to the grammar rule in (2.13), except that it is typed.

$$
\text{H}[\text{SUBCAT}\ \boxed{2}\ ] \to \text{H}[\text{SUBCAT}\ \boxed{2}\ \oplus \left\langle\ \boxed{3}\ \right\rangle\ ],\ \boxed{3} \tag{2.13}
$$

The typing is the big advantage of the uniform description of all linguistic knowledge with the same formalism. Since dominance structures are typed, it is possible to capture generalizations about certain subsets of dominance structures by an appropriate typing.

The immediate dominance schemata say nothing about the order of the daughters. The surface order is determined by linear precedence constraints (LP-constraints) which are stated independently from the dominance schemata.

Figure 2.4 on the facing page shows an example analysis with the ditransitive verb *geben* ('give').[9]

Nothing has been said so far about the semantics of phrasal signs. Lexical heads like the one in (2.4) contain their main contribution under SYNSEM|LOCAL|CONTENT.

---

[8]This Case Principle is very similar to the one that was suggested by Yip, Maling and Jackendoff (1987). One crucial difference is that it works in a monotonic way, i.e., cases that are assigned are not overriden by case assignments by a higher predicate.

[9]In the following figures, an H stands for head, a C for complement, an F for filler, and a CL for cluster daughter.

V[*fin*, SUBCAT ⟨⟩]

   C   H

[1] NP[*nom*]   V[*fin*, SUBCAT ⟨ [1] ⟩]

           C   H

     [2] NP[*acc*]   V[*fin*, SUBCAT ⟨ [1], [2] ⟩]

                C   H

          [3] NP[*dat*] V[*fin*, SUBCAT ⟨ [1], [2], [3] ⟩]

er   das Buch   dem Mann   gab
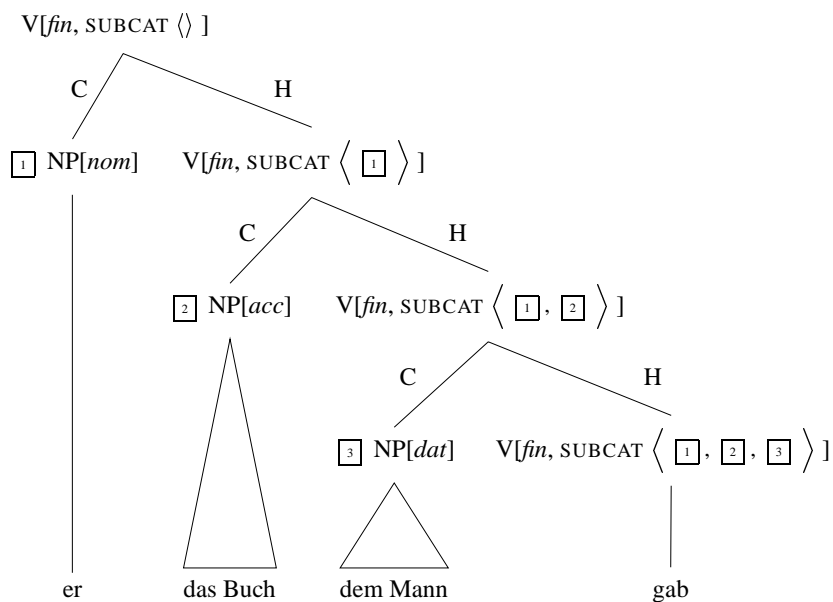
Figure 2.4: Binary Branching Head Complement Structure

The following type ensures that the CONT value of the mother sign is identical with the CONT value of the head daughter.

$$
\begin{bmatrix}
\text{SYNSEM|LOC|CONT} & \boxed{1} \\
\text{HEAD-DTR|SYNSEM|LOC|CONT} & \boxed{1} \\
\textit{head-non-adjunct-structure}
\end{bmatrix}
\tag{2.14}
$$

The type *head-non-adjunct-structure* is a subtype of *headed-structure* and therefore inherits the constraints of this type. The feature description of linguistic objects of the type *head-non-adjunct-structure*, including the constraints that are introduced by the supertype *headed-structure*, is shown in (2.15).

$$
\begin{bmatrix}
\text{SYNSEM|LOC} & \begin{bmatrix} \text{CAT|HEAD} & \boxed{1} \\ \text{CONT} & \boxed{2} \end{bmatrix} \\
\text{HEAD-DTR|SYNSEM|LOC} & \begin{bmatrix} \text{CAT|HEAD} & \boxed{1} \\ \text{CONT} & \boxed{2} \end{bmatrix} \\
\textit{head-non-adjunct-structure}
\end{bmatrix}
\tag{2.15}
$$

Since head complement structures are a subtype of *head-non-adjunct-structure*, they inherit these constraints. (2.16) shows the type *head-complement-structure* together with the constraints that are imposed by its supertypes *headed-structure* and *head-non-adjunct-structure*.

$$
\begin{bmatrix}
\text{SYNSEM} & \begin{bmatrix} \text{LOC} & \begin{bmatrix} \text{CAT} & \begin{bmatrix} \text{HEAD} & \boxed{1} \\ \text{SUBCAT} & \boxed{2} \end{bmatrix} \\ \text{CONT} & \boxed{3} \end{bmatrix} \\ \text{LEX} & - \end{bmatrix} \\
\text{HEAD-DTR} & \begin{bmatrix} \text{SYNSEM} | \text{LOC} & \begin{bmatrix} \text{CAT} & \begin{bmatrix} \text{HEAD} & \boxed{1} \\ \text{SUBCAT} & \boxed{2} \oplus \langle \boxed{4} \rangle \end{bmatrix} \\ \text{CONT} & \boxed{3} \end{bmatrix} \end{bmatrix} \\
\text{NON-HEAD-DTRS} & \langle \begin{bmatrix} \text{SYNSEM} & \boxed{4} \end{bmatrix} \rangle \\
\textit{head-complement-structure} &
\end{bmatrix} \quad (2.16)
$$

Because of the constraints on structures of the type *head-non-adjunct-structure*, the CONT value of a lexical head is percolated up the head path to the maximal projection of the head in sentences like the one in figure 2.4.

2.5   The SUBJ **Feature**

In earlier versions of HPSG (Pollard and Sag, 1987; Pollard and Sag, 1994, Ch. 1–8) subjects and complements were represented on one list (SUBCAT). In chapter 9 of their 1994 book, Pollard and Sag follow Borsley (1987) in separating the subject (SUBJ) from complements (COMPS). Following Pollard (1990) many authors of HPSG grammars for German treat the subject of a verb according to the finiteness of the verb. In the lexical representation of non-finite verbs the subject is represented as the value of the SUBJ feature, whereas it is listed with other dependents in the representation of finite verbs. There are two reasons for this distinction. In German maximal projections can be extraposed. If the subject of non-finite verbs is not listed on the subcat list, maximal projection can be defined as a projection with an empty subcat list.

(2.17)   a.   Karl hat den Mann gebeten, dem Kind zu helfen.
             Karl has the man   asked   the   child to help

             'Karl asked the man to help the child.'

         b.   * Karl hat gebeten, den Mann dem Kind zu helfen.
             Karl has asked   the man   the   child to help

         c.   * Karl hat den Mann gebeten, den Mann dem Kind zu helfen.
             Karl has the man   asked   the man   the   child to help

In (2.17a) *dem Kind zu helfen* is a maximal projection. Secondly, the subject cannot be combined with the non-finite verb.[10] Kiss (1992; 1995) suggested treating SUBJ as a head feature. This ensures that the SUBJ value is projected and that it can be referred to in control constructions like (2.17a).[11] As the subject and complements of finite verbs can appear both in the sentence initial position before the finite verb (2.18a,b) and to the right of the finite verb with the subject scrambled between the complements of the verb (2.18c), they are represented on the same list.

(2.18)   a. Ein Mann   gibt dem Kind   einen Ball.
            a   man-NOM gives the child-DAT a   ball-ACC

---

[10]For a set of problematic data in connection with fronting see (Müller, 1999a, Ch. 18.4.1).
[11]See (Pollard and Sag, 1994, Ch. 7) on control.

'A man gives the child a ball.'

b. Dem Kind   gibt ein Mann   einen Ball.
   the   child-DAT gives a   man-NOM a   ball-ACC

'A man gives a ball to the child.'

c. Deshalb gibt dem Kind   ein Mann   einen Ball.
   therefore gives the   child-DAT a   man-NOM a   ball-ACC

'Therefore a man gives the child a ball.'

The lexical entries in (2.19) and (2.20) show the respective representations for a non-finite and a finite form of the verb *helfen*.

helfen ('help', non-finite form):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \text{SUBJ} & \left\langle \text{NP}[str]_{\boxed{1}} \right\rangle \\ verb \end{bmatrix} \\ \text{SUBCAT} & \left\langle \text{NP}[ldat]_{\boxed{2}} \right\rangle \end{bmatrix} \\
\text{CONT} & \begin{bmatrix} \text{AGENT} & \boxed{1} \\ \text{EXPERIENCER} & \boxed{2} \\ helfen \end{bmatrix} \\
loc
\end{bmatrix}
\tag{2.19}
$$

hilft ('helps', finite form):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \text{SUBJ} & \langle \rangle \\ verb \end{bmatrix} \\ \text{SUBCAT} & \left\langle \text{NP}[str]_{\boxed{1}}, \text{NP}[ldat]_{\boxed{2}} \right\rangle \end{bmatrix} \\
\text{CONT} & \begin{bmatrix} \text{AGENT} & \boxed{1} \\ \text{EXPERIENCER} & \boxed{2} \\ helfen \end{bmatrix} \\
loc
\end{bmatrix}
\tag{2.20}
$$

str stands for structural case and *ldat* for the lexical dative. The entry in (2.20) is produced by the Subject Insertion Lexical Rule (SILR) that creates a lexical sign with an empty SUBJ list and with a SUBCAT list that is the concatenation of the input sign's SUBJ and SUBCAT value. I do not assume an S → NP, VP rule for German. The combination of a verb with its subject is an instance of a normal head complement relation.[12]

    Subjectless verbs have an empty list as SUBJ value both for their finite and non-finite form:

---

[12]Note, however, that the grammar which is proposed here is not incompatible with a rule like (i).

$$\text{H}[\text{SUBJ} \langle \rangle \,] \rightarrow \text{H}[\text{SUBJ} \left\langle \boxed{1} \right\rangle], \boxed{1} \tag{i}$$

Since dependents of a head are inserted into the linearization domain of their head, the linearizations in (2.18c) can be accounted for, even with a rule like (i). Such a rule may turn out to be useful for the analysis of sentences like (7.64)–(7.65). Note that using (i) to analyze (2.18c) would make it necessary to assume a discontinuous maximal projection, namely the VP *gibt dem Kind einen Ball*. In the grammar developed in this book maximal projections are always continuous.

grau- (finite and non-finite form):

$$
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \langle\rangle \\ verb \end{bmatrix} \\
\text{SUBCAT} & \left\langle \text{NP}[ldat] \right\rangle \\
cat
\end{bmatrix}
\tag{2.21}
$$

I do not assume that all clauses must have a subject. With such an assumption one would be forced to stipulate empty elements that function as the subject of subjectless verbs. There is no theory external evidence for such empty elements and a theory that uses them has to explain why these empty subjects do not occur with predicates that need a real subject.

2.6   Head Adjunct Structures

In head adjunct structures no complement gets saturated. The valence information of the head is identical to the valence information of the mother. Adjunct structures are of type *head-non-complement-structure*:

$$
\begin{bmatrix}
\text{SYNSEM}|\text{LOC}|\text{CAT}|\text{SUBCAT} \; \boxed{1} \\
\text{HEAD-DTR}|\text{SYNSEM}|\text{LOC}|\text{CAT}|\text{SUBCAT} \; \boxed{1} \\
\textit{head-non-complement-structure}
\end{bmatrix}
\tag{2.22}
$$

The type in (2.23) ensures the percolation of the subcat value to the mother in a head adjunct structure, since *head-adjunct-structure* is a subtype of *head-non-complement-structure*.

Pollard and Sag (1994, Ch. 1.8) assume that an adjunct selects the head it modifies via a feature MODIFIED (MOD). The value of MOD is a feature structure of type *synsem* that describes both syntactic and semantic properties.

(2.23) shows an example for a non-predicative adjective. This adjective selects an $\overline{\text{N}}$, i.e., a nominal projection that needs a determiner to be a complete NP.

rotes ('red'):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix}
\text{PRD} & - \\
\text{MOD} & \overline{\text{N}}: \begin{bmatrix} \text{IND} & \boxed{1} \\ \text{RESTR} & \boxed{2} \end{bmatrix} \\
adj
\end{bmatrix} \\
\text{SUBCAT} & \langle\rangle
\end{bmatrix} \\
\text{CONT} & \begin{bmatrix}
\text{IND} & \boxed{1} \\
\text{RESTR} & \left\{ \begin{bmatrix} \text{THEME} & \boxed{1} \\ rot \end{bmatrix} \right\} \cup \boxed{2}
\end{bmatrix} \\
loc
\end{bmatrix}
\tag{2.23}
$$

The index of the modified $\overline{\text{N}}$ is structure-shared with the index in the semantic contribution of the adjective. The set of restrictions is unioned with the set of the restrictions that are contributed by the adjective ($rot(\boxed{1})$).

If the adjective is combined with a noun like *Buch* ('book') the semantics of the phrase is contained in the adjective under CONT. The Semantics Principle ensures that

the semantic content of a head adjunct phrase is determined by the semantic content of the adjunct:

Principle 2 (Semantics Principle) *In a headed phrase, the* CONTENT *value is token-identical to that of the adjunct daughter if the phrase is of type head-adjunct-structure, and with that of the head daughter otherwise.*

This principle is encoded in the types *head-non-adjunct-structure* and *head-adjunct-structure*, respectively. The type *head-non-adjunct-structure* was given in (2.14) already, the type *head-adjunct-structure* is shown in the Head Adjunct Schema (Schema 2).

Schema 2 (Head Adjunct Schema)

$$
\begin{bmatrix}
\text{SYNSEM} & \begin{bmatrix} \text{LOC}|\text{CONT} & \boxed{1} \end{bmatrix} \\[2mm]
\text{HEAD-DTR} & \begin{bmatrix} \text{SYNSEM} & \boxed{2} \end{bmatrix} \\[2mm]
\text{NON-HEAD-DTRS} & \left\langle \begin{bmatrix} \text{SYNSEM}|\text{LOC} & \begin{bmatrix} \text{CAT} & \begin{bmatrix} \text{HEAD}|\text{MOD} & \boxed{2} \\ \text{SUBCAT} & \langle\rangle \end{bmatrix} \\ \text{CONT} & \boxed{1} \end{bmatrix} \end{bmatrix} \right\rangle \\[2mm]
\textit{head-adjunct-structure}
\end{bmatrix}
$$
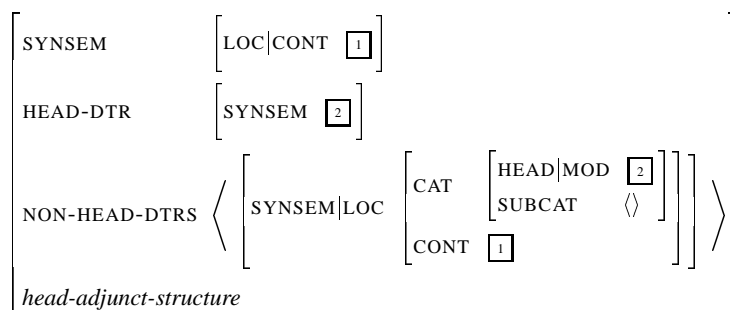
The specification of the subcat list of the adjunct daughter is necessary to prevent non-maximal projections of adjuncts from appearing as adjunct daughters. The structure sharing of the SYNSEM value of the head daughter and the MOD value of the adjunct daughter establishes the connection that is necessary for the selection of the head by the modifier.

(2.24) shows the result of combining (2.3) and (2.23) as it is licensed by schema 2.

rotes Buch ('red book'):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \textit{noun} \end{bmatrix} \\ \text{SUBCAT} & \langle \text{ DET } \rangle \end{bmatrix} \\[4mm]
\text{CONT} & \begin{bmatrix} \text{IND} & \boxed{1} & \begin{bmatrix} \text{PER} & 3 \\ \text{NUM} & sg \\ \text{GEN} & neu \end{bmatrix} \\[3mm] \text{RESTR} & \left\{ \begin{bmatrix} \text{THEME} & \boxed{1} \\ rot \end{bmatrix}, \begin{bmatrix} \text{INST} & \boxed{1} \\ buch \end{bmatrix} \right\} \\[3mm] \textit{npro} \end{bmatrix} \\[2mm]
\textit{loc}
\end{bmatrix}
\quad (2.24)
$$
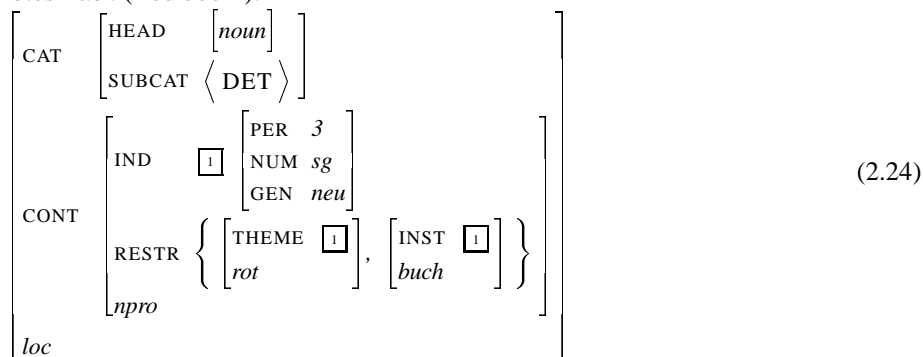
The SYNSEM value of *book* is unified with the MOD value of *red*. The referential index of *book* (the $\boxed{1}$ in (2.3)) is unified with the referential index of *red* (the $\boxed{1}$ in (2.23)). The set of restrictions of *book* is unified with the $\boxed{2}$ in the description of *red*. This restriction is set unioned with the restriction contributed by the adjective *red*.

2.7   Lexical Rules

During the last years there has been a tendency towards lexicalization of grammatical knowledge. The grammar rules that license the combination of material have become more general. It has become even more important to structure the knowledge in the lexicon and to develop devices that make it possible to state generalizations about the lexicon. One such device was already introduced in section 2.1: types. Multiple inheritance in type hierarchies can be used to crossclassify lexical entries with regard to multiple dimensions. Another important device is lexical redundancy rules. Such rules have been suggested in various frameworks by various people (see for instance (Williams, 1981; Bresnan, 1982; Shieber, Uszkoreit, Pereira, Robinson and Tyson, 1983; Flickinger, Pollard and Wasow, 1985; Flickinger, 1987; Copestake and Briscoe, 1992; Meurers, 2000)).

A standard example for a lexical rule is the one in (2.25), which accounts for the passive.

Lexical rule for the personal passive following Kiss (1992):

$$
\begin{bmatrix}
\text{SYNSEM}|\text{LOC}|\text{CAT} & \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \text{SUBJ} & \left\langle \text{NP}[nom] \right\rangle \end{bmatrix} \\ \text{SUBCAT} & \left\langle \text{NP}[acc]_{\boxed{1}} \right\rangle \oplus \boxed{2} \end{bmatrix} \\
\textit{lexical-sign}
\end{bmatrix} \rightarrow \\
\begin{bmatrix}
\text{SYNSEM}|\text{LOC}|\text{CAT} & \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \text{VFORM} & \textit{passive-part} \\ \text{SUBJ} & \left\langle \text{NP}[nom]_{\boxed{1}} \right\rangle \end{bmatrix} \\ \text{SUBCAT} & \boxed{2} \end{bmatrix} \\
\textit{lexical-sign}
\end{bmatrix}
$$

(2.25)

This rule relates a lexical entry with a subject and an accusative object and possibly other complements to another entry that corresponds to a form that has to be used in passive sentences. The accusative object in the representation on the left-hand side becomes the subject on the right-hand side. The details of this rule will be discussed in chapter 4.2.2. The rule says: whenever there is a lexical entry that matches the left-hand side of the rule, there is also a lexical entry that matches the right-hand side of the rule. Adopting a procedural view for a moment, one can say that the lexical rule produces another entry from the input entry on its left-hand side. The arrow in lexical rules $\rightarrow$ is not to be confused with the arrow that is used in implicational constraints ($\Rightarrow$).

There are two possibilities to interpret lexical rules. The first possibility is to assume that lexical rules are meta rules. Carl Pollard and Mike Calcagno argue for this position (Calcagno and Pollard, 1995; Calcagno, 1995). This concept is also referred to as *Meta Level Lexical Rules* (MLR). The alternative is to integrate the lexical rules into the general HPSG formalism. Integrated lexical rules are called *Description Level Lexical Rules* (DLR). Krieger and Nerbonne (1993), Copestake and Briscoe (1992) and Meurers (1995; 2000, chapter 4) adopt the DLR view. In a DLR setting the rule in (2.25) is equivalent to the structure in (2.26).[13]

---

[13]The type of the outermost feature description should be *lexical-rule-derived-sign*, a subtype of *lexical-sign* since the type *lexical-sign* does not have a LEX-DTR feature.

Lexical rule for the personal passive in DLR notation:

$$
\begin{bmatrix}
\text{SYNSEM}|\text{LOC}|\text{CAT}
\begin{bmatrix}
\text{HEAD}
\begin{bmatrix}
\text{VFORM } \textit{passive-part} \\
\text{SUBJ} \quad \left\langle \text{NP}[\textit{nom}]_{\boxed{1}} \right\rangle
\end{bmatrix} \\
\text{SUBCAT} \quad \boxed{2}
\end{bmatrix} \\
\text{LEX-DTR}
\begin{bmatrix}
\text{SYNSEM}|\text{LOC}|\text{CAT}
\begin{bmatrix}
\text{HEAD} \quad \begin{bmatrix} \text{SUBJ} \left\langle \text{NP}[\textit{nom}] \right\rangle \end{bmatrix} \\
\text{SUBCAT} \left\langle \text{NP}[\textit{acc}]_{\boxed{1}} \right\rangle \oplus \boxed{2}
\end{bmatrix} \\
\textit{lexical-sign}
\end{bmatrix} \\
\textit{lexical-rule}
\end{bmatrix}
\tag{2.26}
$$

If one follows the MLR approach, the boxed numbers in lexical rules are variables. Boxes with identical numbers have the same value in both structures. In other words, this can be understood as structure sharing between several feature structures.

In the DLR approach both structures are part of a bigger structure and we have real structure sharing. Another advantage of this approach is that lexical rules are fully integrated into the formalism. Therefore it is also possible to capture generalizations over classes of lexical rules. A lexical rule can inherit information that it has in common with other lexical rules of an appropriate supertype. In what follows I will therefore assume that lexical rules are Description Level Lexical Rules. Lexical rules in the representation (2.25) have to be understood as abbreviations for lexical rule schemata of the form in (2.26).

A lexical rule applies to all lexical entities that unify[14] with their left-hand side or their LEX-DTR, respectively. The lexical rule 'produces' one or several output entities—usually lexical signs. The signs in (2.25) are not fully specified. For instance, the CONT value is neither stated in the input sign nor in the output sign. Of course this information is contained in every input sign and it will also be needed in the output sign. It is a convention that all information that is not explicitly mentioned in a lexical rule is carried over unchanged from the input to the output. (2.25) is just shorthand for a more complex rule.

---

[14]The other possibility is to assume that lexical rules apply only to those lexical entries that are more specific than, i.e., subsumed by, the left-hand side of the rule (see Meurers (1994, Chapter 4.1.3)).

Hinrichs and Nakazawa (1996) adopt this view and support it by the ungrammaticality of sentences like (i).

(i)   * Das Auto wurde kaufen gekonnt.
        the car   was   buy   could

According to Hinrichs and Nakazawa, (i) is excluded, since in Hinrichs and Nakazawa's grammar the lexical entries for modals are less specific than the left-hand side of the lexical rule, and therefore the lexical rule cannot apply to *können* (see chapter 4.2.2 for lexical rules for passive, Hinrichs and Nakazawa treat modals like tense auxiliaries, i.e., as raising verbs. The entries are given in chapter 3.2.1).

If one assumes a King logic (1994), lexical rules relate total objects and a subsumption test is not possible. If one assumes an information based approach as in (Pollard and Sag, 1987) and applies lexical rules under subsumption, they cannot instantiate features that are not present in the input sign. The Complement Extraction Lexical Rule (CELR) has to be formulated in such a way that the input sign is further instantiated. Therefore it cannot be applied under subsumption. If the further instantiation of features in the input sign is omitted, wrong analyses are admitted, as I have shown in (Müller, 1997a). See also (Müller, 1999a, p. 75) and (Müller, 1999b).

For criticism of the subsumption based approaches in connection with *late evaluation techniques* see (Bouma, 1996b).

Instead of assuming a subsumption test for the whole left-hand side of a rule, in many cases it will be sufficient to use identity tests for selected paths in feature descriptions.

2.8   The German Clause

2.8.1   Verb Placement

In German three positions of the finite verb are distinguished.

(2.27)   a. daß der Mann die Frau   liebt.
            that the man   the woman loves
            'that the man loves the woman'

         b. Liebt der Mann die Frau?
            loves the man   the woman
            'Does the man love the woman?'

         c. Der Mann liebt die Frau.
            the man   loves the woman

In (2.27) the verb appears in verb last (2.27a), verb initial (2.27b), and verb second position (2.27c). The verb second position is usually explained as derived from the verb first position by the fronting of one constituent. In HPSG this is modeled as a nonlocal dependency. As will be shown in section 2.8.3.1, there are also cases where more than one constituent is in the *Vorfeld*. I will return to these frontings below.

Basically, there are two options to account for the other two positions of the verb: One can assume flat linearization domains in which the verb can be placed initially or finally, or one can employ a head movement analysis, where a connection is established between the assumed base position of the verb in final position and the fronted verb. The latter analysis is standardly assumed in GB grammars. In the HPSG framework head movement analyses have been proposed by Kiss and Wesche (1991), Netter (Netter 1992; Netter 1998a), Frank (1994), Kiss (1995), and Meurers (2000, p. 206–208). For an early proposal in GPSG see (Jacobs, 1986, p. 110). See also chapter 7.2.5.1.1 for some discussion.

The flat analysis with flat dominance structures was suggested by Uszkoreit (1987) in the GPSG framework and by Pollard (1990) for HPSG. Kathol (1995) and I propose an analysis with binary branching dominance structures but with flat linearization domains. This approach is based on ideas by Mike Reape (1990, 1992, 1994) and will be explained in the following.[15]

I assume that every lexical head has the structure in (2.28).

$$
\begin{bmatrix}
\text{PHON} & \boxed{1} \\
\text{SYNSEM} & \boxed{2} \\
\text{DOM} & \left\langle \begin{bmatrix} \text{PHON} & \boxed{1} \\ \text{SYNSEM} & \boxed{2} \\ \textit{lexical-sign} \end{bmatrix} \right\rangle \\
\textit{lexical-sign} &
\end{bmatrix}
\tag{2.28}
$$

---

[15]Linearization accounts have also been proposed for Serbo-Croatian by Penn (1999) and for Warlpiri by Donohue and Sag (1999). Crysmann (1999) uses discontinuous elements in morphology.

For further reading on HPSG-based linearization accounts see also (Pollard, Kasper and Levine, 1992, 1994; Kathol and Pollard, 1995; Müller, 1995, 1997b, 1999a; Richter and Sailer, 1999). Ojeda (1988) developed a GPSG analysis for the verbal complex in Dutch, that uses discontinuous constituents and Dowty (1990) developed an analysis in the framework of Categorial Grammar that also employs the concept of discontinuous constituents.

For a general discussion of accounts for German constituent order see (Müller, 1999a, Chapter 21) and (Müller, 2000a).

The representation of a head includes a feature DOMAIN that is list valued. In the lexical representation this list contains just one element, one that represents the head. This element has the same PHONOLOGY value ($\boxed{1}$) and identical syntactic and semantic properties ($\boxed{2}$).

If a head is combined with an adjunct, with a complement, or with a filler of a filler gap dependency, the non-head daughter is inserted into the domain of the head. (2.29) shows how this is formalized:

Domain Formation:

$$
\begin{bmatrix}
\text{HEAD-DTR}|\text{DOM} & \boxed{1} \\
\text{NON-HEAD-DTRS} & \boxed{2} \\
\text{DOM} & \boxed{1} \bigcirc \boxed{2} \\
\textit{head-non-cluster-structure}
\end{bmatrix}
\tag{2.29}
$$

The non-head daughter is the adjunct, the complement, or the filler in the respective type definitions for head adjunct, head complement, and head filler structures.

$\bigcirc$ is the *shuffle* relation as used by Reape (1994). The *shuffle* relation holds between three lists A, B, and C, iff C contains all elements of A and B and the order of the elements of A and the order of elements of B is preserved in C. So if a and b are elements of A and a precedes b in A, it has to precede b in C too. To give an example consider the two lists $A = \langle a,b \rangle$ and $B = \langle c,d \rangle$. The result of shuffling A and B is C where C is the disjunction of the elements in (2.30).

$$
\begin{aligned}
&\langle\, a, b, c, d \,\rangle \\
&\langle\, a, c, b, d \,\rangle \\
&\langle\, a, c, d, b \,\rangle \\
&\langle\, c, a, b, d \,\rangle \\
&\langle\, c, a, d, b \,\rangle \\
&\langle\, c, d, a, b \,\rangle
\end{aligned}
\tag{2.30}
$$

The number of possible orderings of the elements in a constituent order domain is restricted by linear precedence rules (LP-rules). The result of shuffling A and B is (2.30), but if one has a linearization rule in the grammar that states that a always has to precede c, the last three orderings in (2.30) are ruled out. The grammar then licenses only the domains in (2.31) as a combination of A and B:

$$
\begin{aligned}
&\langle\, a, b, c, d \,\rangle \\
&\langle\, a, c, b, d \,\rangle \\
&\langle\, a, c, d, b \,\rangle
\end{aligned}
\tag{2.31}
$$

The PHON value of a phrasal sign is the concatenation of the PHON values of its domain elements.

$$
\begin{bmatrix}
\text{PHON} & \boxed{1} \oplus \ldots \oplus \boxed{n} \\
\\
\text{DOM} & \left\langle \begin{bmatrix} \text{PHON} & \boxed{1} \\ \textit{sign} \end{bmatrix}, \ldots, \begin{bmatrix} \text{PHON} & \boxed{n} \\ \textit{sign} \end{bmatrix} \right\rangle \\
\\
\textit{phrasal-sign}
\end{bmatrix}
\tag{2.32}
$$

Figure 2.5 shows how the sentence (2.27a) is analyzed. Instead of the complete signs, only the PHON values are stated. Strings that are not separated by a colon represent one domain object, i.e., a sign. Note that the permutation of elements is restricted

V[*fin*, SUBCAT ⟨⟩ ,
        DOM ⟨ *der Mann, die Frau, liebt* ⟩]

          C   H

[1] NP[*nom*]   V[*fin*, SUBCAT ⟨ [1] ⟩ ,
                           DOM ⟨ *die Frau, liebt* ⟩]

                        C   H

                   [2] NP[*acc*]   V[*fin*, SUBCAT ⟨ [1] , [2] ⟩ ,
                                              DOM ⟨ *liebt* ⟩]

der Mann   die Frau   liebt
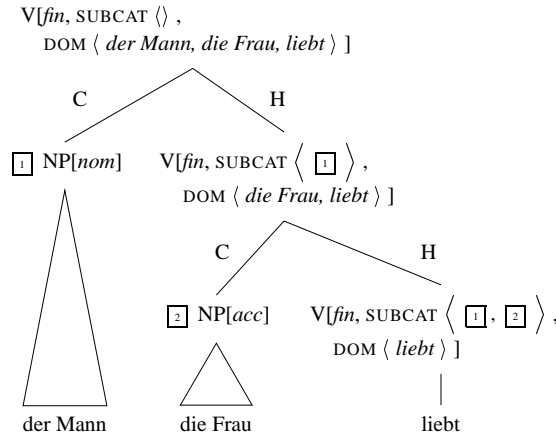
Figure 2.5: Verb Final Position: *daß der Mann die Frau liebt.*

to head domains. The DOM elements of *der Mann*, i.e., *der* and *Mann* cannot be permuted with elements in the domain of *liebt* since they are encapsulated in the sign for *der Mann*. No other material can intervene between *der* and *Mann*.

The analysis of (2.27b) is shown in figure 2.6. The dominance structure is identical. The only thing that differs is the linearization. For verb first sentences the verb is serialized to the left of all other (non-fronted) elements, and for verb last sentences it is serialized to the right of all (non-extraposed) elements. The projection *liebt die*

V[*fin*, SUBCAT ⟨⟩ ,
        DOM ⟨ *liebt, der Mann, die Frau* ⟩]

     H   C

V[*fin*, SUBCAT ⟨ [1] ⟩ ,   [1] NP[*nom*]
        DOM ⟨ *liebt, die Frau* ⟩]

     H   C

V[*fin*, SUBCAT ⟨ [1] , [2] ⟩ ,   [2] NP[*acc*]
        DOM ⟨ *liebt* ⟩]

      liebt   der Mann   die Frau
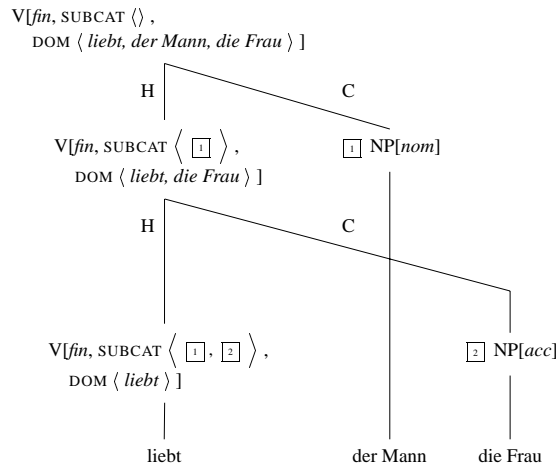
Figure 2.6: Verb Initial Position: *Liebt der Mann die Frau?*

Frau is discontinuous.[16] Since the terminal nodes of the tree in figure 2.6 are written in surface order, the tree contains crossing arcs. In what follows I will draw trees that

---

[16]See also (Ojeda, 1988) for a GPSG account of the verbal complex in Dutch that uses the concept of discontinuous constituents.

reflect the dominance structure. Figure 2.7 is equivalent to figure 2.6. Trees like the

V[*fin*, SUBCAT ⟨⟩ ,
  DOM ⟨ *liebt, der Mann, die Frau* ⟩]

C   H

1 NP[*nom*]   V[*fin*, SUBCAT ⟨ 1 ⟩ ,
              DOM ⟨ *liebt, die Frau* ⟩]

                 C   H

        2 NP[*acc*]   V[*fin*, SUBCAT ⟨ 1 , 2 ⟩ ,
                       DOM ⟨ *liebt* ⟩]

der Mann   die Frau   liebt
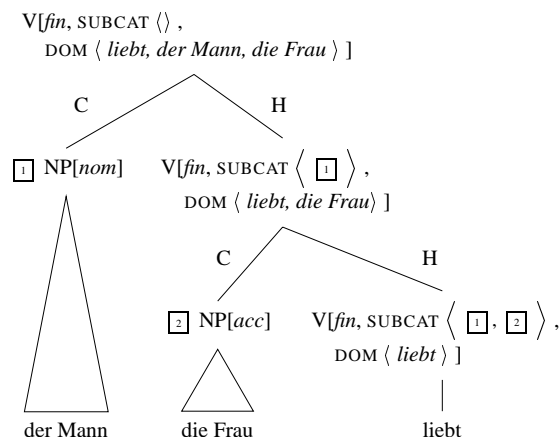
Figure 2.7: Verb Initial Position: *Liebt der Mann die Frau?*

one in figure 2.7 reflect the dominance relations of the involved elements, the order of
the terminal nodes does not reflect the surface order. The surface order is represented
in the domain lists only.

The proper serialization is enforced by the following LP-rules:

$$\text{V[LEX+,INITIAL+]} < \text{COMP[ ]}$$
$$\text{COMP[EXTRA−]} < \text{V[LEX+, INITIAL−]}$$
(2.33)

LP-rules can refer to the syntactic function (HEAD, COMP, ADJUNCT, FILLER) a con-
stituent has. If no function is mentioned in the rule specification the rule applies to all
domain elements it can be unified with. The feature INITIAL has the value + for heads
that occur to the left of their adjuncts and complements and − for heads that occur
to the right. Most verbs can appear with both values, but there are back-formations
like *uraufführen* (' to premiere', 'to show/stage a film/play for the first time') that are
specified as INITIAL− in the lexicon.

There is a lot that has to be said about such an analysis of the German clause. But as
this is not the purpose of this book, the reader is referred to (Kathol, 1995) and (Müller,
1999a).

2.8.2   Verb Second (V2)

German is assumed to be a verb second language, i.e., in a finite main clause the finite
verb is in second position (Erdmann, 1886, Chapter 2.4; Paul, 1919, p. 69, p. 77). As
will be shown in section 2.8.3.1, this assumption is not uncontroversial. But for the
sake of the explanation let us assume that German is indeed a verb second language. I
will address the problematic cases below in section 2.8.3.

The *Vorfeld* can be occupied by an adjunct or by a complement. Verb second sen-
tences are derived from verb first sentences by the extraction of one element (Thiersch,
1978; Uszkoreit, 1987).

(2.34)   a. Kenne ich   das Buch?
            know I-NOM the book-ACC
            'Do I know the book?'

Draft of January 12, 2001. Comments Welcome!

   b. Das Buch   kenne ich.
      the book-ACC know I-NOM
      'I know the book.'

(2.34) shows simple cases and one might be tempted to explain the position of the
object in (2.34b) by a different ordering of the domain objects that are contained in the
head domain of *kenne* ('know') in (2.34a). Such an analysis was indeed suggested by
Nunberg, Sag and Wasow (1994, p. 513) in connection with idiomatic sentences like
(7.60a), but it does not cover the cases in (2.35) where elements in the *Vorfeld* depend
on heads in different linearization domains.

(2.35)   [Über dieses Thema]$_i$ [$_S$ hatte Fritz Peter $\_j$ gebeten], [[einen Vortrag $\_i$]
          about this   topic   had Fritz Peter asked   a   talk
          zu halten]$_j$.[17]
          to hold
          'Fritz asked Peter to give a talk about this topic.'

In order to account for this data in an approach purely based on serialization one would
have to union the linearization domains of the involved heads which would lead to
wrong predictions. Depending on other assumptions made in syntax one would end up
with all words of an utterance in one single domain.

    Kathol (1995, Chapter 6.3) formalized a linearization based approach to short
fronting. For frontings like those in (2.35) he assumes an extraction analysis. In order
to block this extraction analysis for short frontings, he integrates a condition into the
schema that binds off extracted elements that is supposed to block the extraction anal-
ysis for short frontings. This condition also blocks cases of partial verb phrase fronting
like

(2.36)   Arbeiten hat er gesagt, daß er nicht mehr will.
          work   has he said   that he not   more wants
          'He said that he does not want to work any longer.'

    In the following, the HPSG treatment of nonlocal dependencies will be introduced
by the explanation of the analysis of (2.34b).

    In HPSG a special mechanism is used to establish nonlocal dependencies. In (Pol-
lard and Sag, 1994, Ch. 4), a nonlocal dependency is introduced by a phonologically
empty element (a trace).[18]

---

[17](Hinrichs and Nakazawa, 1989a, p. 21)

[18]In chapter 9, Pollard and Sag introduced a lexical rule for extraction. With such a lexical rule, it is
possible to account for nonlocal dependencies without empty elements. An alternative to empty elements
and lexical rules is unary branching ID schemata, which I use in my grammar (Müller, 1999a, Chapters 9,
10, 18). In more recent work on HPSG, relational argument realization principles are assumed for a lexical
treatment of extraction (Bouma, Malouf and Sag, 1998). See also chapter 7.2.5.1 for some discussion.
For purposes of illustration I will use the trace throughout the book.

Trace:

$$
\begin{bmatrix}
\text{PHON} & \langle\rangle \\
\text{SYNSEM} & \begin{bmatrix}
\text{LOCAL} & \boxed{1} \\
\text{NONLOCAL} & \begin{bmatrix}
\text{INHERITED} & \begin{bmatrix}
\text{QUE} & \langle\rangle \\
\text{REL} & \langle\rangle \\
\text{SLASH} & \left\langle\, \boxed{1} \,\right\rangle
\end{bmatrix} \\
\text{TO-BIND} & \begin{bmatrix}
\text{QUE} & \langle\rangle \\
\text{REL} & \langle\rangle \\
\text{SLASH} & \langle\rangle
\end{bmatrix}
\end{bmatrix}
\end{bmatrix} \\
\textit{lexical-sign}
\end{bmatrix}
\tag{2.37}
$$
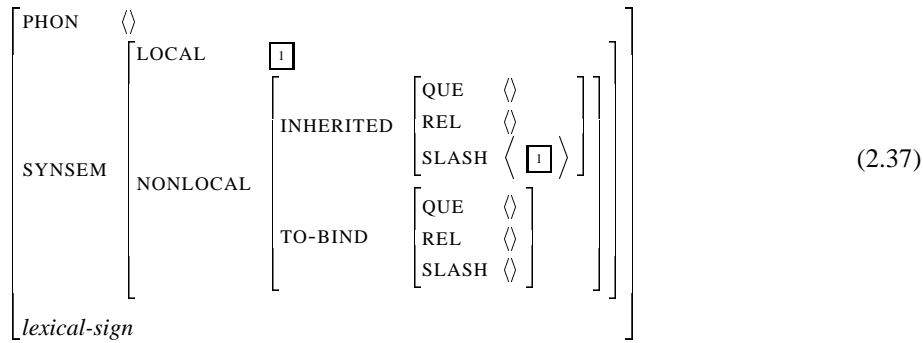
Such a trace can function as a complement or as an adjunct depending on the local context it appears in. The properties of the object that are represented under SYNSEM|LOCAL are introduced into the list under SYNSEM|NONLOCAL|INHERITED|SLASH. The nonlocal feature QUE is used to describe questions and REL to model certain nonlocal dependencies in the relative phrase of relative clauses. Throughout the book I will omit the QUE and REL features since they are irrelevant for the present discussion.

The Nonlocal Feature Principle ensures that nonlocal information is percolated up to the mother node of complex signs.

Principle 3 (Nonlocal Feature Principle) *For each nonlocal feature, the* INHERITED *value of the mother is the concatenation of the* INHERITED *values on the daughters minus the* TO-BIND *value on the head daughter.*

A SLASH element can be bound off by the Head Filler Schema.

Schema 3 (Head Filler Schema (for German))

$$
\begin{bmatrix}
\text{HEAD-DTR}|\text{SYNSEM} & \begin{bmatrix}
\text{LOCAL} & \begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix}
\text{VFORM} & \textit{fin} \\
\text{INITIAL} & + \\
\textit{verb} &
\end{bmatrix} \\
\text{SUBCAT} & \langle\rangle
\end{bmatrix}
\end{bmatrix} \\
\text{NONLOC} & \begin{bmatrix}
\text{INHER}|\text{SLASH} & \left\langle\, \boxed{1} \,\right\rangle \\
\text{TO-BIND}|\text{SLASH} & \left\langle\, \boxed{1} \,\right\rangle
\end{bmatrix}
\end{bmatrix} \\
\text{NON-HEAD-DTRS} & \left\langle\, \begin{bmatrix}
\text{SYNSEM} & \begin{bmatrix}
\text{LOCAL} & \boxed{1} \\
\text{NONLOC} & \text{INHER}|\text{SLASH}\ \langle\rangle
\end{bmatrix}
\end{bmatrix} \,\right\rangle \\
\textit{head-filler-structure}
\end{bmatrix}
$$
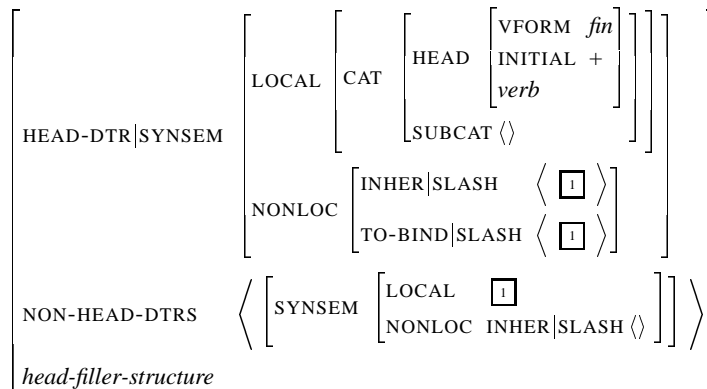
This schema describes structures where a finite sentence with the verb in initial position (INITIAL+) and with an element in INHER|SLASH ($\boxed{1}$) is combined with a phrase with appropriate LOCAL properties. In the example (2.34b), *kenne ich* ('know I') is the finite clause with an appropriate element in SLASH and *das Buch* ('the book') is the filler. Figure 2.8 on the next page shows the analysis for (2.34b) in more detail. Note that the schema does not constrain the properties of the filler daughter. These properties are constrained only by the specifications of complement types in the lexicon. In particular, non-maximal projections are allowed to appear as filler daughters. This means that the
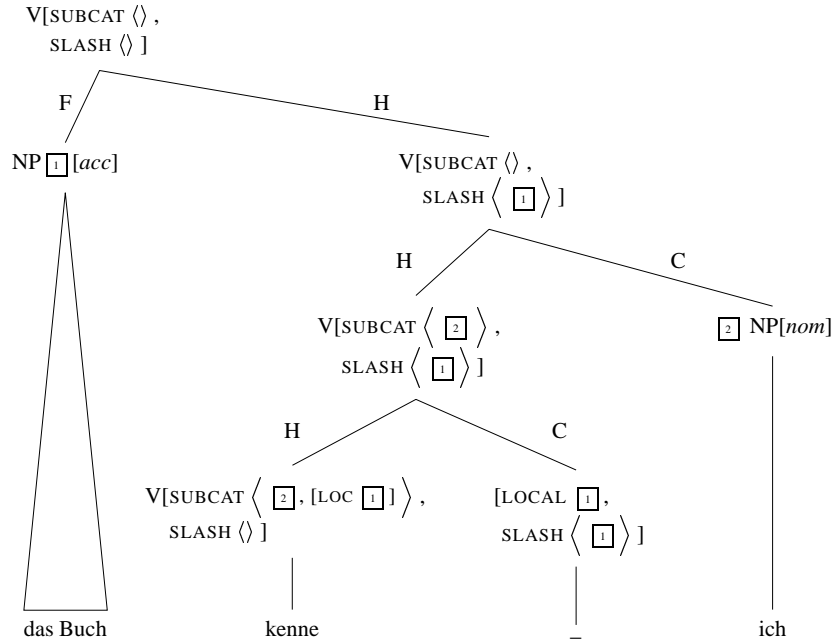
Figure 2.8: Analysis for: *Das Buch kenne ich.*

grammar described here does not adhere to the principles of $\overline{\text{X}}$-theory[19] This is no loss, since the rule schema of $\overline{\text{X}}$-theory does not restrict the power of the grammar if empty elements are allowed (Koronai and Pullum, 1990). The grammar that I propose here relies entirely on valence information that is stored in the lexicon. Structure is licensed by this information in connection with very few very general rule schemata. The aim is to avoid unary bookkeeping projections that just raise a bar level without saturating complements or combining an adjunct or other material with its heads.

The domain formation constraint in (2.29) inserts the filler daughter into the domain of the head in the head filler schema. This is the only way for a complement or adjunct of a head to be serialized in a higher domain. It is reasonable to insert the filler into the domain of the head instead of having two opaque domain objects as in (2.38b), since this facilitates a domain-based account of extraposition (Kathol and Pollard, 1995).

(2.38) a. [Den Mann] [kennt] [die Frau].
            the   man   knows the woman
        'The woman knows the man.'

    b. [Den Mann] [[kennt] [die Frau]].

To complete the analysis of single constituent fronting I give the linearization rule in (2.39) that ensures that the extracted constituent is serialized to the left of the head in a head filler construction.

FILLER [ ] < HEAD [ ]   (2.39)

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[19]See (Jackendoff, 1977) on $\overline{\text{X}}$-theory.

2.8.3 Multiple Constituents in the *Vorfeld* (Vn)

2.8.3.1 The Phenomenon

It is common practice to assume that German is a verb second language. While this actually accounts for the vast majority of German main clauses, there are certain exceptions to this rule that cannot be explained away. In what follows I will provide a detailed study of various cases of multiple frontings.[20]

In (2.40) several adjunct PPs are positioned in the *Vorfeld*.

(2.40) a. Im   Hause am   Bergsee   zur   Sommerzeit sei es freilich
            in.the house at.the mountain.lake to.the summer.time be it admittedly
            nur   ein Harmonicum.[21]
            only a   harmonica
            'Admittedly it is only a harmonica in the house at the mountain lake during the summer time.'

        b. [Vor   der Stadtmauer] [am   Tor „Gegenüber der Sonne"] quirlt das
             before the town.wall   at.the gate Opposite   the Sun   swirls the
            Leben eines chinesischen Provinzmarktes: [...][22]
            life   of.a Chinese   provincial.market
            'In front of the town wall at the gate "Opposite the Sun", the life of a Chinese provincial market bubbles:'

        c. [Vor   drei Wochen] [in Memphis] hatte Stich noch in drei Sätzen
             before three weeks   in Memphis had Stich still in three sets
            gegen   Connors verloren.[23]
            against Connors lost
            'Three weeks ago in Memphis Stich had still lost against Connors in three sets.'

am Bergsee may be a modifier of *Hause*, but *zur Sommerzeit* can neither modify *Hause* nor *Bergsee*. These phrases have to be analyzed as independent phrases. The same is true for *vor der Stadtmauer* and *am Tor „Gegenüber der Sonne"*: The gate is in the city wall, the *am*-PP does not specify the location of the noun *Stadtmauer*. Kiss (1995, p. 189) gave the examples in (2.41) which are supposed to show that the phrases in (2.40c) are really independent.

(2.41) a. In Memphis hatte Stich vor drei Wochen noch in drei Sätzen gegen Connors verloren.

        b. Stich hatte vor drei Wochen gegen Connors in Memphis noch in drei Sätzen verloren.

(2.41a) is an example where *in Memphis* cannot be a modifier of *Wochen* since if it were, (2.41a) would be an extraction out of an adjunct which is not possible in German. (2.41b) shows that the two PPs can be serialized independently in the *Mittelfeld*. While

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[20]Jacobs (1986) and Büring and Hartmann (To Appear) argue convincingly that sentences with focus particles like *nur*, *auch* and *sogar* in the *Vorfeld* are patterns of V3. It may be reasonable to assume a separate topological field for these elements. The examples that will be discussed in the following are of a different nature.

[21]Thomas Mann, *Bekenntnisse des Hochstaplers Felix Krull*, Hamburg, 1957, p. 231, quoted from (Ulvestad, 1970, p. 191).

[22]Spiegel, 16/2000, p. 202

[23](Kiss, 1995, p. 189)

this clearly shows that the two PPs can appear independently, it does not show that
they do not form a constituent in the *Vorfeld*. It could be that several structures are
possible. If the PPs appear discontinuously they are separate modifiers and if they
occur adjacently they could form a constituent. However, if one looks at the meaning
the fronted PPs have in (2.40), it is clear that they modify the verb separately and
that it does not make sense to assume that they form a constituent. Approaches that
nevertheless assume that the PPs form a constituent will be discussed on pages 43–
45. In the following I will list sentences with multiple fronted constituents of various
syntactic categories and various semantic functions.

While in (2.40) PPs that specify a location are fronted, (2.42) contains an instru-
ment PP and a directional PP.

(2.42)   a. [Mit Bällen und Stoppuhren], [durch   den Nebeneingang], . . .
              with balls   and stopwatches   through the side.entrance
              kommen die Spieler auf den Sportplatz . . .[24]
              come   the players on the sport.place

              'With balls and stopwatches the players enter the sports field through the
              side entrance.'

In (2.43) a depictive is fronted together with a local and a directional PP, respec-
tively.

(2.43)   a. Einsam auf dem kleinen Bahnhof   im   Moor blieb   der lächelnde
              alone   on the   small   train.station in.the moor stayed the smiling
              Junge zurück.[25]
              boy   back

              'The smiling boy was left behind alone at the train station in the moor.'

         b. Die Temperaturen sollen kaum die 20-Grad-Marke übersteigen, und mit
              Schauern muß jederzeit gerechnet werden. Eine trockene Alternative
              bietet der Radiosender BFM 104,1 der seit heute früh bis Sonntag mittag
              extra zur Love Parade sendet. [. . .]

              [Trocken] [durch   die Stadt] kommt man am   Wochenende auch
               dry   through die town comes one at.the weekend   also
              mit   der BVG.[26]
              with the BVG

              'The temperatures are not likely to overstep the 20 degree mark, and
              showers will be imminent all day. A dry alternative is being offered by
              the radio station BFM 104.1, which has been on air exclusively for the
              Love Parade from this morning until noon on Sunday. The BVG (Berlin
              public transport system) will also get you about town on the weekend
              without getting wet.'

         c. [Im   Auditorium der   Pädagogischen Hochschule,] [gehüllt in ein
              in.the auditorium of.the pedagogic   University   wrapped in a
              dekoratives Pelzmäntelchen,] gibt sich   Dascha Aslamowa den
              decorative little.fur.coat   gives herself Dascha Aslamowa the

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[24](Hoberg, 1981, p. 182)
[25]Heinrich Böll, *Irisches Tagebuch*, München, 1969. Quoted from (Beneš, 1971).
[26]taz berlin, 10.07.1998, p. 22

Anschein,   auf die an diesem Institut   vorwiegend weiblichen
appearance on the at this   institute mainly   female

studentischen Wähler zu warten.[27]
student   voters   to wait

'In the auditorium of the pedagogic University, wrapped in a decorative
little fur coat, Dascha Aslamowa pretends to wait for the mainly female
voters at this institute.' [28]

(2.44)   [Als erste]   [in den Parcour]   kam Helena Weinberg mit
          as   the.first in the show-jumping.course came Helena Weinberg with

ihrem Schimmel   [. . .][29]
her   white.horse

'Helena Weinberg and her white horse [. . .] were the first to enter the show-
jumping course.'

In (2.45) an NP and a PP constitute the *Vorfeld*.

(2.45)   a. [Nichts] [mit derartigen   Entstehungstheorien] hat es natürlich zu
              nothing with those.kinds.of creation.theories   has it of.course to

tun, wenn . . . [30]
do   when

'Of course it has nothing to do with that kind of creation theory when
. . . '

b. [Zum   zweiten Mal] [die Weltmeisterschaft]   errang Clark 1965 . . . [31]
    for.the second time   the world.championships won   Clark 1965

'Clark won the world championships for the second time in 1965.'

c. Produktiv ist auch das Modell mit komplexer Basis (meist Kompositum),
    die Zugehörigkeit von Personen zu einem Betrieb o. ä. bezeichnend [. . .]

[Personen] [nach der Zugehörigkeit] bezeichnen auch *Gesellschafter*,
people   after the membership   describe   also *Gesellschafter*

Gewerkschafter [. . .].[32]
Gewerkschafter

'The model with a complex base (usually a compound) which expresses
that people are associated with a company or similar things is also pro-
ductive. *Gesellschafter* ('shareholders'), *Gewerkschafter* ('trade-union-
ists') [. . .] also describe people according to what they are associated
with.'

d. [Großes Gewicht] [für die Geschworenen] hatte ein aufgezeichnetes
    great   weight   for the jury   had a   taped

Telefongespräch   des   Scheichs mit   den Bombenlegern des
telephone.conversation of.the sheik   with the bomb.layers   of.the

World Trade Centers (WTC).[33]
World Trade Center   WTC

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[28]taz, 14.12.1999, p. 13

[29]TV news, tagesschau, ARD, 13.11.1999, 8pm

[30]K. Fleischmann, *Verbstellung und Relieftheorie*, München, 1973, p. 72. quoted from (van de Felde, 1978, p. 135).

[31](Beneš, 1971, p. 162)

[32]In the main text of (Fleischer and Barz, 1995, p. 155). Fleischer and Barz use multiple constituents in the *Vorfeld* quite frequently. See below for various other examples.

'A taped telephone conversation between the sheik and the terrorists re-
sponsible for the World Trade Center bombing carried great weight for
the jury.' [34]

In (2.45a) we have a cohesion: the *nichts* ('nothing') is a fusion of *nicht* ('not') and
etwas ('something'). The *mit*-PP is a complement of *zu tun haben*. *zum zweiten Mal*,
nach Zugehörigkeit, and *für die Geschworenen* are adjunct PPs.

(2.46)   a. [Jährlich] [14 Millionen Tonnen   des   Treibhausgases
             annually 14 million   metric.tons of.the greenhouse.gas
             Kohlendioxid] würden   durch   die Windparks der Atmosphäre
             carbon.dioxide would.be through the wind.parks the atmosphere
             erspart.[35]
             spared

             'The atmosphere would be spared 14 million metric tons of carbon diox-
             ide, a gas that causes global warming, annually.'

         b. [Alle Träume] [gleichzeitig]   lassen sich   nur selten
             all   dreams   simultaneously let   themselves only rarely
             verwirklichen.[36]
             realize

             'All dreams can seldom be realized at once.'

In (2.46a) an adverb is fronted together with the subject of a passive clause. The dative
object and the PP which expresses the logical subject of the main verb stays behind
in the *Mittelfeld*. The situation with the middle in (2.46b) is similar: The subject is
fronted together with an adverb.

   The following examples are interesting cases where a subject of an active sentence
is fronted together with a PP or an adjunct clause, respectively.

(2.47)   [Die Derivate   auf -*e*] [neben denen auf -*ung* (*Eingabe – Eingebung*,
         the derivatives on e   next.to those on -*ung* input   inspiration
         Niederlage – Niederlegung)] haben sich teilweise zu Resultats- und
         defeat   resignation   have self partly   to result   and
         konkreten Sachbezeichnungen weiterentwickelt oder sind idiomatisiert.[37]
         concrete   thing.descriptions   further.developed or   are idiomized

         'The derivatives ending in -*e* as well as those ending in -*ung* have partly
         evolved into result descriptions and concrete names for objects or have be-
         come idiomized.'

(2.48)   [Margarita], [da ihr Umhang keine Tasche hatte], knotete das Hufeisen in
          Margarita   as her cloak   no   pocket had   knotted the horseshoe in
         eine Serviette.[38]
         a   serviette

         'Since her cloak did not have any pockets Margarita knotted the horseshoe
         in a handkerchief.'

---

[34]taz, 04.10.1995, p. 8

[35]Spiegel, 30/98, p. 132

[36]Brochure from Berliner Sparkasse, 1/1999

[37]In the main text of (Fleischer and Barz, 1995, p. 174).

[38]Michail Bulgakow, *Der Meister und Margarita*. München: Deutscher Taschenbuch Verlag. 1997, p. 375

However, these sentences are not clear cases of multiple constituents in the *Vorfeld*, since the PP and the *da*-clause may be a analyzed as parenthetical insertions.

(2.49) a. [Gezielt] [Mitglieder] [im Seniorenbereich] wollen die Kendoka
     targeted members in.the senior.citizens.sector want.to the Kendoka
     allerdings nicht werben.[39]
     however not recruit

     'However, the Kendoka do not intend to target the senior citizens sector with their member recruitment strategy.'

  b. [Dauerhaft] [mehr Arbeitsplätze] gebe es erst, wenn sich eine
     lasting more jobs give-CONJ it first when self a
     Wachstumsrate von mindestens 2,5 Prozent über einen Zeitraum von
     growth.rate from at.least 2.5 percent over a period from
     drei oder vier Jahren halten lasse.[40]
     three or four years hold let

     'A long-term fall in unemployment can only be expected if a growth rate of at least 2.5 percent can be maintained over a period of three or four years.'

  c. [Ganz sicher] [keine lebendige Bildungsweise] repräsentieren
     wholly certain no living formation.method represent
     derartige Partizipialkonstruktionen als E1, die vom Duden
     such participle.constructions as E1 that from.the Duden
     angesetzt werden.[41]
     made get

     'Participle constructions like E1 certainly do not represent a productive pattern as was suggested by the Duden.'

  d. [Eher] [Probleme] bekommt er mit den Sätzen, in denen das gesamte Partikelverb topikalisiert wurde. In diesem Fall würden zwei Konstituenten vor dem finiten Verb eines Hauptsatzes stehen, was im Deutschen ja nicht so ohne weiteres möglich ist.[42]

     'He is more likely to have problems with the sentences in which the entire particle verb has been topicalized. In this case, two constituents would be placed before the finite verb of a main clause, which is generally not possible in German.'

The sentences in (2.49) are examples where an accusative object is fronted together with an adjunct. For (2.49a) it seems reasonable to assume three constituents in the *Vorfeld*, since the PP is rather an adjunct of *werben* than of *Mitglieder*. In (2.49d), the *eher* is not a modifier of the bare plural *Probleme*, but of *bekommen*.

    The sentences in (2.50) follow a similar pattern.

(2.50) a. [Kaum] [mit heimischer Basis] verbinden sich dagegen die
     hardly with native basis connect self against the
     Negationspräfixe *a-*, *ab-*, *in-*: [. . .][43]
     negation prefixes

---

[39]taz, 07.07.1999, p. 18

[40]taz, 19.04.2000, p. 5

[41]In the main text of (Heringer, 1973, p. 251).

[42]Kordula De Kuthy, *Partikelverben im Deutschen*, IBM Heidelberg: Ms.

'However, the negation prefixes *a-*, *ab-*, *in-* hardly ever connect to native bases.'

    b. [Erstmals] [für Wirbel] sorgte die Antifa-Gruppe   1996, weil   sie
         first.time   for whirl   cared the antifascist-group 1996 because she
         in Konkurrenz zur   traditionellen Demonstration durch   Kreuzberg
         in competition to.the traditional   demonstration through Kreuzberg
         zu einem Protestmarsch durch   den Ostteil   der   Stadt
         to a   protest.march through the east.part of.the town
         mobilisierte.[44]
         mobilized

         'The Antifascist group first caused a commotion in 1996 by instigating a protest march through East Berlin to compete with the traditional demonstration through Kreuzberg.'

But instead of an accusative object as in (2.49), an adverb is fronted together with a prepositional complement.

  (2.51) a. [Nach kohlenschwerer Luft] [wie Anfang   des   Jahrhunderts] riecht
           after coal-heavy   air   like beginning of.the century   smells
           es in Berlin heute indes   nur   noch in wenigen Straßenzügen
           it in Berlin today meanwhile only still in few   street-trains
           der   alten Arbeiterviertel wie Neukölln oder Prenzlauer Berg.[45]
           of.the old   worker.quarters like Neukölln or   Prenzlauer Berg.
           'The air only has the coal-laden smell characteristic of the beginning of the century in very few streetcars in Berlin nowadays, like those in the old working-class areas like Neukölln or Prenzlauer Berg.'

      b. [Zur   Waffe] [wie in Meißen] greifen Deutschlands Schüler
          to.the weapon like in Meißen reach Germany's   school.children
          bisher   nur höchst selten.[46]
          up.until.now only highly seldom
          'Up until now, German school children have only used weapons, as was the case in Meißen, on very few occasions.'

In (2.51) a complement PP is located in the *Vorfeld* together with an adjunct phrase.

  (2.52) [Eine lange Kolonialgeschichte] [hinter sich] hat das einst britische
         a   long colonial.history   behind self has the once British
         Warenhaus   Lane Crawford, … [47]
         department.store Lane Crawford
         'The department store Lane Crawford, which was once British, has a long colonial history behind it.'

  (2.53) a. Mr. Young, Mr. Crosby, Mr. Stills, in drei Jahrzehnten haben Sie es
           Mr. Young, Mr. Crosby, Mr. Stills in three decades   have   you it
           auf drei gemeinsame Studioalben   gebracht, [zuletzt] [zusammen]
           on three communal   studio.albums brought   last   together

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[43] In the main text of (Fleischer and Barz, 1995, p. 66).

[44] taz, 26.04.2000, p. 19

[45] taz, 08.01.2000, p. 33

[46] Spiegel, 46/1999, p. 112

[47] Polyglott-Reiseführer „Hongkong Macau", München 1995, p. 28

[auf Konzerttour] waren Sie 1974.[48]
 on concert.tour were   you 1974

'Mr. Young, Mr. Crosby, Mr. Stills, in the last three decades you have
made a total of three studio albums together and the last time you went
on tour together was in 1974.'

b. [Weiter] [im   Aufwärtstrend] ist die Telekom-Aktie.[49]
 further   in.the upwards.trend is the Telekom share

'The Telekom shares are still on an upwards trend.'

c. [Endgültig] [aus   dem Rennen] ist wohl die jetzige
 finally   out.of the   running is well the present
„Peep!"-Moderatorin Nadja Abd El Farrag.[50]
 Peep!.presenter   Nadja Abd El Farrag

'Presumably the present „Peep!"presenter Nadja Abd El Farrag hasn't
got a chance anymore.'

d. [Unter systematischem Aspekt] [von besonderer Bedeutung] ist das
 under systematic   aspect   of particular meaning   is the
sog.   transitive Verb der   traditionellen Grammatik, [. . .][51]
so-called transitive verb of.the traditional   grammar

'From the systematic aspect what is termed as a transitive verb in tradi-
tional grammar is of particular importance.'

e. Damit das große Gefühl auch wirklich gelingt,   traten   am
 so.that the great feeling also really   succeeds stepped on.the
Abend   vor   dem Megaereignis die Pop- und Rock-Ikonen der
evening before the   mega.event   the pop and rock.icons   of.the
Gemeinde im   RFK-Stadion in Washington auf: „Equality Rocks –
community in.the RFK.stadium in Washington on   Equality Rocks
The concert for the new century" ist das Motto, [auf der Bühne]
The concert for the new century is the motto   on the stage
[dabei]   sind Melissa Etheridge, Ellen DeGeneres, k.d. Lang,
 there.with are Melissa Etheridge Ellen DeGeneres k.d. Lang
George Michael und die Pet Shop Boys.[52]
George Michael and the Pet Shop Boys

'To encourage that special feeling the community's rock and pop icons
performed in Washington's RFK-Stadium the evening before the mega-
event, which is running under the motto: "Equality Rocks – The concert
for the new century". Amongst those taking part are Melissa Etheridge,
Ellen DeGeneres, k.d. Lang, George Michael and the Pet Shop Boys.'

f. Dieses Jahr zum   ersten Mal mit   dabei   im
 this   year for.the first   time with there.at in.the
Kunstschneereigen   sind die Grüntenlifte am   Allgäuer
artificial.snow.round.dance are   the Grüntenlifte at.the Allgäu

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[48]Interview mit Crosby, Stills & Young, Spiegel, 44/1999, p. 278
[49]Spiegel, 4/1999, p. 79
[50]Spiegel, 19/2000, p. 105
[51]In the main text of (Eisenberg, 1998, p. 24).
[52]taz 25.04.2000, p. 20

Hausberg.[53]
Hausberg

'The Grüntenlifte at the Allgäu Hausberg are using artificial snow for
the first time this year.'

g. Dieses Jahr mit dabei   sind Skaoten aus England, Deutschland und
    this   year with there.at are Skaoten from England Germany   and
    Holland.[54]
    Holland

    'This year "Skaots" from England, Germany and Holland are participat-
    ing.'

h. [Bundesweit] [Spitzenreiter] ist Mitte bei den Heiratsorten.[55]
     Germany-wide peak.rider   is Mitte with the wedding.places

    'The most popular place for getting married in Germany is Mitte (in
    Berlin).'

i. [Sicher] [nicht die letzte Aktion   der   BAW in diesem
     surely   not   the last   operation of.the BAW in this
    Zusammenhang] war am   30. Mai eine zweite Durchsuchung des
    context   was on.the 30. May a   second search   of.the
    Mehringhofes, bei der   nochmals nach dem angeblichen
    Mehringhof   with which again   after the alleged
    Sprengstoffversteck   gesucht wurde.[56]
    explosive.hiding.place looked got

    'Surely not the last operation of the BAW in this context occurred on 30
    May, when the Mehringhof was searched for the alleged explosives for
    the second time.'

j. [Unverändert] [die Nummer eins] bleibt der Tauentzien mit fast
     unchanged   the number one   stays the Tauentzien with almost
    5.000 Passanten pro Stunde.[57]
    5000 passers-by per hour

    'The Tauentzien is still the number one with 5000 passers-by per hour.'

In (2.53) predicative PPs and NPs are fronted with one or more adverbs, adjectives or
adjunct PPs, respectively. The fronting of predicative adjectives together with adjuncts
is quite common. Since the adjectives can be used attributively without a copula, it
seems reasonable to assume that the adjectives can be modified by adjuncts directly.
An adjunct and a predicative adjective in the *Vorfeld*, would then not necessarily be
analyzed as two constituents.

Erdmann (1886, p. 182) mentions the sentence (2.54) in a footnote.

(2.54)   [auf die Postille   gebückt], [zur Seite des   wärmenden Ofens] sass
          on the prayer.book leant   to.the side of.the warming   stove sat
         der redliche Tamm.
         the honest   Tamm

         'Bent over the prayer book, next to the warming stove, sat the honest Tamm.'

---

[53]taz, 05.01.2000, p. 9
[54]zitty, 14/2000, p. 107
[55]taz, berlin, 10.01.2000, p. 22
[56]taz, 23.06.2000, p. 24
[57]taz berlin, 15.09.2000, p. 28

He remarks that it does not violate the verb second assumption since it has to be analyzed as an asyndetic combination. According to him, both phrases provide information about the location of the seating. However, *gebückt* is a participle that is modified by a directional PP, the phrase *auf die Postille gebückt* specifies the way the sitting takes place and not the location of the sitting. The example in (2.54) therefore has to be regarded as an instance of multiple fronting.[58] A complement of a position verb is fronted together with a participle that is used adverbially.

(2.55) [Normalerweise] [am Satzanfange] steht das Frage- oder
normally at.the sentence.beginning stands the question or
Relativpron. oder -adverb.[59]
relative.pronoun or adverb
'The adverb or the interrogative or the relative pronoun are normally placed at the beginning of the sentence.'

In (2.55) we have an adverb fronted together with a PP complement of a position verb.

(2.56) [Mit mir] [am Tisch] sitzt Svenja, sie ist inzwischen 20.[60]
with me at.the table sits Svenja she is now 20
'Svenja sits at the table with me, she is 20 now.'

In (2.56) we have a PP adjunct fronted together with a PP complement of a position verb.

(2.57) a. [Zu ihm] [nach Lübeck] reiste Kohl nach seiner Beichte.[61]
to him to Lübeck traveled Kohl after his confession
'After his confession Kohl traveled to him to Lübeck'

b. [Von Hamburg aus] [nach Stuttgart] braucht der ICE nur 6 Stunden.[62]
from Hamburg out to Stuttgart needs the ICE only 6 hours
'The ICE only takes 6 hours to get from Hamburg to Stuttgart.'

In (2.57) two directional PPs are positioned in the *Vorfeld*.

(2.58) a. [Außerdem] [nach Sevilla] dürfen Michael Stolle und Daniel Ecker (beide 5,85 Meter), während der Olympiadritte Andrej Tiwontschik zwar 5,80 überquerte, auch Weltklasse ist, aber in der leistungsstärksten DLV-Disziplin als viertbester zu Hause bleiben muß.[63]
'Michael Stolle and Daniel Ecker (both 5.85 meters) are also allowed

---

[58]The other example he mentions may be analyzed as an asyndetic combination though.

(i) Und herrlich, in der Jugend Prangen,
Wie ein Gebild aus Himmelshöhn,
Mit züchtigen, verschämten Wangen
Sieht er die Jungfrau vor sich stehn. (Schiller-SW Vol 1, p. 431)

The adjuncts in the *Vorfeld* of (i) are modifiers and the sentence would be grammatical if they were coordinated. Coordination is impossible or marginal for the other examples that are discussed in this section.

[59]In the main text of (Paul, 1919, p. 81).

[60]Max Goldt. *Schließ einfach die Augen und stell dir vor, ich wäre Heinz Klunker*. München: Wilhelm Hyne Verlag. third edition. 1998, p. 22. The quote is taken from a made up talk show dialog.

[61]taz, 02.12.1999, p. 5

[62](Kiss, 1995, p. 189)

[63]taz, 05.07.1999, p. 17

to go to Seville, whereas Olympics bronze winner Andrej Tiwontschik
who, with over 5.80, is world class too, has to stay at home since he only
came fourth in the most competitive DLV discipline.'

b. [Erstmals] [in Hongkong] werden Schüler   jetzt nach dem
  first.(time) in Hong.Kong get   school.children now after the
Zufallsprinzip   auf Drogen getestet.[64]
coincidence.principle on drugs   tested

'In Hong Kong random drug tests are now being carried out on school
children for the first time.'

c. [Gestern] [in der Straßenbahn] unterhielten sich zwei Jungs ganz laut
  yesterday in the streetcar   talked   self two boys very loud
auf Russisch, sie dachten, keiner versteht   sie.[65]
on Russian   they thought nobody understands them

'Yesterday in the streetcar two boys were talking to each other really
loudly in Russian; they thought nobody could understand them.'

In (2.58) adverbs are fronted together with directional or locative PPs. (2.58c) is similar
to (2.40) in that two adjuncts that specify a location are fronted.

(2.59)   [Frontal] [gegen einen Baum] prallte ein Wieslocher   Autofahrer, der
    frontally against a   tree   crashed a   Wiesloch.from driver   who
auf der verlängerten Heidelberger Straße aus   der Kurve getragen wurde.[66]
on the elongated   Heidelberg road   out.of the curve carried got

'A driver from Wiesloch came off the extension of the Heidelberg road in a
bend and crashed headlong into a tree.'

In (2.59) an adjective is fronted together with a directional PP.

(2.60)   a. [Empört] [auf die Pläne] reagierte der Fahrgastverband
     outraged on the plans   reacted   the passenger.association
„Pro Bahn".[67]
 ProBahn

'The passenger association ProBahn was outraged at the plans.'

b. [Nicht eben entspannend] [auf die Beziehungen] zwischen Zypern und
der Türkei dürfte die Erklärung zweier führender zyperngriechischer
Politiker wirken: Demetris Christofia, Parteichef der linken AKEL, erk-
lärte ebenso wie der Vorsitzende der EDEK, Lyssarides, sie hätten mit
Freude ihre Diplomantenpässe an Öcalan vergeben, wenn die PKK sie
denn gefragt hätte.[68]

'The fact that two leading Cypriot-Greek politicians, the party-leader of
the leftwing AKEL as well as Lyssarides, the chairman of the EDEK,
declared that they would have been pleased to grant Öcalan a diplomatic
passport if the PKK had asked them to, has not exactly had a soothing
effect on the relationships between Cyprus and Turkey.'

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[64]taz, 12.10.1998, p. 24
[65]taz, taz mag, 06.05.2000, p. 5
[66]Mannheimer Morgen, 28.07.1989, Regionales
[67]taz, 28.07.1999, p. 1
[68]taz, 22.02.1999, p. 5

Draft of January 12, 2001. Comments Welcome!

The phrases in the *Vorfeld* of (2.60) are adverbially used participles and complement PPs. The participle *empört* in (2.60a) is not the head of the PP. The PP depends on *reagieren*. Similarly *entspannend* in (2.60b) is not the head of the *auf*-PP.

(2.61) [Auf jeden Fall] [zu spät für die 217 Menschen an Bord] kommen die
on   each case too late for the 217 humans   on board come   the
strengeren Vorschriften, die die amerikanische Flugsicherheitsbehörde
more.strict regulations   that the American   aviation.safety.authority
erst am vergangenen Donnerstag erlassen hat.[69]
first on past   Thursday   passed has

'The more strict regulations that were only issued by the American Aviation Safety Authority last Thursday came too late for the 217 passengers in any case.'

In (2.61) a PP-like phrase and an adverb are fronted together.

The frontings in (2.62) contain support verb constructions and idiomatic expressions. Either the complete fixed phrase formed out of several maximal projections or a fixed phrase together with a complement or adjunct is fronted.

(2.62) a. [Den Stein] [ins Rollen] brachte eine Haushaltsdebatte in der
the stone into rolling brought a   household.debate in the
Provinzialversammlung, in der ein Abgeordneter sich über diese
provincial.meeting   in the a   representative self over these
Gepflogenheiten beschwerte.[70]
habits   complained

'The ball was set rolling by a budget debate during the provincial meeting in which a representative complained about these habits.' [71]

b. [Endlich] [Ruhe] [in die Sache] brachte die neue deutsche
at.last   quiet   in the thing   brought the new   German
Schwulenbewegung zu Beginn   der   siebziger Jahre.[72]
gay.movement   to beginning of.the seventies years

'The matter was finally sorted out/settled by the new German gay movement in the early seventies.'

c. [Den Kürzungen] [zum Opfer] fiel auch das vierteljährlich
the shortenings to   victim fell also the quarter-yearly
erscheinende Magazin *aktuell*, das seit   Jahren als eines der
appearing   magazine *aktuell* that since years   as one   of.the
kompetentesten in Sachen HIV und Aids   gilt.[73]
most.competent in things   HIV and AIDS regarded.(is)

'The quarterly *aktuell*, which has been regarded as one of the most competent information sources concerning HIV and AIDS for years, has also fallen prey to the cuts.'

d. [Öl] [ins   Feuer] goß   gestern   das Rote-Khmer-Radio: [...][74]
oil   in.the fire   poured yesterday the Rote-Khmer.radio

'The Rote-Khmer radio station added fuel to the fire yesterday.'

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[69]taz, 02.11.1999, p. 2
[71]taz, 19.10.1995, p. 20
[72]taz, 07.11.1996, p. 20
[73]zitty, 8/97, p. 36
[74]taz, 18.06.1997, p. 8

e. [Öl] [ins   Feuer] dürfte auch die Ausstrahlung eines Interviews
   oil   in.the fire   should also the broadcasting of.an interview
   gießen, dass die US-Fernsehstation ABC in der vergangenen Woche
   pour   that the US.TV.channel   ABC in the past   week
   mit Elián führte.[75]
   with Elián led
   'More controversy is likely to arise as a result of the broadcast of an
   interview that the American TV channel ABC conducted with Elián last
   week.'

f. [Hilfreich] [zur   Hand] gingen, wenn auch unfreiwillig,   der
   helpful   to.the hand went   if   also unintentionally, the
   Verband   deutscher Zeitschriftenverleger (VdZ) und der Bund
   association of.German magazine.publishers (VdZ) and the association
   deutscher Zeitungsverleger   (BdZV).[76]
   of.German newspaper.publishers (BdZV)
   'The association of German magazine publishers and the association of
   German newspaper publishers both gave a helping hand, although it was
   not intentional.'

g. [Lafontaine] [zur   Hilfe] kam Heiner Geißler, der den missratenen
   Lafontaine   to.the help   came Heiner Geißler, who the wayward
   Sozi-Sohn mit einer Frage   aus Bahrs väterlicher
   lefty.son   with a   question from Bahr's paternal
   Moralumklammerung befreite: Warum er denn auch als
   moral.clutch   freed: Why   he then also as
   Parteivorsitzender zurückgetreten sei?[77]
   party.chairman   resigned   was
   'Heiner Geißler came to the aid of Lafontaine, freeing the wayward lefty
   son from Bahr's paternal embrace with the question: Why had he re-
   signed as party chairman as well?'

h. [Zum ersten Mal] [persönlich] in Berührung mit Punk und New Wave
   to.the first   time personally in touch   with Punk and New Wave
   bin ich über Leute gekommen, die in meiner Lehrklasse   waren.[78]
   am I   over people come   who in my   teaching.class were
   'I first came into contact with Punk and New Wave through other people
   in my class at vocational college.'

i. Aber [den Vogel] [in diesem Aufmarsch der Spottfiguren]   schießen
   but   the bird   in this   deployment of ridicule-figures shoot
   der näselnde Dr. Geier (Sascha Schmich) und sein infantiler Sohn
   the nasaling Dr. Geier Sascha Schmich and his infantile son
   Ernst-Hugo (Kai Kroker) ab, die sich   eine atemberaubende
   Ernst-Hugo Kai Kroker off who themselves a   breath-stealing

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[75]taz, 28.03.2000, p. 9

[76]taz, 18.02.1999, p. 13

[77]taz, 12.10.1999, p. 14

[78]Toster in an Interview in Ronald Galenza and Heinz Havemeister (eds). *Wir wollen immer artig sein
. . . Punk, New Wave, HipHop, Independent-Szene in der DDR 1980–1990*, Berlin: Schwarzkopf &
Schwarzkopf Verlag, 1999, p. 309

Redeschlacht leisten.[79]
speech-battle afford

'But by far the best in this onslaught of ridiculous characters are the nasal-voiced Dr. Geier (Sascha Schmich) and his infantile son Ernst-Hugo (Kai Kroker), who provide us with a breath-taking speech battle.'

j. [Mit gutem Beispiel] [voran] geht der Kooperative Bibliotheksverbund
with good example first goes the co-operative library.combine
Berlin-Brandenburg (KOBV)[80]
Berlin-Brandenburg KOBV

'The co-operative Library combine Berlin-Brandenburg is making a good example.'

k. [Das Tüpfel] [aufs i] setze der Bürgermeister von Miami, als er
the dot onto.the i set the mayor of Miami when he
am Samstagmorgen von einer schändlichen Attacke der
at.the Saturday.morning of a shameful attack of.the
US-Regierung sprach.[81]
US.government spoke

'The mayor of Miami put the icing on the cake when he talked of a shameful attack on the US government on Saturday morning.'

l. [Ihr Fett] [weg] bekamen natürlich auch alte und neue
their fat away got naturally also old and new
Regierung [. . .][82]
government

'Of course both the old and the new government got their comeuppance.'

m. [Schwer] [unter Schock] stehen deshalb zur Zeit zwei der
heavy under shock stand therefore to.the time two of.the
hervorragendsten Kräfte ihrer Branche: Mick Jagger, 55, und Rod
outstanding strengths of.their business Mick Jagger 55 and Rod
Steward, 54.[83]
Stewart 54

'Hence two of the major figures of the business, Mick Jagger, 55, and Rod Stewart, 54, are both suffering from acute shock.'

Note that in (2.62e) and in (2.62h) the verb that is part of the idiom or support verb construction is not adjacent to the parts that are located in the *Vorfeld*. Non-idiomatic examples of sentences with multiple frontings where the main verb is not in the initial position are (2.46a), (2.49a), (2.58b), and (2.60b). In these examples the verb is passivized or embedded under a modal. Theories which assume that multiple constituents in the *Vorfeld* are only possible if the verb that governs the fronted constituents is in initial position are therefore inadequate.

Lühr (1985, p. 11) gives other examples with more than two constituents in the *Vorfeld*:[84]

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[79]Mannheimer Morgen, 25.07.1998, Kultur; Zum Kranklachen

[80]taz, berlin, 17.04.2000, p. II

[81]taz, 25.04.2000, p. 3

[82]Mannheimer Morgen, 10.03.1999, Lokales; SPD setzt auf den „Doppel-Baaß"

[83]Spiegel, 4/1999, p. 104

[84]She also discusses other examples from prose written by Lion Feuchtwanger, but concludes that these are the author's personal style and should not be regarded as normal German.

(2.63) a. [Im   Schnellzug], [nach den raschen Handlungen und Aufregungen
              in.the fast.train   after the swift   handlings   and excitements
              der   Flucht und der Grenzüberschreitung, nach einem Wirbel von
              of.the flight and the boarder.crossing,   after a   whirl   from
              Spannungen und Ereignissen, Aufregungen und Gefahren], [noch
              tensions   and occurrences, excitements   and dangers,   still
              tief   erstaunt   darüber, daß alles   gut   gegangen war], sank
              deeply astonished this.over that everything good gone   was, sank
              Friedrich Klein ganz und gar   in sich   zusammen.[85]
              Friedrich Klein all   and completely in himself together
              'After the speedy actions and excitements of the flight and the boarder
              crossing, after a tornado of tensions and occurrences, excitements and
              dangers, and still utterly astounded that everything had worked out well,
              Friedrich Klein became completely absorbed with himself in the fast
              train.'

        b. [Mit seinen großen Buchstaben], [quer   über die letzte
              with his   big   letters   diagonally over the last
              Schreibmaschinenseite des   Gesuches], [langsam] [mit rotem Stift]
              typewriter.page   of.the application slowly   with red   pen
              malt   Klenk: „Abgelehnt K.".[86]
              draws Klenk: refused   K.
              'With his characteristic big red letters Klenk draws the words: "Turned
              down. K." diagonally across the last typewritten page of the application.'

A note on the data presented above is in order here: The frequency of sentences that
contain more than one element in the *Vorfeld* is rather low compared to the V2 cases.
Except for the sentences that were quoted from the literature, I found the examples
presented above by consciously perceiving the language around me, i.e., I wrote down
examples from newspapers I read and TV programs I watched. I did the same for
examples of complex fronting were the subject is fronted together with its predicate
and I could only find three examples of this type (see (7.64) and (7.65a) on page 235).
Although this is not a scientific statement about the frequency of both constructions,
but rather an impressionistic one, it still seems to me to be the case that examples of the
kind in (2.64) are discussed much more in the literature than multiple frontings, since
multiple frontings do not fit into the general picture of German.

(2.64) a. Ein Außenseiter gewonnen hat hier noch nie.[87]
              an outsider   won   has here yet   never
              'No outsider has ever won here.'

        b. Eine Concorde gelandet ist hier noch nie.
              a   Concorde landed   is here yet   never
              'No Concorde has ever landed here.'

However, some authors provided analyses for multiple frontings and these will be dis-
cussed in the following.
    The problem that sentences like (2.40) – (2.63) pose for theories that assume that
German is V2 certainly cannot be solved by putting a '*' in front of them as was done

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[85]Herman Hesse. Klein und Wagner. In *Gesammelte Werke Band 5*. Frankfurt/M. 1970

[86]Lion Feuchtwanger. *Erfolg. Drei Jahre Geschichte einer Provinz*. Frankfurt/M. 1981, p. 114

[87](Haider, 1988, p. 55). See also (Haider, 1990b, p. 94).

by Bungarten (1973, p. 37) for (2.45b). However, there are strong restrictions on having more than one constituent in the *Vorfeld*. The exact nature of these restrictions is not entirely clear. Most researchers who tried to solve the puzzle assume that the fronted constituents somehow form one constituent. For sentences like (2.57) Wunderlich (1984, p. 79) suggest that the PPs form a complex PP in the *Vorfeld*.

(2.65) a. [PP [PP Zu ihren Eltern] [PP nach Stuttgart]] ist sie gefahren.
                to   her   parents   to   Stuttgart   is   she driven
        'She went to her parents in Stuttgart.'

        b. [PP [PP Von München] [PP nach Hamburg]] sind es 900 km.
                from Munich   to   Hamburg   are it 900 km
        'It is 900 km from Munich to Hamburg.'

        c. [PP [PP Durch den Park] [PP zum Bahnhof]] sind sie gefahren.
                through the park   to.the train.station are they driven
        'They drove through the park to the train station.'

Wunderlich assumes that the second PP modifies the first. This is said to be possible if the PPs fill the same semantic role. The PPs in (2.65a) are the goal of a movement. Wunderlich admits that the thematic roles of the PPs in (2.65b–c) are different (Source, Path, and Goal of a movement), but he subsumes these roles under one, namely the localization of a movement. This approach is not satisfying since it does not extend to cases where the PPs fill different argument slots.

(2.66) Vom   Leutnant zum Hauptmann wird Karl befördert.
        from.the lieutenant to.the captain   Karl was promoted
        'Karl was promoted from lieutenant to captain.'

In examples like (2.66) where no literal movement takes place, it is not appropriate to collapse the two semantic roles that are filled by different PPs. Apart from that, it is unclear how Wunderlich's approach should extend to the other cases in (2.40) – (2.63): What is the category of the invented projection in the *Vorfeld*? Why should semantic roles of various different constituents be collapsed?

Riemsdijk (1978, p. 62) suggests that the first PP in Dutch examples that are parallel to (2.65a) may be a specifier of the second. The solution is not satisfying since it does not extend to examples like (2.66).

Dowty (1979, p. 217–218) discusses (2.67) in a different context.

(2.67) John drives a car from Boston to Detroit.

He suggests that *from* takes both *Boston* and *to Detroit* as complements. Again such a solution would not help in cases like (2.66) and it would not extend to other instances of multiple fronting.

Haider (1982, p. 17) formulates a constraint that is similar to that of Wunderlich, albeit more restrictive. The LF projection of the *Vorfeld* has to be an LF constituent. LF stands for Logical Form in GB theory. Haider's constraint admits the fronting of adverbs and the fronting of certain non-maximal projections. Haider explicitly mentions that his condition blocks the fronting of non-maximal projections that contain a dative object. Since there are a lot of examples of partial verb phrase fronting where a verb is fronted together with a dative (Cf. (2.5) on p. 10), Haider's condition is to restrictive and has to be dismissed.

Fanselow (1987, p. 99–100) claims that two constituents in the *Vorfeld* are only possible with directional PPs or complement PPs. He assumes that those phrases are

part of the *enger Verbalkomplex*, a region that is near to or part of the verbal complex. He suggests analyzing such frontings as partial verb phrase fronting.[88] This analysis must be rejected for two reasons: Firstly, the claim that only PPs can take part in fronting of multiple constituents is empirically wrong as the examples in (2.40) – (2.67) show. Secondly, it is unclear why a verb should select an empty head that selects its arguments or can be combined with its adjuncts. Thirdly, one gets spurious ambiguities for the simplest sentences, as Fanselow admits himself.[89]

(2.68)   Nach Riedering bin ich gefahren!
         to   Riedering am I   drove
         'I drove to Riedering.'

For (2.68) one would get the normal analysis where *nach Riedering* is fronted and a second analysis where a verbal complex with an invisible head is fronted. This 'verbal complex' contains the PP *nach Riedering*. And finally the question is, what is an *enger Verbalkomplex*? We have seen examples where adverbs, adverbial adjectives, and depictives are fronted together with complements. So all this material has to be regarded as 'near to the verb'. In (2.46) even subjects are fronted together with other elements. So with Fanselow's approach one would have to assume that almost any two or more constituents can be combined to form a phrase. The claim that in German one constituent has to be placed in front of the finite verb is totally empty with such an assumption.

The final argument against all approaches that treat multiple elements in the *Vorfeld* as one syntactic constituent comes from a phenomenon called *Vorfeldellipse*[90]. In German a verb first clause with a missing complement or adjunct can be used as an assertion clause. The missing constituent in the *Vorfeld* is inferred from the context or from valence properties of the main verb.

As Huang (1984, p. 548) notes, it is impossible to drop two constituents.

(2.69)   a.   Ich hab' ihn schon gekannt.
              I   have him already known
              'I knew him already.'
         b.   Ihn hab' ich schon   gekannt.
              him have I   already known
         c.   [Ihn] hab' ich schon gekannt.
         d.   [Ich] hab' ihn schon gekannt.
         e. * [Ihn] hab' [ich] schon gekannt.

With an approach that assumes that multiple constituents in the *Vorfeld* form one single constituent structures like (2.70b) are predicted to be possible. The [*Ihm etwas*] constituent could be dropped, which is ungrammatical.

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[88] See also Hoberg (1997, p. 1634) for a similar suggestion.

[89] Fanselow (p.c., 2000) suggests that these two readings are needed anyway since there are scope differences in sentences like (i).

   (i)   Nur nach Riedering bin ich gefahren!
         only to   Riedering am I   drove
         'I drove only to Riedering.'
         'I only drove to Riedering.'

[90] This phenomenon is also known as Pronoun Zap, Zero Topic, or Topic Drop. The terms Zero Topic and Topic Drop are not suited for this phenomenon since it is also possible to drop expletives. Since expletives are semantically empty, it does not make sense to talk about them as topics or themes.

(2.70) a. Ich habe ihm etwas   gegeben.
            I   have him something given

        b. * [Ihm etwas] habe ich gegeben.

        c. [Ihm etwas   gegeben] habe ich.
            him something given   have I

        d. [Das] habe ich.
            that have I
            'I did this.'

Having argued against the proposals made so far, the question now is: What else can be the reason for these multiple frontings? Why are such frontings judged marginal for hand-made examples? If we look at examples like (2.60), we see that the constituents in the *Vorfeld* seem to be one constituent at the first glance. So here we seem to have interferences with speech production. Furthermore, in all examples we saw a strong thematic connection between the elements in the *Vorfeld*. So instead of stipulating constituents of whatever kind for a combination of these multiple elements in the *Vorfeld*, I suggest that there are special conditions on the interpretation of elements in the *Vorfeld*. Such conditions also can be observed in examples that are treated as cases of partial verb phrase frontings: There are definite / indefinite contrasts and similar things. That thematic connectedness plays an important role is also shown by the examples in (2.62) where several parts of idioms are fronted.

I have no idea how such restrictions should be formalized though.

2.8.3.2   The Analysis

The fronting of more than one element can be allowed by relaxing the constraint on the value of SYNSEM|NONLOCAL|INHERITED|SLASH in the schema 3. This constraint says that the head daughter has to contain exactly one element in SLASH. With such a relaxation, two structures for multiple frontings are possible. Figure 2.9 shows binary branching structures. The serialization of the elements corresponds to the order in which they were introduced into the slash list. This ensures that scope relations that

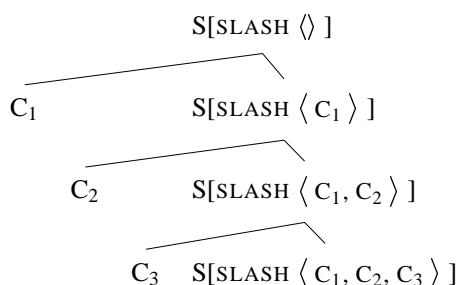Figure 2.9: Binary branching structure for multiple frontings

depend on the order of the introduction of information about adjuncts into SLASH are preserved.

The alternative structure is shown in figure 2.10 on the next page. All slash elements are realized in one projection. The structure in figure 2.10 has the advantage that the *Vorfeld* is filled in one step and the conditions for multiple frontings can be

$$S[\text{SLASH } \langle\rangle \,]$$

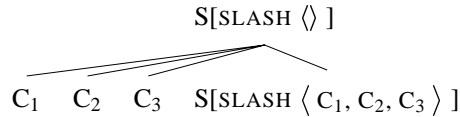$$C_1 \quad C_2 \quad C_3 \quad S[\text{SLASH } \langle C_1, C_2, C_3 \rangle \,]$$

Figure 2.10: Flat structure for multiple frontings

checked in this projection. With a binary branching structure the conditions have to be checked at the various projection steps considering all elements that are in the *Vorfeld* already. However, such processes seem to be needed for constructions as left dislocation anyway (see (Altmann, 1981) on left dislocation). Since all other schemata in my grammar are binary branching, I will assume the structure of figure 2.9.

Schema 4 is the formalization of the structure in figure 2.9.

Schema 4 (Relaxed Head Filler Schema (for German))

$$
\begin{bmatrix}
\text{HEAD-DTR}|\text{SYNSEM} &
\begin{bmatrix}
\text{LOCAL} &
\begin{bmatrix}
\text{CAT} &
\begin{bmatrix}
\text{HEAD} &
\begin{bmatrix}
\text{VFORM } \textit{fin} \\
\text{INITIAL } + \\
\textit{verb}
\end{bmatrix} \\
\text{SUBCAT } \langle\rangle
\end{bmatrix}
\end{bmatrix} \\
\text{NONLOC} &
\begin{bmatrix}
\text{INHER}|\text{SLASH} & \langle \boxed{1} \rangle \oplus \boxed{} \\
\text{TO-BIND}|\text{SLASH} & \langle \boxed{1} \rangle
\end{bmatrix}
\end{bmatrix} \\
\text{NON-HEAD-DTRS} &
\left\langle
\begin{bmatrix}
\text{SYNSEM} &
\begin{bmatrix}
\text{LOCAL} & \boxed{1} \\
\text{NONLOC} & \text{INHER}|\text{SLASH} \langle\rangle
\end{bmatrix}
\end{bmatrix}
\right\rangle \\
\textit{head-filler-structure}
\end{bmatrix}
$$
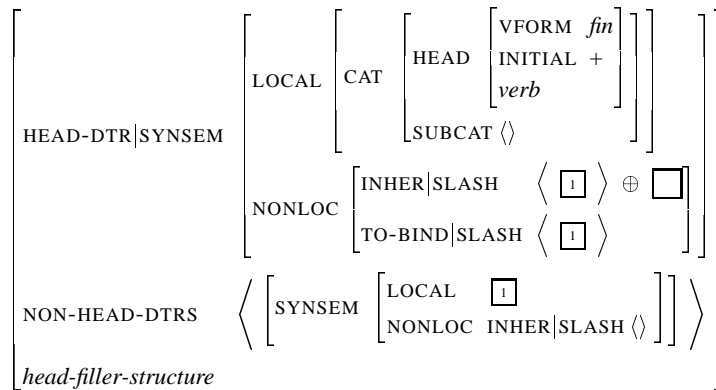
There is no restriction on the number of elements in SLASH as in schema 3. When there is more than one element in SLASH the remaining elements are passed up to the mother node by the nonlocal feature principle.

2.9   Summary

In this chapter, I provided the key concepts of a Head-Driven Phrase Structure Grammar for German. I showed how syntactic relations between heads and their dependents are described. The organization of the lexicon using type hierarchies and lexical redundancy rules was discussed. I provided a linearization based account for the German clause, describing verb first sentences as one of the two options to serialize the verb: initially or finally. The linearization approach can account for the relatively free constituent order in the *Mittelfeld* since all dependents of a head are inserted into the linearization domain of the head and therefore their permutability is accounted for. Finally, I provided an extensive discussion of fronting phenomena and suggested an analysis for multiple frontings.

Chapter 3

The Predicate Complex, Control, and Raising

In this chapter I will introduce Bech's terminology (1955) for verbal complexes and coherence fields. I will discuss tests that help distinguishing between coherent constructions (predicate complexes) and incoherent constructions (ordinary head complement combinations) and I will deal with the difference between control and raising. The control/raising tests will be applied throughout the chapter to show that copula constructions and subject and object predicatives are raising constructions. The tests will also be used in chapters 5 and 6 to show that depictive predicates stand in a control relation to their antecedent, while resultative constructions are raising predicates.

I will introduce the reader to analyses of coherent verbal constructions that are known from the literature and suggest extensions of these analyses for copula constructions and subject and object predicatives.

3.1 The Phenomena

3.1.1 The Terminology

Bech (1955) wrote a brilliant book about non-finite verbs in German. To be able to describe phenomena like extraposition, the order of elements in the right sentence bracket, the permutation of elements in the *Mittelfeld*, and various scopings of adverbial phrases, he defined the terms *Verbalfeld*, *Restfeld*, *Schlußfeld*, and *Kohärenzfeld* which I will introduce in the following.

3.1.1.1 The Subordinative Chain

Verbal heads may take a verbal projection as complement. A head requires certain properties of the element it governs and for verbal complements the form of the verb is among those selected properties. In (3.1) *darf* determines the verb form of *behaupten* and *behaupten* determines the verb form of *zu kennen*.

(3.1)   a. weil   Karl den Mann zu kennen behaupten darf.
            because Karl the man   to know   claim   is.allowed.to
            'because Karl is allowed to claim that he knows the man.'

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  b. weil Karl behaupten darf,   den Mann zu kennen.
     because Karl claim is.allowed.to the man   to know

Bech calls a chain of verbs that are in head complement relation a subordinative chain. Another term is hypotactic chain. He assigns numbers to all verbs in the chain and marks them with various indices. Indices at the upper right-hand side correspond to the level of embedding. V^1 is the maximally superordinated verb. In (3.1) the assignments are as follows: $V^1 = darf$, $V^2 = behaupten$, and $V^3 = zu\ kennen$.

3.1.1.2 *Verbalfeld*, *Kohärenzfeld*, *Restfeld*, *Schlußfeld*

Each verb has a *Verbalfeld* (F), which contains the verb and all non-verbal dependents of the verb and all adjuncts of the verb. For (3.3) there are two verbal fields: $F^1 = ich$ *bitte ihn* and $F^2 = $ *morgen zu kommen*.

(3.2) Ich bitte ihn, morgen zu kommen.
    I ask him tomorrow to come

    'I ask him to come tomorrow.'

The division into verbal fields is not always unambiguous.

(3.3) daß Peter nicht zu kommen versprach.
    that Peter not to come promised

    'That Peter didn't promise to come.'
    'That Peter promised not to come.'

For (3.3) the following partitions into verbal fields are possible: $F^1 = Peter + versprach$ $F^2 = nicht\ zu\ kommen$ or $F^1 = Peter + nicht + versprach$ $F^2 = zu\ kommen$.

 Furthermore, Bech introduces the term *Kohärenzfeld* (coherence field). The abbreviation is K. A coherence field is partitioned into a *Schlußfeld* (S) and a *Restfeld* (R). The *Schlußfeld* is always located to the right of the *Restfeld*. Usually the *Schlußfeld* contains all verbs of a coherence field. An exception is the verb in the left sentence bracket, if there is one.

(3.4) a. weil $\underbrace{\text{Peter nicht}}_{R}$ $\underbrace{\text{zu kommen versprach}}_{S}$.

   b. $\underbrace{\text{Peter versprach nicht}}_{R}$ $\underbrace{\text{zu kommen}}_{S}$.

A hypotactic chain of verbal fields may consist of one (3.5a) or several (3.5b) coherence fields. Every coherence field contains at least one verbal field. Bech separates coherence fields by a '|'. This symbol stands for an intonational break.

(3.5) a. weil $\overbrace{\underbrace{\text{Peter nicht}}_{R}\ \underbrace{\text{zu kommen versprach}}_{S}}^{K}$.

   b. weil $\overbrace{\underbrace{\text{Peter}}_{R^1}\ \underbrace{\text{versprach,}}_{S^1}}^{K_1}$ | $\overbrace{\underbrace{\text{nicht}}_{R^2}\ \underbrace{\text{zu kommen}}_{S^2}}^{K_2}$.

A coherence field is a group of verbal fields. It contains all parts of the verbal fields. A coherence field is one closed topological unit. An element of a coherence field can never appear between two elements of another coherence field. Elements of a verbal field can be placed between elements of another verbal field, though (see (3.3)).

Two verbal fields which are part of the same hypotactic chain are said to be coherent, iff they are part of the same coherence field and incoherent, iff they are part of two different coherence fields. The sentence (3.6) consists of two coherence fields.

$$\overbrace{\qquad}^{K_1} \quad \overbrace{\qquad}^{K_2}$$

(3.6)   Er soll den Vater gebeten haben, $|$ den Jungen laufen zu lassen .

       'It is said that he asked the father to let the boy go.'

$F^1 = $ *er soll den Vater*, $F^2 = $ *haben*, $F^3 = $ *gebeten*, $F^4 = $ *den Jungen zu lassen*, $F^5 = $ *laufen*. $F^1 + F^2 + F^3$ and $F^4 + F^5$ are coherence fields, respectively. None of the fields F^1, F^2, F^3 is coherent with another field outside of this group. The same holds for F^4 and F^5.

Bech distinguishes between finite and non-finite coherence fields. A coherence field is finite, iff it contains a finite verb. The *Schlußfeld* of finite coherence fields may be empty. An example is K_2 in (3.7).

(3.7)   Friedhelm läuft nach Hause.
       Friedhelm runs to   home

In non-finite coherence fields the *Restfeld* may be empty (3.8).

$$\overbrace{\qquad}^{K_1} \quad \overbrace{\qquad}^{K_2}$$

(3.8)   weil $\underbrace{\text{er mir}}_{R}$ $\underbrace{\text{versprochen hat}}_{S}$ $|$ $\underbrace{\text{zu kommen}}_{S}$.

       'Because he promised me to come.'

3.1.2   Coherent vs. Incoherent Constructions

Having introduced the terminology in the last section, I will now explain the classical tests that help to distinguish between coherent and incoherent constructions.

3.1.2.1   Scope of Adjuncts

Adverbs can only scope over verbal elements that are in the same coherence field.

$$\overbrace{\qquad\qquad\qquad\qquad}^{K}$$

(3.9)   Karl darf nicht zu schlafen versuchen.

       'Karl is not allowed to try to sleep.'
       'Karl is allowed to not try to sleep.'
       'Karl is allowed to try to not sleep.'

The sentence in (3.9) has the three readings that are given in (3.10) and also in the translations above, if all three verbs are members of the same coherence field, i.e., if there are no intonational markings that suggest a division into two coherence fields.

(3.10)   a.   dürfen(versuchen($\neg$ schlafen(karl)))

       b.   dürfen($\neg$ versuchen(schlafen(karl)))

     c. ¬ dürfen(versuchen(schlafen(karl)))

In (3.11) and (3.12) we have two coherence fields. The number of readings per sentence is reduced accordingly.

                           K_1 K_2

(3.11) $\overbrace{\text{Karl darf nicht versuchen}}$ $\overbrace{\text{zu schlafen}}$.

        'Karl is not allowed to try to sleep.'
        'Karl is allowed to not try to sleep.'

                         K_1 K_2

(3.12) $\overbrace{\text{Karl darf versuchen,}}$ $\overbrace{\text{nicht zu schlafen}}$.

        'Karl is allowed to try to not sleep.'

In (3.11) the negation can only scope over *darf* and *versuchen*, since *schlafen* is in a different coherence field. In (3.12) on the other hand, the negation can only scope over *schlafen*, since this is the only element in the coherence field in which the negation is located.

3.1.2.2 Permutation in the *Mittelfeld*

The sentence in (3.13) is partitioned into topological fields in a way that is shown in (3.14).

(3.13)   weil   es   ihm   jemand   zu lesen versprochen hat.[1]
        because it-ACC him-DAT somebody-NOM to read promised   has

        'because somebody promised him to read it.'

As is clear from the translation, *ihm* is an object of *versprechen* and *es* is the object of *lesen*.

                                  K

(3.14)   weil $\overbrace{\text{es ihm jemand}}$ $\overbrace{\text{zu lesen versprochen hat}}$.
                    $\underbrace{\quad}$ $\underbrace{\quad}$
                      R   S

In (3.13) we have one single coherence field, the verbs are located in one *Schlußfeld* and the complements of the verbs in the *Schlußfeld* are scrambled: the order of the NPs in the *Restfeld* is such that the combination of a verb with its complement does not result in a continuous string. In (3.13) the order of the elements corresponds to the order of the verbs in the *Schlußfeld*, but this is not necessarily the case, as (3.15) shows.

(3.15)   weil   ihm den Aufsatz jemand   zu lesen versprochen hat.
        because him the essay   somebody to read promised   has

        'because somebody promised him to read the essay.'

Sometimes the scrambling of elements in coherent constructions is restricted by performance factors. I will come back to this issue below when I discuss specific instances of coherent constructions.

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[1] See (Haider, 1986b, p. 110; Haider, 1990a, p. 128).

3.1.2.3 Intraposition

In coherent constructions verbs form a verbal complex that normally cannot be interrupted by nonverbal material except in cases of the so-called *Oberfeldumstellung*. Since the *Oberfeldumstellung* is not relevant for the discussion of the phenomena handled in this book, I will ignore it here. (3.16a–b) are ungrammatical, since modal verbs like *dürfen* and the future auxiliary *werden* obligatorily construct coherently. (3.16c) on the other hand is possible. (3.16c) is an incoherent construction.

(3.16)   a.   * daß Karl schlafen nicht darf.
             that Karl sleep   not   may

             Intended: 'that Karl is not allowed to sleep.'

         b.   * daß Karl schlafen nicht wird.
             that Karl sleep   not   will

             Intended: 'that Karl won't sleep.'

         c.   daß Karl zu schlafen nicht versucht.
             that Karl to sleep   not   tries

             'that Karl does not try to sleep.'

The same situation can be observed within relative clauses. Verbs in incoherent constructions allow pied-piping. The term pied-piping was coined by Ross (1967, p. 108). It refers to situations in relative clauses when a phrase that contains more material then just the relative pronoun is dislocated. In (3.17a) the *zu* infinitive VP is located at the left periphery of the relative clause. Pied-piping is impossible in coherent constructions.

(3.17)   a.   den Keks, den zu essen Karl versucht
             the cookie that to eat   Karl tries

         b.   * den Keks, den essen Karl darf / wird
             the cookie that eat   Karl may   will

         c.   * den Keks, den gegessen Karl hat
             the cookie that eaten   Karl has

There is an on-going debate about these pied-piping constructions with several different structures assigned to various instances of pied-piping examples like the one in (3.17a) (see for instance (Riemsdijk, 1985; Haider, 1985b; Grewendorf, 1986; Trissler, 1988; Riemsdijk, 1994)). Basically there are two assumptions about sentences similar to (3.17a): The complete infinitive phrase containing the relative word is the relative phrase and is extracted from the remaining clause, or the infinitive phrase is located at the left periphery of the *Mittelfeld* and the relative pronoun is extracted out of this VP. In Müller (1999a, chapter 10.7) I demonstrated that both structures are needed. In any case, the infinitive VP is separated from other verbs in the right sentence bracket, whether it is extracted as one phrase or intraposed in the *Mittelfeld* with further extraction of the relative pronoun does not matter for the coherence / incoherence test.

3.1.2.4 Extraposition

If a matrix verb allows for an incoherent construction, it is possible to extrapose the projection of the embedded verbal head. An example is (3.18).

(3.18)   Karl hat versucht, das Buch Maria zu geben.
         Karl has tried   the book Maria to give

         'Karl tried to give the book to Maria.'

The verb *versuchen* can construct incoherently and in (3.18) the phrase *das Buch Maria zu geben* is a separate coherence field.

   Not all infinitives with *zu* can be extraposed. So for instance, the raising verb *scheinen* obligatorily constructs coherently. The verb that is embedded under *scheinen* is always realized in the same coherence field.

(3.19)   a.   weil   Karl zu schlafen scheint.
               because Karl to sleep   seems

               'because Karl seems to be asleep.'

         b. * weil   Karl scheint zu schlafen.
               because Karl seems to sleep

   The extraposition of bare infinitives and participles is impossible.

(3.20)   a.   daß Karl zu schlafen versucht.
               that Karl to sleep   tries

               'that Karl tries to sleep.'

         b.   daß Karl versucht zu schlafen.
               that Karl tries   to sleep

         c.   daß Karl schlafen wird.
               that Karl sleep   will

         d. * daß Karl wird schlafen.
               that Karl will sleep

         e.   daß Karl geschlafen hat.
               that Karl slept   has

         f. * daß Karl hat geschlafen.
               that Karl has slept

(3.21)   a.   daß Karl den Hund zu schlagen versucht.
               that Karl the dog   to beat   tries

               'that Karl tries to beat the dog.'

         b.   daß Karl versucht, den Hund zu schlagen.
               that Karl tries   the dog   to beat

               'that Karl tries to beat the dog.'

         c. * daß Karl den Hund schlagen wird.
               that Karl the dog   beat   will

               'that Karl will beat the dog.'

         d. * daß Karl wird den Hund schlagen.
               that Karl will the dog   beat

         e. * daß Karl den Hund geschlagen hat.
               that Karl the dog   beaten   has

               'that Karl beat the dog.'

         f. * daß Karl hat den Hund geschlagen.
               that Karl has the dog   beaten

3.1.2.5 Fronting

The fronting of *zu* infinitive VPs is always possible.

(3.22) Das Buch Maria zu geben hat Karl versucht.
the book Maria to give   has Karl tried

'Karl tried to give the book to Maria.'

As with extraposition and intraposition, this fronted VP is a separate coherence field.

In addition to such frontings, frontings of verbs and of projections of verbs that can neither be intraposed nor extraposed is possible.[2]

(3.23) a. Erzählen wird er   seiner Tochter   ein Märchen.
tell   will he-NOM his   daughter-DAT a   fairytale-ACC

'He will tell his daughter a fairytale.'

b. Ein Märchen   erzählen wird er   seiner Tochter.
a   fairytale-ACC tell   will he-NOM his   daughter-DAT

c. Seiner Tochter   ein Märchen   erzählen wird er.
his   daughter-DAT a   fairytale-ACC tell   will he-NOM

The future auxiliary *wird* obligatorily constructs coherently. In (3.23) we have various kinds of frontings: In (3.23a) the embedded verb is fronted and the elements that depend on this verb, i.e., its direct and indirect object stay behind in the *Mittelfeld*. In (3.23b) the accusative object is fronted with the verb and the dative object stays behind, and in (3.23c) both objects are fronted together with the verb.

(3.24) a. weil   er das Rennen nicht gewinnen darf.
because he the race   not win   may

'because he is not allowed to win the race.'
'because he is allowed to not win the race.'

b. Das Rennen nicht gewinnen darf er.
the race   not win   may he

'He is allowed to not win the race.'

Note that the fronted material constitutes a separate scope domain. While we have two readings in (3.24a), in (3.24b) there is only the one where the *nicht* scopes over *gewinnen*.

It is an interesting property of such frontings that the parts of the verbal complex that are fronted may be arbitrarily complex, but it is impossible to front things from the middle of the verbal complex, i.e., elements that embed another verbal complement that has to be realized in a coherent construction.[3]

(3.25) a.   weil   er ihr ein Märchen erzählen müssen wird.
because he her a   fairytale tell   must   will

b.   Erzählen müssen wird er ihr ein Märchen.
tell   must   will he her a   fairytale

c.   * Müssen wird er ihr ein Märchen erzählen.
must   will he her a   fairytale tell

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[2]The examples in (3.23) are taken from Haftka (1981, p. 720–721). For more data see (Müller, 1999a, Chapter 18).

[3]Haftka (1981, p. 720–721) provides examples with a similar structure that show impossible frontings in cases that will be discussed in the following chapters.

It is not true that the stranding of auxiliaries is impossible, as was claimed by Stiebels and Wunderlich (1994, p. 942). Their sentence (3.26a) is odd due to general principles of information structure and not due to general prohibitions on frontings.

(3.26) a. § Gegessen wird er wohl   den Braten haben.
              eaten   will he probably the roast   have

            'He probably ate the roast. (as opposed to having eaten something else)'

        b.   Gegessen wird er den Braten wohl   haben.
              eaten   will he the roast   probably have

            'He probably ate the roast. (as opposed to not having eaten it)'

With a different scope of *wohl* the sentence is fine.

Similarly Haider (1993, p. 283) claims that complements of non-finite *haben* are not frontable.

(3.27) a.   Im   Radio gehört hat er die Nachricht.
              in.the radio heard has he the news

            'He heard the news in the radio.'

        b. * Im   Radio gehört glaubt   er die Nachricht zu haben.
              in.the radio heard believes he the news   to have

            Intended: 'He believes to have heard the news in the radio.'

The contrast between (3.27a) and (3.27b) is clear, but it is not due to *haben*. Meurers (2000, p. 93) gives the example in (3.28).

(3.28) Im   Radio gehört wird er die Nachricht sicher   nicht haben.
        in.the radio heard will he the news   probably not   have

        'He probably didn't hear the news in the radio.'

The *Principle of Separability* that Stiebels and Wunderlich (1994, p. 942) formulate to rule out the fronting of a base verb of a particle verb combination without its particle rules out grammatical sentences like () and (3.26) and therefore has to be dismissed. The discussion in the following chapters will show that impossible frontings like the one in (3.25c) are due to a general constraint on frontings of parts of predicate complexes.

3.1.3   Raising and Control

The partition of verbs into those that may enter an incoherent construction and those that always construct coherently is one important dimension of classifying verbs, another one is the partition of verbs with a verbal complement into raising and control verbs. In the following section I will discuss the differences of both verb classes.

3.1.3.1   Expletive Predicates and Subjectless Constructions

The most crucial difference between the two types is that control verbs assign a semantic role to the subject of the embedded verb, whereas raising verbs do not.

(3.29) Karl versucht zu schlafen.
        Karl tries   to sleep

(3.30) versuchen(Karl, schlafen(Karl))

(3.31) Karl scheint zu schlafen.
      Karl seems to sleep

(3.32) scheinen(schlafen(Karl))

The classical raising verb is *scheinen*, and as in English this verb does not assign a role which becomes obvious when predicates that have an expletive subject are embedded under *scheinen*.

(3.33) Es   scheint zu regnen.
      it-EXPL seems to rain

(3.34) scheinen(regnen)

Control verbs do not embed expletive predicates.

    Another difference that follows from the fact that control verbs assign a thematic role to the subject of the embedded predicates is that subjectless constructions cannot be embedded under control verbs.

(3.35) a.   weil   (es) dem Student   vor   der Prüfung graut.
           because it   the student-DAT before the exam   dreads
           'Because the student dreads the exam.'

      b.   * Der Professor versucht, dem Student vor   der Prüfung zu grauen.
          the professor tries   the student before the exam   to dread
          Intended: 'The professor tries to make the student dread the exam.'

The verb *grauen* in (3.35a) only takes a dative and a prepositional complement. Optionally it can appear with a subject, but this subject is an expletive element. As the example in (3.35b) shows, the embedding of *grauen* under a control verb is impossible. This demonstrates that both the variant with the expletive subject and the subjectless variant cannot be controlled. Embedding under raising verbs is possible though.

(3.36) weil   (es)   dem Student vor   der Prüfung zu grauen schien.
      because it-EXPL the student before the exam   to dread seemed
      'because the student seemed to dread the exam.'

    The example in (3.37b) shows another subjectless construction that is the result of the passivization of an intransitive verb: the so-called impersonal passive.

(3.37) a.   Der Student arbeitet.
          the student works

      b.   weil   gearbeitet wurde.
          because worked   was
          'because work was being done.'

      c.   * Der Student versucht, gearbeitet zu werden.
          the student tries   worked   to get
          Intended: 'The student tries to work.' or 'The student tries to get the work done.'

Again such subjectless constructions cannot be embedded under control verbs. The embedding under raising verbs is possible as (3.38) shows.

(3.38)   Dort schien   noch gearbeitet zu werden.
         there seemed yet   working   to get
         'Work seemed to still be being done there.'

3.1.3.2   Identity vs. Coindexing

The verb *sehen* is a raising verb, which is uncontroversial for the cases in (3.39), where a weather verb and an impersonal construction are embedded (Reis, 1976a, p. 66; Höhle, 1978, p. 70).

(3.39)   a.   Karl sah es   regnen.
              Karl saw it-EXPL rain

         b.   ? Ich sah ihm   schlecht werden.
              I   saw him-DAT feel.sick become
              'I saw him getting sick.'

For sentences like (3.39), one can assume that the subject of the embedded predicate is identical to the object of the matrix verb. If as in (3.39b), the embedded predicate does not have a subject, the matrix verb does not have an object. One can capture this by stating that the subject of the embedded predicate is actually identical to the object of the higher predicate. The actual form of the subject of the embedded predicate does not matter.

The question now is, whether the same is true for control constructions, or whether there is a difference between the sentences in (3.40), where the first is a raising sentence and the second one a control sentence.

(3.40)   a.   Der Wächter   sah den Einbrecher und seinen Helfer
              the watchman saw the burglar   and his   accomplice-ACC
              weglaufen.
              run.away
              'The watchman saw the burglar and his accomplice run away.'

         b.   Der Wächter   erlaubte dem Einbrecher   und seinem Helfer
              the watchman allowed the   burglar-DAT and his   accomplice-DAT
              wegzulaufen.
              away.to.run
              'The watchman allowed the burglar and his accomplice to run away.'

erlauben is an object control verb, i.e., the dative object and the non-overt subject of the controlled infinitive are coreferent. Because of the data in (3.39), it seems to be reasonable to assume the identity of the subject of *weglaufen* and *den Einbrecher und seinen Helfer* in raising constructions like (3.40a). The question is whether such an identity would also make sense for (3.40b). The answer is no.

Höhle (1983, Chapter 6) provided a test that makes it possible to determine the case of non-realized dependents. The adverbial phrase *ein- nach d- ander-* refers to a plural antecedent. The phrase has to agree with its antecedent in gender and case.

(3.41)   a.   [Die Türen]$_i$ sind [eine   nach der
              the doors-NOM-PL-FEM are   one-NOM-FEM after the-DAT-FEM
              anderen]$_i$ kaputt gegangen.
              other   broke went
              'The doors broke one after another.'

b. [Einer nach dem anderen]$_i$ haben wir$_i$ die
one-NOM-MAS after the-DAT-MAS other have we-NOM the
Burschen runtergeputzt.
lads-ACC down.cleaned

'We took turns in bringing the lads down a peg or two.'

c. [Einen nach dem anderen]$_i$ haben wir [die
one-ACC-MAS after the-DAT-MAS other have we-NOM the
Burschen]$_i$ runtergeputzt.
lads-ACC-PL-MAS down.cleaned

'One after the other, we brought the lads down a peg or two.'

d. Ich ließ [die Burschen]$_i$ [einen nach dem
I let the lads-ACC-PL-MAS one-ACC-MAS after the-DAT-MAS
anderen]$_i$ einsteigen.
other enter

'I let the lads get in (get started) one after the other.'

e. [Uns]$_i$ wurde [einer nach der anderen]$_i$ der Stuhl
us-DAT was one-DAT-FEM after the-DAT-FEM other the chair
vor die Tür gesetzt.
before the door set

'We were given the sack one after the other.'

(3.42) a. Er hat uns gedroht, [die Burschen$_i$ demnächst
he has us threatened the lads-ACC-PL-MAS soon
[einen nach dem anderen]$_i$ wegzuschicken.
one-ACC-MAS after the-DAT-MAS other away.to.send

'He threatened us that soon he would send the lads away one after the other.'

b. Er hat angekündigt, [uns]$_i$ dann [einer nach der
he has announced us-DAT then one-DAT-FEM after the-DAT-FEM
anderen]$_i$ den Stuhl vor die Tür zu setzen.
other the chair before the door to set

'He announced that he would then sack us one after the other.'

c. Es ist nötig, [die Fenster]$_i$, sobald es geht,
it is necessary the windows-NEU-PL-ACC as.soon it goes
[eins nach dem anderen]$_i$ auszutauschen.
one-ACC-NEU after the-DAT-NEU other to.exchange

'It is necessary to exchange the windows one after the other, as soon as possible.'

(3.43) a. Ich habe [den Burschen]$_i$ geraten, im Abstand von wenigen
I have the lads-DAT-PL-MAS advised in.the distance of few
Tagen [einer nach dem anderen]$_i$ zu
days one-NOM-MAS after the-DAT-MAS other to
kündigen.
hand.in.their.notice

'I advised the lads to hand in their notice one after the other, at intervals of a few days.'

b. [Die Türen   sind viel   zu wertvoll, um
    the doors-NOM-PL-FEM are   much too precious COMPL
    [eine   nach der   anderen]$_i$ verheizt zu werden.
    one-NOM-FEM after the-DAT-FEM other   burnt   to be
    'The doors are much too precious to be burnt one after the other.'

c. [Wir]$_i$ sind es   leid, [eine   nach der
    we-NOM-PL are   it$_{extra}$ tired one-NOM-FEM after the-DAT-FEM
    anderen]$_i$ den Stuhl vor   die Tür gesetzt zu kriegen.
    other   the chair before the door set   to get
    'We are tired of being given the sack one after the other.'

In (3.43), the *ein- nach d- ander-* phrase is not the subject, as the subject is never realized as a dependent of a verb in infinitive form. But *ein- nach d- ander-* refers to the subject of the infinitive. In (3.43a) the case of the controller NP *den Burschen* is dative, while the case of the controlled subject of the *zu* infinitive is nominative, as can be inferred from the case of *einer nach dem anderen*.[4] This shows that the subject of the embedded infinitive cannot be identical to the object of the control verb. Furthermore, it is interesting to note that if one changes the form of the pronoun in *ein- nach d- ander-* to the female form, the meaning of the sentence changes.

(3.44) Ich habe [den Burschen]$_i$ geraten, im   Abstand von wenigen
        I   have the lads-DAT-MAS-PL advised in.the distance of   few
        Tagen [einer   nach der   anderen]$_{*i}$ zu kündigen.
        days   one-DAT-FEM after the-DAT-FEM other   to fire
        'I advised the lads to fire (them) one after the other, at intervals of a few days.'

(3.44) is only grammatical if the *ein- nach d- ander-* is not an adverbial that refers to the non-overt subject, but rather a direct object of *kündigen*. This is accounted for if control is described as coindexing of the controlling XP and the non-overt subject of the controlled infinitive. So the index of *den Burschen* is identical to the index of the non-overt subject. Therefore, no adverbial phrase that is sensitive to gender and does not match can be realized in the domain of the controlled infinitive while referring to the non-overt subject.

Finally, examples like (3.45) show that identity really would be inappropriate for handling control constructions, since in (3.45) the controlling element is a prepositional phrase, but the subject of the controlled predicate is an NP.[5]

---

[4]Adam Przepiórkowski informed me that in Polish there is a class of 'case agreeing' elements which take the instrumental case when they refer to unrealized subjects, but there are other 'case agreeing' elements which take dative in such cases. So, if these elements were used to determine the case of the unexpressed subject, we would come to the conclusion that unexpressed subjects are both instrumental and dative in Polish. On the basis of the Polish data one could argue that unexpressed subjects are caseless and that when they refer to a caseless NP, the adverbial phrases are nominative (for German) or dative or instrumental (for Polish).

Hennis (1989) discusses data from Malayalam, which is a language with both nominative and dative subjects. Sentences where a VP with nominative subject is coordinated with a VP with dative subject are ungrammatical. She concludes from this that the unexpressed subject must have case. Adam Przepiórkowski informed me that this does not hold for Polish, i.e., one can coordinate a VP with an adverbial phrase in the instrumental with a VP with an adverbial phrase in the dative.

This seems to indicate that languages differ in the way they assign case to their (unexpressed) subjects. Since I do not know of any further tests that could be applied for German, I will stick to the assumption that unexpressed subjects have nominative case. Even if one assumed a caseless subject, this subject could not be identical with the case bearing NP argument of a control verb.

[5]Pollard and Sag (1994, p. 139) give the following English example.

(3.45) Die Lehrer, von denen erwartet wird, diesen aufgeputschten
the teachers from whom expected gets these doped
Kohlehydratkolossen etwas beizubringen, verdienen jedermanns
carbohydrate.giants something to.teach deserve everyone's
Anteilnahme.[6]
sympathy

'The teachers who are expected to teach these doped carbohydrate monsters
deserve universal sympathy.'

The case agreeing properties of the adverbial phrase actually help to disambiguate
scopings in coherent constructions.

(3.46) a. Der Wächter erlaubte den Einbrechern einem nach dem anderen
the watchman allowed the burglars-DAT one-DAT after the other
wegzulaufen.
away.to.run

'The watchman allowed the burglars one after the other to run away.'

b. Der Wächter erlaubte den Einbrechern einer nach dem anderen
the watchman allowed the burglars-DAT one-NOM after the other
wegzulaufen.
away.to.run

'The watchman allowed the burglars to run away, one after the other.'

In (3.46a) only the scope over the main verb *erlauben* is possible, since the adverbial
phrase agrees with an object of this verb, and in (3.46b) only the scope over *weglaufen*
is possible, since the adverbial phrase agrees with the non-overt subject of *weglaufen*.

The interesting thing now is that the situation is different with raising predicates.[7]

(3.47) a. Der Wächter sah den Einbrecher und seinen Helfer
the watchman saw the burglar and his accomplice-ACC
einen nach dem anderen weglaufen.
one-ACC after the other run.away

'The watchman saw the burglar and his accomplice run away, one
after the other.

b. * Der Wächter sah den Einbrecher und seinen Helfer
the watchman saw the burglar and his accomplice-ACC
einer nach dem anderen weglaufen.
one-NOM after the other run.away

With raising predicates the nominative adverbial phrase is ungrammatical, which indi-
cates that the subject of the embedded predicate is actually identical to the object of the
matrix verb, i.e., both syntactic and semantic information is shared and therefore both
the object of the matrix verb and the subject of the embedded predicate are accusative.

(i) Kim appealed to Sandy to cooperate.

[6]Max Goldt, *Die Kugeln in unseren Köpfen*. München: Wilhelm Heine Verlag. 1997, p. 145
[7]As Kordula De Kuthy has pointed out to me, the sentence seems to improve if a pronoun is used.

(i) ?* Der Wächter sah sie$_i$ [einer nach dem anderen]$_i$ weglaufen.
the watchman saw them$_{acc}$ one-NOM after the other run.away

The pronoun is morphologically underspecified for case. For some speakers the nominative is also possi-
ble with full NPs that are unambiguously specified for case.

3.1.4 Copula Constructions

In the following I will apply the coherence tests that were introduced in section 3.1.2 to adjective copula constructions and will show that these constructions are in many respects like coherent constructions.

3.1.4.1 Scope of Adjuncts

As within coherent combinations of verbs, different scopings can also be observed in copula constructions:

(3.48) weil   ihr der Mann immer treu   sein wollte.
        because her the man   always faithful be   wanted.to

         'because the man always wanted to be faithful to her.'
         'because the man wanted to be always faithful to her.'

The sentence in (3.48) has the two readings that are indicated in the translation, but here the situation is less clear, since the two readings may be due to the ambiguity between the modification of the copula and the modal. However, there are sentences like (3.49) where the adjective is fronted together with the adverbial.

(3.49) Immer treu   wollte   er ihr sein.
        always faithful wanted.to he her be

         'He wanted to be faithful to her forever.'

Because of such sentences, the possibility of adverbs modifying adjectives directly cannot be ruled out in general. Note furthermore, that the sentence in (3.49) is not ambiguous. So according to the scope tests that were discussed in section 3.1.2.1, *immer treu* should be one separate coherence field.

What is clear, however, is that the phrase *ihr immer treu* in (3.50) cannot be a closed AP in the wide scope reading, since then the scoping of the adverb over a predicate outside the domain of the AP could not be explained.

(3.50) weil   der Mann ihr immer treu   sein wollte.
        because the man   her always faithful be   wanted.to

         'because the man always wanted to be faithful to her.'
         'because the man wanted to be faithful to her forever.'

3.1.4.2 Permutation in the *Mittelfeld*

In copula constructions the subject of the clause and complements of the adjective can be permuted. The following sentences by den Besten (1985, p. 60) can be explained if an analysis is provided for the permutations in the sentences that were examined in section 3.1.2.2, and if it is assumed that *klar* and *war* are in the same coherence field, form the *Schlußfeld* and have the same *Restfeld*.

(3.51) a. daß die Sache   dem Minister   ganz   klar war.
            that the matter-NOM the   minister-DAT completely clear was

            'that the matter was completely clear to the minister.'

        b. daß dem Minister   die Sache   ganz klar war.
            that the   minister-DAT the matter-NOM fully clear was

3.1.4.3 Intraposition and Extraposition

While the examples in (3.51) and (3.48) show that the coherent construction of adjective and copula is possible, it is not clear whether this is the only option, or whether the incoherent construction is also possible. At first glance the examples in (3.52) seem to be instances of the incoherent construction.[8]

(3.52)   a.   Sie   wuchsen in einem gesellschaftlichen Klima   auf,   das *freier*
             they grew   in a   social   climate PART(up) that freer
             in Deutschland nie   *war*.[9]
             in Germany   never was

             'They grew up in a social climate that was freer than ever in Germany.'

        b.   Dabei könnte die Begründung des   Urteils *absurder*   nicht
             that.at could   the reason   (for).the verdict more.absurd not
             sein: [. . .][10]
             be

             'Yet the reason for the verdict could not be more absurd.'

        c.   daß *passivierbar* nur   solche Verben *sind*, die   ein (aktionales)
             that passivizeable only such   verbs   are   that a   (actionable)
             Tätigkeitsprädikat ausdrücken [. . .][11]
             action.predicate   express

             'that only verbs expressing an action predicate can be passivized.'

It is unclear whether these constructions should be regarded as incoherent variants of adjective copula combinations or as a special serialization of the elements that take part in complex formation. The adjectives in (3.52) are all intransitive. Examples where adjectives are intraposed together with one of their complements are very rare.

(3.53)   a.   Auch die Uminterpretation bei   den nullstelligen
             also   the reinterpretation   with the   zero-valent
             Resultativkonstruktionen und die Selektionsbeschränkungen bei   den
             resultative.constructions   and the selection.restrictions   with the
             intransitiven Basisverben zeigen, daß *ausschlaggebend für die*
             intransitive   basis.verbs   show   that decisive   for the
             Interpretation abgeleiteter Verben bestimmte semantische
             interpretation derived   verbs   certain   semantic
             Interpretationsmuster *sind*, die   sich aus der Einbindung der
             interpretation.models are   which self out the inclusion   of.the
             semantischen Argumente in die Verbinformation ergeben [. . .][12]
             semantic   arguments   in the verb.formation   result

             'The reinterpretation of zero-valent resultative constructions and the selection restrictions of intransitive basis verbs also shows that certain semantic interpretation models that are produced by including the semantic arguments in the verb information are decisive for the interpretation of derived verbs.'

---

[8]Hoberg (1997, p. 1574) discusses examples that are similar to (3.52a) and (3.52b) in the context of negation. Note that none of the examples in (3.52c), (3.53a), and (3.53b) is negated.

[9]taz, 01.07.1995, p. 10 „Immer noch Angst? – Zu den Christopher-Street-Day-Paraden dieses Jahres"

[10]taz, 17.02.1999, p. 12

[11]In the main text of (Helbig, 1987, p. 228).

[12]In the main text of (Kaufmann, 1995, p. 162).

b. Szabolsci und Zwarts legen überzeugend dar,   daß *entscheidend für*
    Szabolsci and Zwarts lay   convincingly PART that decisive   for
    die fraglichen   Zusammenhänge die inhaltlichen
    the under.discussion correlations   the regards.content
    Eigenschaften jener   komplexen Funktionen *sind*, die   sich bei der
    properties   of.those complex   functions   are   which self at the
    nach Auffassung der   EKG mit 'langen' Extraktionen verbundenen
    after opinion   of.the EKG with long   extractions   connected
    Funktions-Komposition ergeben.[13]
    functional.composition arise
    'Szabolsci and Zwarts argue convincingly that what is decisive for the
    correlations under discussion is the properties of those complex func-
    tions, which, according to Extended Categorial Grammar, arise from
    function composition which is connected to 'long' extraction.'

(3.53) were the only examples I could find so far. Handmade examples as the one in
(3.54) are rather strange.

(3.54)   ? weil   stolz auf seinen Sohn nur   Karl gewesen ist.
           because proud of his   son   only Karl been   has
           'because only Karl was proud of his son.'

As I pointed out in (Müller, 1999a, Chapter 18.4.3), examples like (3.55b–c) and
(3.56b,d) are predicted to be possible in analogy to the incoherent verbal constructions
in (3.57) and (3.58).

(3.55)   a.   Karl ist auf seinen Sohn stolz   gewesen.
               Karl is on his   son   proud been
               'Karl was proud of his son.'

         b.   * Karl ist gewesen auf seinen Sohn stolz.
               Karl is been   on his   son   proud

         c.   * Karl ist gewesen stolz   auf seinen Sohn.
               Karl is been   proud on his   son

(3.56)   a.   der Sohn, auf den   Karl stolz   gewesen ist
               the son   on whom Karl proud been   has
               'the son, of whom Karl was proud'

         b.   * der Sohn, auf den   stolz Karl gewesen ist
               the son   on whom proud Karl been   has

         c.   die Sache, derer sich Karl sicher gewesen ist
               the thing   which self Karl sure   been   has
               'the thing that Karl was sure of'

         d.   * die Sache, derer sich sicher Karl gewesen ist
               the thing   which self sure   Karl been   has

(3.57)   Karl hat versucht, dem Mann zu helfen.
         Karl has tried   the man   to help
         'Karl tried to help the man.'

---

[13]In the main text of (Jacobs, 1991, p. 47).

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(3.58) der Mann, dem zu helfen Karl versucht hat
the man who to help Karl tried has

'the man, who Karl tried to help'

However, (3.55b–c) and (3.56b,d) are ungrammatical. The sentences in (3.52) follow a special intonation pattern and I will therefore assume that the intraposition of adjectives is a special discontinuous serialization of the predicate complex. I will follow Hoberg (1997, p. 1574) and call this construction *focus split*.

3.1.4.4 Expletive Predicates and Subjectless Constructions

Having dealt with the question whether the copula and the dependent predicate are members of the same coherence field, I will now turn to the question whether the copula is a raising or a control predicate. The examples in (3.59) show that the embedding of subjectless predicates like *schulfrei* and *schlecht* and the embedding of expletive predicates like *laut* is possible.[14]

(3.59) a. Am Montag ist schulfrei.
at.the Monday is school.free

'There is no school on Monday.'

b. weil schulfrei ist.
because school.free is

'because there is no school.'

c. Ihm wurde schlecht.
him-DAT got sick

'He got sick.'

d. Für dich ist immer offen.
for you is always open

'It is always open for you.'

e. Mir ist dabei bang.
me is there.with scared

'I feel uneasy about it.'

f. In der Mensa ist es laut.
in the commons is it-EXPL loud

'It is loud in the commons.'

The adjective *schulfrei* in (3.59a) does not predicate over the PP as is shown by (3.59b). The adjective *laut* also has a non-expletive version, and (3.59d) is actually ambiguous between the expletive and the non-expletive reading. With the expletive predicate (3.59d) means that the people, machines, or whatever, in the commons are loud, whereas in the non-expletive reading the *es* could refer to a child.

The copula as used with adjectives does not introduce its own relation, it merely provides the verbal features that may be needed by other predicates that embed the copula construction and agreement information (Paul, 1919, p. 41). It is interesting to note in this context that there are actually main clauses in German that consist of a predicate and a clause that depends on this predicate, but no copula (see also (Paul, 1919, p. 41) for more examples).

---

[14](3.59d) and (3.59e) are quoted from (Haider, 1986a, p. 18).

(3.60)   a. Doch egal,   was   noch passiert, der Norddeutsche
             but   never.mind what still happens the North.German
             Rundfunk   steht   schon   jetzt als Gewinner fest.[15]
             broadcasting.company stands already now as winner   PART
             'But never mind what happens, it is already certain that the Norddeut-
             scher Rundfunk (North German broadcasting company) will be the win-
             ner.'

        b. Interessant, zu erwähnen, daß ihre Seele völlig   in Ordnung war.[16]
             interesting to mention   that her soul   completely in order   was
             'It is interesting to point out that she was completely sane.'

        c. Ein Treppenwitz der   Musikgeschichte, daß die Kollegen   von
             a   stair.joke   of.the music.history   that the colleagues of
             Rammstein vor   fünf Jahren noch im   Vorprogramm von Sandow
             Rammstein before five years   still in.the before.program of   Sandow
             spielten.[17]
             played
             'It is an irony of musical history that the colleagues from (the band)
             Rammstein were still playing as the support group of Sandow a few
             years ago.'

The sentences in (3.60) correspond to the sentences in (3.61).

(3.61)   a. Doch was   noch passiert, ist, egal,   . . .
             but   what still happens is   never.mind

        b. Zu erwähnen, daß ihre Seele völlig   in Ordnung war, ist
             to mention   that her soul   completely in order   was is
             interessant.
             interesting

        c. Daß die Kollegen   von Rammstein vor   fünf Jahren noch im
             that the colleagues of   Rammstein before five years   still in.the
             Vorprogramm   von Sandow spielten ist ein Treppenwitz der
             before.program of   Sandow played is a   stair.joke   of.the
             Musikgeschichte.
             music.history

Such constructions are less acceptable with NPs as subjects, but not totally impossible:

(3.62)   a. * Doof   Peter.
                stupid Peter

        b. ? Interessant auch das neue Buch von Hornby.
                interesting also the new book by   Hornby
                'The new book by Hornby is also interesting.'

        c. Niemand da?[18]
             nobody   there
             'Is anybody there?'

---

[15]Spiegel, 12/1999, p. 258
[16]Michail Bulgakow, *Der Meister und Margarita*. München: Deutscher Taschenbuch Verlag. 1997, p. 422
[17]Flüstern & Schweigen, taz, 12.07.1999, p. 14
[18]Paul (1919, p. 13)

3.1.4.5 Fronting

The examples in (3.63) show that as with verbs, it is possible to front adjectives, while their complements stay behind in the *Mittelfeld*.[19]

(3.63)   a. Treu   will   Karl seiner Frau sein.
             faithful wants Karl his   wife be

             'Karl wants to be faithful to his wife.'

      b. Treu geblieben ist sich Dieter Kunzelmann also auf jeden Fall.[20]
          true stayed   is self Dieter Kunzelmann so   on each case

          'So Dieter Kunzelmann certainly remained true to himself.'

      c. Gespannt   darf man darauf sein, wieweit   die 'PC-Terminals'
          in.suspense can one this.on be   to.what.degree the 'PC-Terminals'
          Akzeptanz finden werden.[21]
          acceptance find   will

          'We can remain in suspense what concerns the degree to which PC terminals will be accepted.'

      d. Stolz bin ich nicht auf meinen Bart, sondern darauf, ihn zu zeigen.[22]
          proud am I   not   of my   beard but   this.of him to show

          'I'm not proud of my beard itself, but I am proud of showing it.'

It is also possible to front the copula together with the adjective, but the fronting of the copula alone is not possible, as (3.65) shows.

(3.64)   Treu   sein will   Karl seiner Frau.
           faithful be   wants Karl his   wife

Like (3.25c), (3.65) is ungrammatical.

(3.65)   * Sein will   Karl seiner Frau treu.
            be   wants Karl his   wife faithful

So, if one assumes that *treu*, *sein*, and *will* form a predicate complex, the ungrammaticality of (3.65) is accounted for if an analysis is provided that explains why it is impossible to front something out of the middle of the predicate complex leaving the rest of the predicate complex behind.

3.1.5 Subject Raising Verbs

Most subject raising verbs appear only in coherent constructions. But there is a class of phase verbs that can also appear in incoherent constructions.

3.1.5.1 Scope of Adjuncts

The examples in (3.66) show that both narrow and wide scope of the adjunct is possible with raising verbs like *scheinen*.

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[19]See also (Müller, 1997b).
[20]taz, 04./05.04.1998, p. 4
[21]c't, 4/96, p. 14
[22]taz, 08./09.03.1997, p. 20

(3.66) daß Karl Maria nicht zu lieben scheint.
that Karl Maria not   to love   seems

'that Karl does not seem to love Maria.'
'that Karl seems not to love Maria.'

3.1.5.2 Permutation in the *Mittelfeld*

The examples in (3.67) show that NPs that depend on the embedded verb can be scrambled with NPs that depend on the matrix verb.

(3.67) a. daß niemandem der Mann   zu schlafen scheint.
that nobody-DAT the man-NOM to sleep   seems

'That the man doesn't seem to be asleep to anyone.'

b. daß der Mann   niemandem zu schlafen scheint.
that the man-NOM nobody-DAT to sleep   seems

The subject of a phase verb can also be permuted with the object of the embedded verb.

(3.68) a. Leise   begann der Tote   sich zu bewegen.
quietly began   the dead.man self to move

'The dead man began to move quietly.'

b. Leise   begann sich der Tote   zu bewegen.[23]
quietly began   self the dead.man to move

3.1.5.3 Intraposition and Extraposition

Most of the raising verbs do not allow for intraposition (3.69b) or extraposition (3.69c).

(3.69) a.   daß Karl Maria zu lieben scheint.
that Karl Maria to love   seems

'that Karl seems to love Maria.'

b. * daß Karl Maria zu lieben zumindest scheint.
that Karl Maria to love   at.least   seems

Intended: 'that Karl at least seems to love Maria.'

c. * daß Karl scheint, Maria zu lieben.
that Karl seems   Maria to love

So-called phase verbs like *anfangen* ('start'), *aufhören* ('stop'), and *beginnen* ('begin') are the only exception.

(3.70) a. Er hatte das Buch zu lesen begonnen.
he had   the book to read begun

'He had begun to read the book.'

b. Er hatte begonnen, das Buch zu lesen.
he had   begun   the book to read

'He had begun to read the book.'

Phase verbs allow extraposition of the infinitival complement.

In the sentence in (3.71a) there is ambiguity as to whether *versprechen* is a raising verb or a control verb.

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[23](Bech, 1955, p. 121)

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(3.71) a. weil   Peter ein erfolgreicher Sportler   zu werden versprach.
              because Peter a   successful   sportsman to become promised

             'because Peter promised to become a successful sportsman.'
             'because it was very likely that Peter would become a successful sportsman.'

      b. weil   Peter versprach, ein erfolgreicher Sportler   zu werden.
              because Peter promised a   successful   sportsman to become

             'because Peter promised to become a successful sportsman.'

Since extraposition with the raising verbs is not possible (except for phase verbs), the extraposition in (3.71b) disambiguates the sentence. See also (Netter, 1991, p. 5) on this.

Meurers (2000, p. 43) uses the examples in (3.72), which I found in a newspaper and a magazine, in addition to examples with phase verbs to show that raising and coherence are independent phenomena.

(3.72) a. Im Herbst schließlich stoppte Apple die Auslieferung einiger Power
             in fall   finally   stopped Apple the delivery   of.some Power
             Books, weil   sie drohten   sich zu überhitzen und in Flammen
             Books because they threatened self to overheat   and in flames
             aufzugehen.[24]
             up.to.go

             'In fall, finally, Apple stopped the delivery of some Power Books since there was danger that they would overheat and go up in flames.'

      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.[25]
             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.'

These sentences seem rather strange to me, and the reason for this is that phrases have been forced into a linearization pattern that is possible only with the control readings of *drohen*. I regard the sentences in (3.72) as exceptions. As far as I know, phase verbs are the only subclass of raising verbs that allows for the incoherent construction.

3.1.6 Subject Control

Most of the examples that will be discussed in this section, have already been used in section 3.1.2.1 to demonstrate coherence tests.

3.1.6.1 Scope of Adjuncts

As was discussed in section 3.1.2.1, subject control verbs may construct coherently. In coherent constructions wide scope of adverbs is possible.

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[24]taz 20./21.01.1996, p. 7
[25]Spiegel, 41/1999, p. 103

(3.73) weil   Karl ihm nicht einzuschlafen   verspricht.
        because Karl him not   PART (in).to.sleep promises

        'because Karl promises him to not fall asleep.'
        'because Karl does not promise him to fall asleep.'

3.1.6.2   Permutation in the *Mittelfeld*

As the examples in (3.74) show, there are subject control verbs that allow for the permutation of the complements of the matrix and the embedded verb.

(3.74) weil   Karl dem Mann   das Buch zu lesen verspricht.
        because Karl the man-DAT the book to read promises

        'because Karl promises the man to read the book.'
        weil   Karl das Buch dem Mann   zu lesen verspricht.
        because Karl the book the man-DAT to read promises

In examples with pronouns the serialization of the short *es* to the left of the complements of the matrix verb is the preferred one.

(3.75) weil   es   ihm   jemand   zu lesen versprochen hat.[26]
        because it-ACC him-DAT somebody to read   promised   has

        'because somebody promised him to read it.'

It is often claimed that control verbs that take an object do not appear in coherent constructions. *versprechen* is a subject control verb with a dative complement that can appear in coherent constructions. In section 3.1.8 I will show that coherent constructions are also possible with object control verbs although this is often denied.

3.1.6.3   Intraposition and Extraposition

Subject control verbs allow for the intraposition (3.76) and the extraposition (3.77) of their infinitival complement.

(3.76) weil   Karl das Rennen zu gewinnen nicht versuchen will.
        because Karl the race   to win   not try   wants.to

        'because Karl does not want to try to win the race.'
        'because Karl wants not to try to win the race.'

(3.77) weil   Karl versuchen will,   das Rennen zu gewinnen.
        because Karl try   wants.to the race   to win

        'because Karl wants to try to win the race.'

3.1.7   Object Raising Verbs: AcI-Verbs

The term AcI stands for accusative with infinitive. They are sometimes also called Exceptional Case Marking (ECM) verbs. Examples are perception verbs and the causative and permissive *lassen*.

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[26](Haider, 1986b, p. 110; 1990a, p. 128)

3.1.7.1 Scope of Adjuncts

In the example in (3.78) the negation may scope over either verb, as it is known from other coherent constructions.

(3.78)   daß ich den Jungen das Buch nicht holen ließ.
          that I   the boy   the book not get   let

          'that I didn't have/let the boy get the book.'
          'that I had/let the boy not get the book.'

With perception verbs the different scopings of the negation cannot be observed, since it is impossible to hear somebody not singing, but as Pütz (1982, p. 340) shows, other adjuncts can be used to detect the scope differences.

(3.79)   Peter hat es   im   Laboratorium blitzen   sehen.
          Peter has it-EXPL in.the lab   lightning seen

          'Peter saw lightning in the lab.'

In one reading the lightning is in the lab and Peter sees it, and in the other reading Peter himself is in the lab and sees the lightning, but nothing is said about the location of the lightning. The lightning can be outside the lab.

3.1.7.2 Permutation in the *Mittelfeld*

It is sometimes claimed that the accusative of the matrix verb has to be placed before the accusative of the embedded verb (Eisenberg, 1999, p. 356). As the examples in (3.80b) and (3.81) show, this is not right.

(3.80)   a. Ich ließ den Jungen   das Buch   holen.
              I   let the boy-ACC the book-ACC get

              'I had/let the boy get the book.'

         b. Ich ließ es   (das Buch)   den Jungen   holen.[27]
              I   let it-ACC the book-ACC the boy-ACC get

(3.80a) shows the order where the complement of *holen* is adjacent to it, and in (3.80b) the object of the embedded verb is separated from this verb by the accusative that is the logical subject of *holen*.

(3.81)   Schau auf zum   Himmel
          look up to.the sky
          Diese Erde, sie ist gelb   wie Stroh
          this   earth she is yellow like straw
          Komm, laß *sie uns* verbrennen
          come   let she us   burn
          Ich will es so
          I   want it so
          Jetzt weißt du,   wer ich bin[28]
          now you   know who I   am

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[27](Bech, 1955, p. 136)

[28]Herwig Mitteregger, *Herzlichen Glückwunsch*, CBS Schallplatten GmbH, Germany, 1982, see also (Müller, 1999a, p. 172).

'Look up to the sky \\ This earth is as yellow as straw \\ Come on, let's burn it \\ I want that \\ Now you know who I am'

In (3.81) the two accusatives are pronouns. From the context it is clear that *sie* is the object of *verbrennen*.

It is also possible to realize dative objects to the left of the AcI accusative.

(3.82) Man ließ der Feuerwehr   am   nächsten Tag die Polizei   helfen.[29]
        one let the fire.brigade-DAT at.the next   day the police-ACC help

        'One had the police help the fire brigade the next day.'

For sentences like (3.83) the order where the dative precedes the accusative is the preferred one, since there is a tendency in German for NPs that refer to animate entities to precede those that refer to inanimate entities (Hoberg, 1981, p. 46).

(3.83) Karl sieht seinem Gläubiger   einen Ziegel   auf den Kopf fallen.
        Karl sees his   creditor-DAT a   brick-ACC on the head fall

        'Karl sees a brick fall on his creditor's head.'

Even the subject of the matrix verb can follow the accusative or dative object of the embedded verb, although this also is often denied (Grewendorf, 1987, p. 138, Grewendorf, 1988, p. 284; Wurmbrand, 1998, p. 207).

(3.84) daß ihn   (den Erfolg) uns   niemand   auskosten ließ.[30]
        that it-ACC the success us-ACC nobody-NOM enjoy   let

        'that nobody let us make the most of it.'

The permutation is only possible, if the sentence remains understandable, i.e., if the reading of the sentence does not change when the accusatives are permuted.

(3.85) a. Der König ließ den Ritter die Frau   heiraten.
            the king   let the knight the woman marry

            'The king let the knight marry the woman.'

        b. Der König ließ die Frau   den Ritter heiraten.
            the king   let the woman the knight marry

            'The king let the woman marry the knight.'

The sentences in (3.85) can hardly be assigned the same meaning. The same constraint on permutations can be observed in sentences where the case of NPs is morphologically underspecified, for instance between nominative and accusative and in copula constructions with two nominatives (Müller, 1999a, p. 171–173). In general it can be said that the permutation of two elements with the same (morphological) case is possible, provided the hearer/reader is able to understand the utterance in the intended reading. The same observation was made by Kuno (1980, p. 175) for Japanese.

The most interesting example in this context is (3.81), which shows that the resolution of discourse referents is important for linearization. The pronouns in (3.81) do not have any features that can be referred to in a clause internal way. Without resolving the reference of the pronouns nothing about their permutability can be said.

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[29](Bierwisch, 1963, p. 125)

[30]Haider (1991, p. 5) attributes a similar example to Tilman Höhle. See also (Haider, 1990a, p. 136).

3.1.7.3 Intraposition and Extraposition

The infinitive that depends on an AcI verb cannot be intraposed.

(3.86) a. daß ich den Jungen das Buch holen ließ / sah.
            that I   the boy   the book get   let   saw
            'that I had / saw the boy get the book.'

b. * daß ich das Buch holen den Jungen ließ / sah.
            that I   the boy   get   the book let   saw

c. * daß den Jungen das Buch holen niemand ließ / sah.
            that the boy   the book get   nobody let   saw
            Intended: 'that nobody let / saw the boy get the book.'

Extraposition of the infinitive is also impossible:

(3.87) a. * daß ich ließ / sah, den Jungen das Buch holen.

b. * daß ich den Jungen ließ / sah, das Buch holen.

3.1.7.4 Expletive Predicates and Subjectless Constructions

As was already discussed in section 3.1.3.2, perception verbs like *sehen* are raising verbs. They allow the embedding of expletive and subjectless predicates (Reis, 1976a, p. 66; Höhle, 1978, p. 70).[31,32]

(3.88) a. Karl sah es   regnen.
            Karl saw it-EXPL rain

b. ? Ich sah ihm   schlecht werden.
            I   saw him-DAT feel.sick become
            'I saw him getting sick.'

The same is true for *lassen*.

(3.89) Er läßt es   regnen.
        he lets it-EXPL rain

---

[31]Note that (3.88b) is an example where a form of *sein* is embedded under a perception verb. Reis' claim (1976a, p. 66) that the embedding of *sein* under *lassen* is not possible cannot be upheld in the light of data like (i).

(i) a. Es ist möglich, die Subjekts-Anhebung, so   wie sie in (97) syntaktisch   dargestellt   wurde,
            it is possible the subject.raising   such as she in (97) syntactically represented was
            auch für Sätze   wie (144) und (145) relevant sein zu lassen.
            also for sentences like (144) and (145) relevant be   to let
            'It is possible to apply the subject raising that was syntactically represented in (97) to sentences like (144) and (145) as well.' (In the main text of (Pütz, 1982, p. 350))

b. das „Dativisierungs"-Phänomen, das den Satz   [. . .] ungrammatisch sein läßt,
            the dativisation.phenomenon   that the sentence   ungrammatical be   lets
            'the dativisation phenomenon that makes the sentence ungrammatical' (In the main text of (Grewendorf, 1983, p. 141)).

The more general claim by Suchsland (1995, p. 72; 1997, p. 149) that *sein* is impossible under AcI verbs is contradicted by both (i) and (3.88b). I do not deny that the examples that the authors provide are ungrammatical, but this is not due to a general impossibility of such embeddings.

[32]The examples in (3.88) show that a control analysis for *sehen* as suggested by Heinz and Matiasek (1994, p. 231) is not appropriate.

(3.89) has the reading that he lets it rain and tolerates getting wet, but it can also mean that he causes the rain. In the Soviet Union the clouds were made to rain each first of May before the parades. Today such techniques are still applied to prevent damage caused by hail. So, both the causative and the permissive versions of *lassen* allow the embedding of expletive predicates. The context is different for (3.90), but there are also two readings.

(3.90) Er läßt es   Konfetti regnen.
        he lets it-EXPL confetti rain

        'He had it rain confetti.'
        'He let it rain confetti.'

It is sometimes claimed that the *es* of weather verbs is not really an expletive (Paul, 1919, p. 35), but the following example leaves no doubt about the possibility of embedding expletive predicates under *lassen*.

(3.91) Er läßt es   sich gut   gehen.
        he lets it-EXPL self good go

The situation with subjectless constructions is less clear.

(3.92) a. ? Er ließ ihm schlecht werden und kümmerte sich nicht drum.
               he let   him feel.sick become and cared   self not   it.about
               'He let him get sick and did not care.'

        b. ?? Der Versuchsleiter   gab ihm die Probe   und ließ ihm schlecht
               the experiment.head gave him the sample and let   him sick
               werden.
               become
               'The leader of the experiment gave him the sample and made him feel sick.'

        c. ? Er ließ den Studenten vor   der Prüfung grauen und kümmerte sich
               he let   the students   before the exam   dread   and cared   self
               nicht drum.
               not   it.about
               'He let the students dread the exam and did not care.'

        d. * Er gab den Studenten eine schwere Probeklausur und ließ ihnen
               he gave the students   a   heavy   test.exam   and let   them
               vor   der Prüfung grauen.
               before the exam   dread
               Intended: 'He set the students a difficult mock exam and made them dread the real one.'

Embedding of subjectless predicates under the permissive *lassen* (3.92a,c) seems to be better than embedding them under the causative version (3.92b,d).

   They do not assign a thematic role to the subject of the embedded verb. For cases where the embedded verb has a referential subject, it is sometimes claimed that the matrix verb actually assigns a thematic role. Eisenberg (1994, p. 387), for instance, claims that (3.93b) follows from (3.93a).

(3.93) a. Ich sehe Hans rauchen.
            I   see   Hans smoke

b. Ich sehe Hans.
I   see   Hans

But this is not necessarily the case, as (3.94) shows.

(3.94)   Ich sehe jemanden rauchen.
I   see   somebody smoke

'I (can) see somebody smoking.'

(3.94) can be uttered in a situation were somebody is smoking behind a screen and only the smoke is visible. Kirsner and Thompson (1976) showed convincingly that the information that if one sees Hans smoking one usually sees Hans, is not included in the meaning of *sehen*, but is inferred via world knowledge. On page 209 they provide examples with different perception verbs that can also be transferred to German.

(3.95)   a. Wir haben das unsichtbare Nervengas alle Schafe töten sehen, aber natürlich haben wir das unsichtbare Nervengas selbst nicht gesehen.

'We saw the invisible nerve gas kill all the sheep (but of course we didn't actually see the invisible nerve gas itself).'

b. Ich fühlte Georg sich auf das andere Ende des Wasserbetts setzen, aber natürlich habe ich ihn selbst nicht gefühlt.

'I felt George get on the other end of the water bed (but, of course, I didn't actually feel George).'

c. Ich roch Sylvia das Wohnzimmer aussprühen, aber ich konnte Sylvia selbst nicht riechen.

'I smelled Sylvia spraying the living room (but I couldn't smell Sylvia herself).'

d. Von meinem Beobachtungspunkt, der fünfzehn Kilometer weit entfernt war, sah ich sie die Brücke sprengen, aber es erübrigt sich zu sagen, daß ich die einzelnen Arbeiter aus der Entfernung nicht sehen konnte.

'From my vantage point 10 miles away, I watched them blow up the bridge (but, needless to say, from that distance I couldn't see the individual commandos involved).'

e. Wir hörten den Farmer das Schwein schlachten.[33]

'We heard the farmer slaughter the pig.'

These examples show that situations can be perceived globally, without perceiving the referent of subject of the embedded verb in the same manner.

3.1.8   Object Control

Some authors have claimed that coherent constructions are only possible with subject control verbs (Sternefeld, 1985, p. 276). As I will show in the following, coherent constructions are possible both with object control verbs that take a dative object and with object control verbs that take an accusative object.

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[33]De Geest (1970, p. 45) gives this example in Dutch. What was probably heard is not the farmer but the pig.

3.1.8.1   Scope of Adjuncts

Jacobs (1991, p. 20) provides the following sentences.

(3.96)   a.   weil   er   dem Mann   den Kindern   sicher zu helfen
              because he-NOM the   man-DAT the children-DAT surely to help
              verbietet.
              forbids
              'because he surely forbids the man to help the children.'

        b.   weil   er   das Buch   den Kindern   sicher zu lesen
              because he-NOM the   book-ACC the children-DAT surely to read
              verbietet.
              forbids
              'because he surely forbids the children to read the book.'

Both sentences have a wide scope reading. The wide scope reading would be impossible for (3.96a) if *den Kindern sicher zu helfen* were a separate coherence field. Jacobs marks the example with two datives with a question mark, but judges (3.96b) okay. He assumes that a valencey list that is the result of a valence transfer of complements from the embedded verb to the matrix verb has to have the form of valency lists that are known from simplex lexical entries.[34] As he notes himself, according to these assumptions, examples like (3.96a) should not be possible, since German does not have simplex heads that take two datives.

He gives the sentence in (3.97a) without a question mark.[35]

(3.97)   a.   weil   er   es   sie   tatsächlich zu reparieren bat.[36]
              because he-NOM it-ACC she-ACC actually   to repair   asked
              'because he actually asked her to repair it.'
              'because he asked her to really repair it.' (as opposed to pretending to
              repair it or not repairing it properly)

        b.   weil   der Fritz   es   ihn   nicht zu lesen bat[37]
              because the Fritz-NOM it-ACC him-ACC not   to read asked
              'because Fritz asked him not to read it.'
              'because Fritz didn't ask him to read it.'

In these examples both scopings are possible since both predicates are compatible with the adverb. If one assumes an argument composition approach, the resulting argument structure has two structural accusatives, and there are no simplex verbs with two structural accusatives. There are verbs like *lehren* that govern two accusatives, but one of them is lexical.

Bayer and Cornfilt (1989, p. 37) and Haider (1990a, p. 136) explicitly claim that coherent constructions with control by an accusative object are impossible. Like Jacobs, Haider (1986b, p. 94; 1990a, p. 131) assumes that verbal complexes in coherent

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[34]Haider (1986b, p. 94; 1990a, p. 131), Kiss (1995, p. 215), and Kathol (2000, p. 32) make the same assumption. Kiss admits that this assumption is incompatible with an argument composition approach to AcI constructions.

[35]Note that both sentences in (3.96) are ambiguous. The pronoun *es* may refer to a book or to a child or girl. Likewise, *sie* may refer to a newspaper (*Zeitung*) or a female, and *ihn* may refer to an essay (*Aufsatz*) or a male. Depending on the reference of the pronouns, the sentences in (3.97) have permuted or non-permuted elements in the *Mittelfeld*.

[36](Jacobs, 1991, p. 20)

[37](Reape, 1994, p. 174)

Draft of January 12, 2001. Comments Welcome!

constructions have an argument structure that can also be found with simplex verbs. Since there are no simplex verbs with two structural accusatives in German, Haider's assumption is falsified by sentences like (3.97).

The translation of (3.97b) already showed that two readings are possible with object control verbs. As Askedal (1988, p. 13) noted, (3.98) is also an instance of a coherent construction.

(3.98) Keine Zeitung   wird ihr   zu lesen erlaubt.[38]
        no   newspaper-NOM was her-DAT to read allowed

        'She is not allowed to read any newspapers.'

The negation that is contained in *keine* may scope over *erlauben*, which would be impossible for an argument of *lesen* in an incoherent construction.

3.1.8.2 Permutation in the *Mittelfeld*

The examples in (3.99) show that the permutation of elements in the *Mittelfeld* is possible.

(3.99)   a. weil   dieses Machwerk   kein Vater   seinen Kindern
            because this   sorry.effort-ACC no father-NOM his   children-DAT
            zu lesen erlauben würde.[39]
            to read permit   would
            'because no father would permit his kids to read such a sorry effort.'
         b. daß ihn   (den Erfolg) uns   niemand   auszukosten erlaubte.
            that him-ACC the success us-DAT nobody-NOM to.enjoy   permitted
            'that nobody permitted us to enjoy the success.' [40]

The sentences in (3.97) also constitute examples for permutation if the *es* refers to an inanimate discourse referent. See footnote 35.

3.1.8.3 Intraposition and Extraposition

Both intraposition (3.100a) and extraposition (3.100b) is possible.

(3.100) a. daß Karl   [den Aufsatz   zu lesen] niemandem versprochen hat.
            that Karl-NOM the essay-ACC to read   nobody-DAT promised   has
            'that Karl didn't promise anybody to read the essay.'
         b. daß Karl   niemandem versprochen hat, [den Aufsatz   zu
            that Karl-NOM nobody-DAT promised   has the essay-ACC to
            lesen].
            read
            'that Karl didn't promise anybody to read the essay.'

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[38]Stefan Zweig. *Marie Antoinette*. Leipzig: Insel-Verlag. 1932, p. 515, quoted from (Bech, 1955, p. 309).
[39](Reape, 1994, p. 174)
[40]Haider (1991, p. 5) attributes a similar example to Tilman Höhle.

3.1.9 Subject and Object Predicatives

Verbs like *aussehen* ('look' in the sense of appearance, not seeing), *erscheinen* (*als / wie*) ('seem'), *gelten als* ('to be considered to be'), *sich erweisen als* ('to turn out to be'), *sich zeigen als* ('to appear as'), *sich ausgeben als* ('to pretend to be someone'), *sich geben* (*als*) ('to behave like'), *jemandem vorkommen (wie)* ('to seem to somebody to be'), *nennen* ('call'), *ansehen als* ('to regard as'), *empfinden als* ('to perceive as'), *finden* ('find'), and *sich vorstellen als* ('to imagine something to be') embed a predicate.

The subject of the embedded predicate is raised to the subject (3.101) or to the object (3.102) of the matrix verb.

(3.101) a. weil   die Ablösung   der   Großen Koalition kaum noch möglich
              because the replacement of.the big   coalition hardly still possible
              erscheint?[41]
              seems

              'because it hardly seems possible that the grand coalition will be re-
              placed?'

         b. Mir   erscheint das ziemlich klug.[42]
              me-DAT seems   this pretty   smart
              'This seems pretty smart to me.'

         c. Er   sieht gut   aus.
              he-NOM looks good PART(out)

         d. Er   kommt ihm   komisch vor.
              he-NOM comes him-DAT strange   PART
              'He seems strange to him.'

(3.102) a. Türkische Verbände und die Ausländerbeauftragte   nennen die
              Turkish   unions   and the foreigner.representative call   the
              Regelung unzureichend.[43]
              regulation insufficient

              'Turkish unions and the official looking after foreign immigrants call
              the regulation insufficient.'

         b. Ich finde ihn   klug.
              I   find him-ACC smart
              'I find him smart.'

The subject of a predicate is realized in the nominative in copula constructions and in subject predicative constructions as in (3.101), but it is realized as accusative in object predicative constructions like (3.102). As (3.101b) and (3.101d) show, the main verb in subject predicative constructions may have a dative object.

The subject of the embedded predicate may be a clause (3.103a–c) or a *zu*-infinitive as in (3.103d):

(3.103) a. Besonders wichtig   erscheint mir jedoch, dass ihr den Tod   nicht
              particularly important seems   me however that you the death not
              mystifiziert.[44]
              mystify

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[41]taz, 27.08.1999, p. 3
[42]taz, 13.08.1999, p. 20
[43]taz, 25.08.1999, p. 1

'However, what seems of particular significance to me is that you do not mystify the death.'

b. Ich finde gut,   dass ihr   den Tod   nicht mystifiziert.
   I   find   good that you the death not   mystify

   I find it good that you don't mystify the death.'

c. weil   er (es)   schön findet, daß Peter kommt.
   because he it-EXTRA nice   finds   that Peter comes

   'because he finds it nice that Peter is coming.'

d. In jede Schule einen Computer zu stellen und dann zu glauben,
   in each school a   computer to stand   and then to believe

   damit   den Anschluss an die Weltspitze   zu schaffen, findet Peter
   therewith the connection to the world.peak to reach   finds Peter

   Tabeling nur witzig.[45]
   Tabeling only funny

   'Peter Tabeling is only amused by the belief that putting a computer in every school will automatically lead to a connection with the world leaders.'

Many of the predicates that embed another predicate are rather liberal towards the syntactic category of the embedded predicate. While the examples that were discussed above contained only adjectives, NPs and PPs are possible as well.

(3.104) a. Das   erscheint mir   eine hervorragende Idee.[46]
            this-NOM seems   me-DAT an outstanding   idea-NOM

            'This seems an excellent idea to me.'

         b. Er nennt ihn   einen Lügner.
            he calls him-ACC a   liar

         c. Auch Patriarchatskritiker Peter Döge findet den Ukas von   Radeburg
            also patriarchy.critic   Peter Döge finds the Ukas from Radeburg

            eine „tolle Entscheidung".[47]
            a   great decision

            'Even the patriarchy critic Peter Döge considers the ukase of Radeburg to be a "great decision".'

Verbs like *ansehen* ('regard', 'look at'), *aussehen* ('look'/'look like'), *betrachten* ('regard', 'look at'), and *halten für* ('to consider to be'/'to take for') on the other hand, do not allow the direct embedding of a predicate NP. They require a copula particle. Copula particles like *als*, *für*, or *wie* resemble prepositions.

(3.105) a. Das Problem ist, daß sich der Senator selbst für einen Kunstexperten
            the problem is   that self the senator self   for an   art.expert

            hält.[48]
            takes

            'The problem is that the senator considers himself to be an art expert.'

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[44]Le Monde diplomatique, 13.08.1999, p. 12

[45]Spiegel, 13/2000, p. 56

[46]Verb*mobil* Corpus, CD 1

[47]taz, 05.04.2000, p. 4

[48]taz, 16.04.1999, p. 19

b. Er sieht wie ein Penner   aus.
he looks like a   bum-NOM PART (out)

'He looks like a bum.'

c. Er betrachtet ihn   als seinen Konkurenten.
he looks   him-ACC as his   competitor-ACC

'He regards him as his competitor.'

Heringer (1973, p. 173, fn 4, p. 204–205) notes that *als-* and *wie*-phrases also embed adjectives (3.106) and therefore suggests not calling them prepositions, but rather use the term *Identifikationstranslativ* (Identification Translative).

(3.106) a. Die Zahl   der   Aussteller sieht der Messechef als „gestiegen" an.[49]
the number of.the exhibitors sees the fair.boss as risen   at

'The trade fair director considers the number of exhibitors to have risen.'

b. Man hält ihn für verrückt.
one takes him for crazy

'He is taken to be crazy.'

c. Putin erklärt Grosny für erobert.[50]
Putin declares Grosny for taken

'Putin declares Grosny taken.'

The *Handwörterbuch der deutschen Gegenwartssprache* (Kempcke, 1984) calls these elements coordinating conjunctions. Since *als-*, *für-*, and *wie* + NP complement behave like PPs in many respects, I will follow Wunderlich (1984, p. 73) and Fanselow (1986, p. 361) and treat them as PPs.

The verb *erscheinen* can also embed a predicate with a copula particle.

(3.107) a. Der unappetitlichste   kollektive Murks   erscheint ihnen heute als
the most.unappetizing collective botch-up appears   them today as
menschliche Wärme.[51]
human   warmth

'The most unappealing collective botch-up is today regarded as human warmth.'

b. Die Geschichte der   Weathermen erscheint damit   wie eine
the story   of.the weathermen seems   therewith like an
unbewusste Spätfolge jener   antikommunistischen Säuberungen,
unconscious later.result yonder anti-Communist   cleansing
[…][52]

'Hence the story of the Weathermen seems to be a late effect of that (aforementioned) anti-Communist cleansing.'

c. Was mit dem Bürgerbegehren „Rettet das Elbufer"   passiert,
what with the   citizen.desire   Save   the Elbe.banks happens
erscheint mir als schlimmste Bürgerschikane.[53]
seems   me as worst   citizen.harassment

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[49]taz, 06.07.1999, p. 8
[50]taz, 07.02.2000, p. 5
[51]taz, berlin, 16.08.1999, p. 22
[52]taz, 27.08.1999, p. 15

> 'What is happening to the public petition "Save the Banks of the Elbe" seems to me to be the worst possible public harassment.'

Personally, I prefer the sentences with *als* and *wie* to sentences like (3.104a) without a copula particle.

3.1.9.1   Scope of Adjuncts

As Hoeksema (1991a, p. 673) observed, adverbs that refer to the main verb can follow the object in object predicative constructions:

(3.108) weil   ich den Bürgermeister selber ziemlich dumm finde.
           because I   the mayor   myself rather   stupid find
           'because I find the mayor rather stupid myself.'

If *den Bürgermeister ziemlich dumm* were a separate coherence field, sentences like (3.108) were impossible.

The same is true for subject predicative constructions:

(3.109) weil   mir der Bürgermeister selber ziemlich dumm erscheint.
           because me the mayor   myself rather   stupid seems
           'because the mayor seems rather stupid to me.'

3.1.9.2   Permutation in the *Mittelfeld*

In subject predicative constructions where the base verb has an additional argument the NPs can be permuted in the *Mittelfeld*.

(3.110) a. weil   niemandem die Geschichte komisch erschien / vorkam.
                because nobody-DAT the story-NOM strange seemed   appeared
                'because the story did not seem / appear strange to anybody.'

          b. weil   die Geschichte niemandem komisch erschien / vorkam.
                because the story-NOM nobody-DAT strange seemed   appeared

In object predicative constructions, the subject of the embedded predicate and the subject of the matrix verb can be permuted in the *Mittelfeld*.

(3.111) a. daß niemand   ihn   klug findet.
                that nobody-NOM him-ACC smart finds
                'that nobody finds him smart.'

          b. daß ihn   niemand   klug findet.
                that him-ACC nobody-NOM smart finds

The example in (3.111b) shows the order where the subject of *klug* is serialized to the left of the subject of the matrix verb.

3.1.9.3   Intraposition and Extraposition

The embedded predicate in general has to be adjacent to the head by which it is governed in verb final contexts.[54]

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[53]taz, hamburg, 19.08.1999, p. 20

[54]Hoeksema (1991a, p. 674) gives Dutch examples where the embedded predicate and the main verb are separated by an adverb. On page 681 he gives examples that are similar to (3.113).

(3.112) a. weil   er niemanden klug   findet.
             because he nobody   smart finds

             'because he doesn't consider anybody to be clever.'

         b. ?? weil   er klug   niemanden findet.
             because he smart nobody   finds

(3.113) a. weil   er niemandem klug   vorkam.
             because he nobody   smart appeared

             'because he appeared smart to nobody.'

         b. * weil   er klug   niemandem vorkam.
             because he smart nobody   appeared

But again examples with intrapositions can be found:

(3.114) a. Das Pin-up-Girl, welches im Flughafenbus den Weg zum Notausgang
             wies, klärte die Gäste zumindest sofort über die Landesreligion
             auf; dies konnte kein islamisches, mußte ein *christlich* sich *nennendes* Land
             sein.[55]

         b. Diese Flußwelt war vielleicht eine versunkene, versinkende, eine mod-
             rige, alte, aber sie stellte zugleich eine Weltlandschaft dar, wie sie auf
             den niederländischen Gemälden aus dem 17. Jahrhundert mir *so* nie
             vorgekommen ist: eine Urwelt, welche als eine noch unbekannte Zivil-
             isation erschien, zudem eine recht appetitliche.[56]

         c. die Virtuosität pur will einem *so virtuos* nicht mehr *vorkommen*, [...][57]

Such intrapositions are possible as a result of focus split only.

As with the predicates in copula constructions, the extraposition of the predicate is
usually impossible.

(3.115) a. Ich habe ihn für einen Lügner gehalten.
             I   have him for a   liar   taken

             'I took him for a liar.'

         b. * Ich habe ihn gehalten für einen Lügner.
             I   have him taken   for a   liar

However, in book and papers by theoretical linguists I found several extrapositions of
predicative *als* phrases. Some of them are given in (3.116):

(3.116) a. Die Normiertheit   der   Wortschreibung wird meist   in einem noch
             the standardization of.the word.writing   gets mostly in an   even
             höheren Maße   als in der Syntax verstanden als eine Angelegenheit
             higher   measure as in the syntax understood as a   matter
             der   Form.[58]
             of.the form

             'The spelling standards are usually regarded as a matter of form, even
             more so than when syntax is concerned.'

---

[55] Süddeutsche Zeitung, 10.10.1996, p. 52

[56] Süddeutsche Zeitung, 05.01.1996, p. 904

[57] Züricher Tagesanzeiger, 09.03.1996, p. 57

[58] In the main text of (Eisenberg, 1998, p. 13). Another similar example with *verstehen* can be found on
   page 228 of Eisenberg's book.

b. In Analogie zum Phonem [. . .] ist die Formseite des   Morphems
in analogy   to.the phoneme   is the form.side of.the morpheme
aufzufassen   als »Menge von Allomorphen«.[59]
to.be.understood as a.mass of   allomorphs

'In analogy to the phoneme, the formal aspect of the morpheme is to
be understood as a group of allomorphems.'

c. Das Valenzmerkmal läßt sich explizieren als eine Folge   von
the valence.feature lets self explicate   as a   sequence of
Kategorien (also als eine Funktion von einem Zahlenabschnitt in   die
categories i.e. as a   function of a   number.part   into the
Menge der   Merkmalsmengen), [. . .].[60]
set   of.the feature.sets

'The valence feature can be explicated as a sequence of categories (i.e.,
as a function of a numerical domain into the set of the feature sets)
[. . .]'

I leave it open whether the prohibition of extraposition is to be modeled as a strong
preference rule or a strict rule.

3.1.9.4 Expletive Predicates and Subjectless Constructions

The embedded predicate may have an expletive subject, but subjectless constructions
are not allowed.

(3.117) a. Ihnen   kommt es   schon im   Herbst relativ   kalt
them-DAT comes it-EXPL already in.the fall   relatively cold
vor   [. . .][61]
PART(before)

'It seems to them to be relatively cold already in fall.'

b. Ich finde es   zu kalt hier.[62]
I   find   it-EXPL too cold here

c. weil   es   der Mann in der Mensa   zu laut findet.
because it-EXPL the man   in the commons too loud finds

'because the man finds it too loud in the commons.'

d. * weil   ich mir warm finde.
because I   me warm find

Intended: 'because I feel warm.'

The category of the raised subject is not specified. Therefore clausal subjects as in
(3.103) can also be raised. Note that the fact that subjectless constructions cannot
be embedded under *finden* and the fact that sentences like those in (3.103), where the
embedded predicate is subcategorized for a clause, show that these clauses must indeed
be subject clauses. It is not possible to analyze the clauses as objects of the adjective
and the adjective as a subjectless predicate.

It is mysterious why the sentence in (3.118) is ungrammatical.

---

[59]In the main text of (Eisenberg, 1998, p. 213).
[60]In the main text of (Jacobs, 1991, p. 52)
[61]Mannheimer Morgen, 14.03.1998, Lokales; Für die „Nordländer" ist unser Winter eher warm
[62](Pütz, 1982, p. 353)

(3.118)   * weil   ich es   mir   warm finde.
           because I   it-EXPL me-DAT warm find

Subjectless predicates can be combined with dummy subjects.

(3.119)   weil   es   mir   (zu) warm ist.
           because it-EXPL me-DAT too warm is

It should be possible to embed the lexical entry for *warm* as used in (3.119) under *finden*. Maybe the reason for this is that adjectives with dative are generally marked in this constructions.

(3.120)   a. ?? Ich finde die Frau   ihrem Mann (ziemlich / sehr) treu.
                  I   find the woman her   man   quite   very faithful

               'I consider the woman to be quite / very faithful to her husband.'

           b. ? Ich finde ihn seiner selbst zu   sicher.
                 I   find   him his   self   too sure

               'I find him too sure of himself.'

           c. Ich finde ihn zu stolz auf seine Kinder.
               I   find   him too proud of   his   children

               'I consider him to be too proud of his children.'

See also Reis (1976a, p. 11–12) for the observation that the embedding of complex adjective phrases under verbs like *finden* is marked. An embedding of a complex predicative AP that resembles (3.120b) in that the genitive is assigned by the adjective is shown in (3.121).

(3.121)   wenn die komplette Rezeption plötzlich des Englischen   nur
           when the complete reception suddenly the English-GEN only
           rudimentär   mächtig erscheint[63]
           rudimentarily mighty seems

           'when the complete reception suddenly seems to have only a rudimentary command of English.'

Wilder (1991, p. 218) argues that sentences like (3.122) have to be analyzed with *consider* and *make* embedding a small clauses since expletives do not appear in subcategorized positions.

(3.122)   a. I consider it certain that he will come.

           b. This makes it unlikely that he will come.

It is unclear whether this extraposition *it* is indeed expletive, but even if it is this is not a prove for the small clause hypothesis since expletives can appear as accusative objects as (3.123) shows:

(3.123)   Er hat es   weit / zum Professor gebracht.[64]
           he has it-EXPL far   to.the professor brought

           'He did very well.' / 'He made it to professor.'

Postal and Pullum (1988, p. 648) give examples for the mebedding of extraposition *it* under prepositions.

---

[63]taz, 12.08.1999, p. 15
[64]See also (Pütz, 1982, p. 351).

3.1.9.5 Passive

Subject predicative constructions cannot be passivized, but object predicative constructions can.

(3.124) a. Er   wird klug gefunden.
        he-NOM is   clever found
        'He is considered to be clever.'

       b. Er   wird für verrückt gehalten.
        he-NOM is   for crazy   taken
        'He is taken to be crazy.'

As the object of the matrix verb, the subject of the embedded predicate gets accusative. In passive constructions it functions as the subject and gets nominative.

Since object predicative verbs are raising verbs, the claim that passive with raising verbs is impossible cannot be upheld in this general form.

3.1.9.6 Fronting

The embedded predicate can be fronted alone, while the subject of the predicate stays behind in the *Mittelfeld*.

(3.125) a. Gut sieht er aus.
        good looks he PART(out)
        'He looks good.'

       b. Komisch kommt er ihm vor.
        strange   comes he him PART
        'He seems strange to him.'

(3.126) a. Klug findet man ihn.
        smart finds one him
        'One considers him to be clever.'

The fronting of the matrix verb without the embedded predicate is impossible:[65]

(3.127) a. ?? Ausgesehen hat er gut.
          PART.looked has he good
          'He looked good.'

       b. * Vorgekommen ist er mir komisch.
          PART.came   is he me strange
          Intended: 'He seemed strange to me.'

       c. * Mir vorgekommen ist er komisch.
          me PART.came   is he strange

---

[65]The example in (3.127a) seems to get better when the fronted verb is contrasted with another one.

(i) Ausgesehen   hat er gut, aber gerochen hat er schlecht.
   PART (out).looked has er gut but smelled has he bad
   'He looked good, but he smelled bad.'

In (i) both verbs probably are analyzed as intransitive verbs that are modified by an adverb.

(3.128)   a.   * Gefunden hat er ihn klug.
                  found   has he ihn smart

               Intended: 'He considered him to be clever.'

         b.   * Den Langweiler finden   kann Jan nicht nett.[66]
                 the bore   consider can Jan not   nice

               Intended: 'Jan can't find that bore nice.'

The examples in (3.127a–b) and (3.128a) are parallel to (3.25c) and (3.65). One might expect (3.127c) and (3.128b) to be grammatical, since *mir* is an argument of *vorkommen* and *den Langweiler* is an argument of *finden*, as the passive data suggests. But (3.127c) and (3.128b) are ungrammatical for the same reasons (3.127a–b) and (3.128a) are: a part of the middle of a predicate complex is fronted.

3.2   The Analysis

3.2.1   Tense-Auxiliaries

As Hinrichs and Nakazawa (1994a) have shown, it is reasonable to assume a schema that licenses the verbal complex in addition to the head complement schema. Hinrichs and Nakazawa (1989b) introduced the concept of argument attraction to the HPSG framework. If a verbal complex is built, two verbs are combined and the resulting sign inherits all arguments from both verbs. The resulting sign functions as a complex head.[67] In their paper, Hinrichs and Nakazawa treat verbal complements as ordinary complements that are included in the SUBCAT list of their heads. It has, however, proven to be useful to distinguish the verbal complement from other complements (Chung, 1993; Rentier, 1994; Müller, 1997b). For the purpose of representing the information about verbal complements that form a verbal complex with their head, the feature VCOMP is introduced. Its value is a list that contains a *synsem* object if the verb selects for another verb, and the empty list otherwise.

(3.129) shows the CAT value for the non-finite form of the future tense auxiliary *werden*.

werden ('will', future tense auxiliary, non-finite form):

$$
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \boxed{1} \\ verb \end{bmatrix} \\
\text{SUBCAT} & \boxed{2} \\
\text{VCOMP} & \left\langle \text{V}[\text{LEX+}, bse, \text{SUBJ } \boxed{1}, \text{SUBCAT } \boxed{2}, \text{VCOMP } \langle\rangle\,] \right\rangle \\
cat
\end{bmatrix}
\tag{3.129}
$$

Werden selects a verb or a verbal complex via VCOMP. All arguments of this verbal complex (\boxed{2}) and the subject of the verbal complex (\boxed{1}) are raised. The instantiations of the lists under \boxed{1} and \boxed{2} may be the empty list. *Werden* does not assign thematic roles to dependents of the embedded verb.

The CAT value for the finite form is shown in (3.130).

---

[66]See (Neeleman, 1994, p. 29) for an analogous example in Dutch.
[67]See also (Bierwisch, 1990) and (Haider, 1993) for similar ideas.

wird ('will', future tense auxiliary, finite form):

$$
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{VFORM } \textit{fin} \\ \text{SUBJ} \quad \langle\rangle \\ \textit{verb} \end{bmatrix} \\
\text{SUBCAT} & \boxed{1} \oplus \boxed{2} \\
\text{VCOMP} & \langle\, \text{V[LEX+, } \textit{bse}, \text{SUBJ } \boxed{1}, \text{SUBCAT } \boxed{2}, \text{VCOMP } \langle\rangle \text{]} \,\rangle \\
\textit{cat} &
\end{bmatrix}
\tag{3.130}
$$

Lexical entries for the perfect auxiliaries (*haben*/*sein*) are completely analogous except for the verb form of the selected verbal complex.

Schema 5 licenses head cluster structures.

Schema 5 (Cluster Schema)

$$
\begin{bmatrix}
\text{SYNSEM} & \begin{bmatrix} \text{LOC|CAT|VCOMP } \boxed{1} \\ \text{LEX } + \end{bmatrix} \\
\text{HEAD-DTR} & \begin{bmatrix} \text{SYNSEM|LOC|CAT|VCOMP } \boxed{1} \oplus \langle\, \boxed{2} \,\rangle \end{bmatrix} \\
\text{NON-HEAD-DTRS} & \langle\, \begin{bmatrix} \text{SYNSEM } \boxed{2} \end{bmatrix} \,\rangle \\
\textit{head-cluster-structure} &
\end{bmatrix}
$$

A head is combined with its verbal complement (\boxed{2}). The remainder of the VCOMP list (\boxed{1}) is passed up to the mother node. Usually \boxed{1} will be the empty list, but in coherent constructions with particle verbs as in (3.131) the VCOMP list of the matrix predicate contains two elements.

(3.131) Es fing zu regnen an.
   it start to rain PART

   'It started to rain.'

Particle verbs will be discussed in chapter 7 in more detail.

The resulting sign is a verbal complex or a part of a verbal complex. The schema cancels off the last element of the VCOMP list of the head daughter. If the head daughter contains just one element in VCOMP like *werden*, the resulting sign has the empty list as its VCOMP value. The specification of the VCOMP value of the verbal complement of verbs like *werden* as the empty list ensures that the verbal complex that is embedded under *werden* is complete, i.e., sentences like (3.132), where the verb under *haben* is missing, are ruled out.

(3.132) * daß er dem Mann haben wird.
     that he the   man   have   will

The specification of the LEX value of the embedded verbal complex in (3.130) is necessary to exclude spurious ambiguities.[68,69]

---

[68] Note that this is the only purpose LEX has in my grammar. LEX has the value + if a head has beeen combined with a complement and – otherwise. So if an unsaturated verb is combined with an adjunct its LEX value is still +. This is not the way LEX is seen in the standard framework, and therefore it might be reasonable to choose a different feature name. However, I decided to stick with the name LEX for historical reasons.

[69] Kathol (2000, p. 75) claims that one needs two lexical entries for *haben* in order to analyze (i): one that

(3.133) a. er seiner Tochter ein Märchen [erzählen wird].
             he his   daughter a fairytale tell   wird
             'He will tell his daughter a fairytale.'

         b. er seiner Tochter [[ein Märchen erzählen] wird]].

         c. er [[seiner Tochter ein Märchen erzählen] wird]].

Without it, all three structures in (3.133) would be possible. The LEX value ensures that *erzählen* is combined with *wird* before any complement is combined with *erzählen*. Since the mother node of a head complement structure is specified to be LEX−, the projections of *erzählen* in (3.133b–c) cannot be combined with *wird*.

The mother in head cluster structures is marked LEX + because it can in turn be embedded:

(3.134) daß er dem Mann [[geholfen haben] wird].
         that he the man help   have   will
         'that he will have helped the man.'

How the analysis of (3.134) works in detail is shown in figure 3.1 on the facing page. Since there are no complement daughters in head-cluster-structures, the subcat principle ensures that the subcat list of the head is identical to the subcat list of the mother. Therefore the subcat list of *geholfen haben* is identical to the subcat list of *haben*. The same is true for the subcat list of *wird* and the subcat list of the complete verbal complex *geholfen haben wird*. At this point it is very important to note that this mechanism of argument attraction does not add arguments to a head in syntax. The arguments of argument attracting heads are already specified in the lexicon. The point is, that their form and meaning is underspecified. The actual instantiation of the information about dependents takes place when an argument-attracting head is combined with the complement from which the arguments are attracted.

Nothing has been said so far about the formation of the constituent order domains in predicate complexes. The constraint in (2.29) was stated for structures of type *head-non-cluster-structure* only. If one assumes a domain formation process parallel to the one of (2.29), the verbal complement of *wird* is inserted as one single object, *geholfen haben*, which cannot be interrupted by intervening material. As Kathol (1998, Chapter 4.1) argues, this is not adequate, since there are certain orders in the verbal complex where governing heads interrupt other verbal chains. See also (den Besten and Edmondson, 1983, p. 182). Meurers (1997, Chapter 3.2.2) calls these orders *Zwischenstellung*. Examples are given in (3.135).

(3.135) a. daß er das Examen   bestehen wird können.
             that he the examination pass   will can
             'that he will be able to pass the examination.'

---

takes a LEX+ complement and one that takes VPs.

(i) Peter hat [VP das Buch gekauft] und [VP es dann seiner Schwester geliehen].
     Peter has   the book bought   and   it then his   sister   lent

If the LEX value in coordinated structures is left unspecified, sentences like (i) can be analyzed with a lexical entry for *hat* that is analogous to (3.130) without problems. The embedding of verbal projections in verbal complexes is nothing unusual. It is known from the so-called third construction (Wunderlich 1980; Kvam 1980, p. 155; Uszkoreit 1987, p. 151; den Besten and Rutten 1989; Müller 1999a, Chapter 17.5) and verb projection raising (Haftka 1981, p. 723; Hinrichs and Nakazawa 1994a, p. 25).

$$
\begin{bmatrix}
\text{HEAD} & \boxed{1} \\
\text{SUBCAT} & \boxed{2} \oplus \boxed{3} \\
\text{VCOMP} & \langle\rangle \\
\textit{cat}
\end{bmatrix}
$$

CL   H

$$
\boxed{5}\ \text{LOC}
\begin{bmatrix}
\text{HEAD} & \boxed{4} \\
\text{SUBCAT} & \boxed{3} \\
\text{VCOMP} & \langle\rangle \\
\textit{cat}
\end{bmatrix}
\qquad
\begin{bmatrix}
\text{HEAD} & \boxed{1} & \begin{bmatrix}\text{VFORM} & \textit{fin} \\ \text{SUBJ} & \langle\rangle \\ \textit{verb}\end{bmatrix} \\
\text{SUBCAT} & \boxed{2} \oplus \boxed{3} \\
\text{VCOMP} & \langle \boxed{5} \rangle \\
\textit{cat}
\end{bmatrix}
$$

CL   H

$$
\boxed{6}\ \text{LOC}
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix}\text{VFORM} & \textit{ppp} \\ \text{SUBJ} & \boxed{2}\ \langle \text{NP}[\textit{str}] \rangle \\ \textit{verb}\end{bmatrix} \\
\text{SUBCAT} & \boxed{3}\ \langle \text{NP}[\textit{ldat}] \rangle \\
\text{VCOMP} & \langle\rangle \\
\textit{cat}
\end{bmatrix}
\qquad
\begin{bmatrix}
\text{HEAD} & \boxed{4} & \begin{bmatrix}\text{VFORM} & \textit{bse} \\ \text{SUBJ} & \boxed{2} \\ \textit{verb}\end{bmatrix} \\
\text{SUBCAT} & \boxed{3} \\
\text{VCOMP} & \langle \boxed{6} \rangle \\
\textit{cat}
\end{bmatrix}
$$

geholfen   haben   wird

Figure 3.1: Analysis of the Verbal Complex: *daß Karl dem Mann geholfen haben wird.*

b. damit unser Lager von einer Lawine   nicht getroffen hätte werden
   so.that our   camp by an   avalanche not   hit   has be
   können.[70]
   be.able

   'So that our camp could not have been hit by an avalanche.'

The *Zwischenstellung* is said to be possible in Middle Bavarian (Munich, Salzburg and
Vienna) and Franconian. (3.136) shows the domain formation for predicate complexes:

Domain Formation (for the predicate complex):

$$
\begin{bmatrix}
\text{HEAD-DTR}|\text{DOM} & \boxed{1} \\
\text{NON-HEAD-DTRS} & \left\langle \begin{bmatrix} \text{DOM} & \boxed{2} \end{bmatrix} \right\rangle \\
\text{DOM} & \boxed{1} \bigcirc \boxed{2} \\
\textit{head-cluster-structure}
\end{bmatrix}
\qquad (3.136)
$$
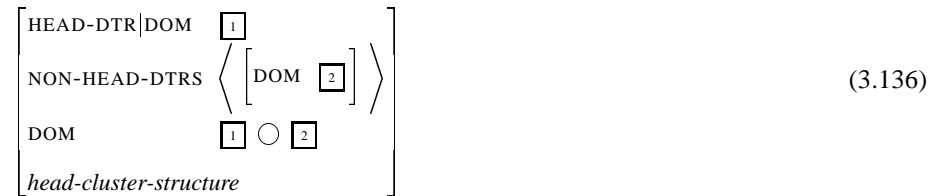
The domain elements that are contained in the domain of the cluster daughter are in-
serted into the domain of the governing head. Thus the verbal complex *bestehen können*
in (3.135a) is a discontinuous complement of *wird*, the domain elements in the domain
of *bestehen können*, i.e., the two lexical signs for *bestehen* and *können* are inserted into
the domain of *wird* and can be serialized there to the left and to the right of the head.

   Now that the domain formation for head cluster structures has been formalized, the
figure 3.2 on the next page for (3.137) can be given.

(3.137)   Wird er dem Mann geholfen haben?
          will he the man   helped   have

          'Will he have helped the man?'

Note that the dominance structure for (3.137) is identical to the one for (3.134). The
only difference is the serialization of the finite verb *wird*. The verbal complex is seri-
alized discontinuously.

   Another important thing to note here is that all subjects and complements of the
verbs in verbal complexes like those in (3.134) and (3.137) are raised to the highest
verb. As complements of the highest verb they are realized in head complement rela-
tions by the same head. Therefore they are inserted into the same head domain and it
is predicted that they can be permuted in the *Mittelfeld*.

   It is also important to note here how the semantic roles are assigned. In GB pub-
lications one finds proposals for θ-role percolation (Jaeggli, 1986, p. 602; Carrier and
Randall, 1992; Neeleman, 1994). No such devices are necessary here. To see this,
consider the combination of *helfen* and *muß* as used in (3.138).

(3.138)   Er muß   dem Mann helfen.
          he has.to the   man   help

          'He has to help the man.'

The combination of (2.19) and (3.139) yields (3.140).

---

[70]Reinhold Messner, quoted from (den Besten and Edmondson, 1983, p. 182).

V[SUBCAT ⟨⟩ ,
  VCOMP ⟨⟩ ,
  DOM ⟨ *wird, er, dem Mann, geholfen, haben*⟩]

C   H

[1] NP[*nom*]   V[SUBCAT ⟨ [1] ⟩ ,
          VCOMP ⟨⟩ ,
          DOM ⟨ *wird, dem Mann, geholfen, haben* ⟩]

C   H

[2] NP[*dat*] V[SUBCAT ⟨ [1] , [2] ⟩ ,
          VCOMP ⟨⟩ ,
          DOM ⟨ *wird, geholfen, haben* ⟩]

CL   H

[3] V[SUBJ ⟨ [1] ⟩ ,   V[SUBCAT ⟨ [1] ⟩ ⊕ ⟨ [2] ⟩ ,
    SUBCAT ⟨ [2] ⟩ ,   VCOMP ⟨ [3] ⟩]
    VCOMP ⟨⟩ ,
    DOM ⟨ *geholfen, haben* ⟩]

CL   H

[4] V[SUBJ ⟨ [1] ⟩ ,   V[SUBJ ⟨ [1] ⟩ ,
   SUBCAT ⟨ [2] ⟩ ,   SUBCAT ⟨ [2] ⟩ ,
   VCOMP ⟨⟩]   VCOMP ⟨ [4] ⟩]

er   dem Mann   geholfen   haben   wird
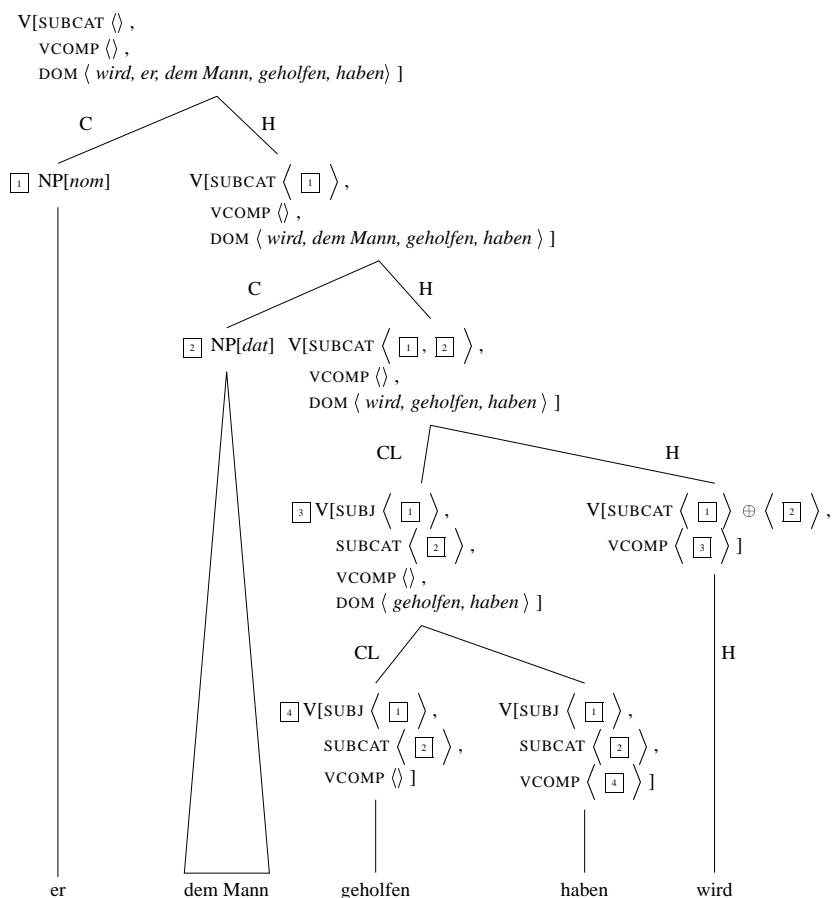
Figure 3.2: *Wird er dem Mann geholfen haben?*

muß ('have to' finite form):

$$
\left[
\begin{array}{l}
\text{CAT} \left[
\begin{array}{l}
\text{HEAD} \left[
\begin{array}{ll}
\text{VFORM} & \textit{fin} \\
\text{SUBJ} & \langle\rangle \\
\textit{verb} &
\end{array}
\right] \\[2ex]
\text{SUBCAT} \quad \boxed{1} \oplus \boxed{2} \\[1ex]
\text{VCOMP} \quad \left\langle \text{V[LEX+, } \textit{bse}, \text{SUBJ } \boxed{1}, \text{SUBCAT } \boxed{2}, \text{VCOMP } \langle\rangle \text{]:} \boxed{3} \right\rangle
\end{array}
\right] \\[4ex]
\text{CONT} \left[
\begin{array}{l}
\text{PROPOSITION} \quad \boxed{3} \\
\textit{müssen}
\end{array}
\right] \\[2ex]
\textit{loc}
\end{array}
\right]
\tag{3.139}
$$

helfen muß ('has to help'):

$$
\left[
\begin{array}{l}
\text{CAT} \left[
\begin{array}{l}
\text{HEAD} \left[
\begin{array}{ll}
\text{VFORM} & \textit{fin} \\
\text{SUBJ} & \langle\rangle \\
\textit{verb} &
\end{array}
\right] \\[2ex]
\text{SUBCAT} \quad \left\langle \text{NP[}\textit{str}\text{]}\,_{\boxed{1}}, \text{NP[}\textit{ldat}\text{]}\,_{\boxed{2}} \right\rangle \\[1ex]
\text{VCOMP} \quad \langle\rangle
\end{array}
\right] \\[4ex]
\text{CONT} \left[
\begin{array}{l}
\text{ARG} \left[
\begin{array}{ll}
\text{AGENT} & \boxed{1} \\
\text{EXPERIENCER} & \boxed{2} \\
\textit{helfen} &
\end{array}
\right] \\[2ex]
\textit{müssen}
\end{array}
\right] \\[2ex]
\textit{loc}
\end{array}
\right]
\tag{3.140}
$$

The structure sharing of the indices of the arguments and the semantic roles does not change when the modal is combined with the main verb. So, no θ-roles need to be percolated. It is just arguments that are inherited and those stay linked to whatever they have been linked to in the lexicon.

3.2.2 Complex Fronting

In this section I will explore examples like (3.141).

(3.141)   a. [Erzählen] wird er seiner Tochter   ein Märchen.
              tell   will he his   daughter   a   fairytale

          'He will tell his daughter a fairytale.'

          b. [Ein Märchen erzählen] wird er seiner Tochter.
              a   fairytale tell   will he his   daughter

          c. [Seiner Tochter   ein Märchen erzählen] wird er.
              his   daughter a   fairytale tell   will he

The examples show that the main verb can be fronted alone or together with one or two of its complements. In chapter 2.8.3.1 we encountered examples where more than one element is positioned in the *Vorfeld*. The question now is: Is there evidence that the elements before the finite verbs in (3.141) form a phrase or could the sentences in (3.141) be analyzed as multiple frontings? To see that the material before the finite verb is indeed one phrase consider the example in (3.142a).

(3.142)   a. Das Märchen gestern   erzählen wollte er seiner Tochter.
            the fairytale yesterday tell   wanted he his   daughter

             'He wanted to tell his daughter the fairytale yesterday.'

         b. weil   er das Märchen gestern   seiner Tochter erzählen wollte.
             because he the fairytale yesterday his   daughter tell   wanted

             'because he wanted to tell his daughter the fairytale yesterday.'

         c. Er wollte das Märchen gestern   seiner Tochter erzählen.
             he wanted the fairytale yesterday his   daughter tell

         d. Gestern   wollte er das Märchen seiner Tochter erzählen.
             yesterday wanted he the fairytale his   daughter tell

If *das Märchen*, *gestern* and *erzählen* were three single fronted items, it would be impossible to explain why the sentences in (3.142b–c) have two readings whereas the sentence in (3.142a) has only one. In (3.142b–c) the adverb *gestern* can scope over all verbs in its coherence field, namely *erzählen* and *wollte*. In (3.142a) only the reading where *gestern* scopes over *erzählen* is available. The reason for this is that *das Märchen gestern erzählen* is a phrase. This phrase is a separate coherence field and adjuncts can only scope inside this field. (3.142d) shows a sentence where the adverb is extracted. The adverb scopes exactly as in (3.142b) and (3.142c), i.e., both readings are available. So, if (3.142a) were a case of multiple extractions, we would expect that both scope readings would be accessible.

Another set of examples that supports the assumption that the constituents before the finite verb form a phrase is (3.143).

(3.143)   a.   weil   der Wagen   zu reparieren versucht wurde.
              because the car-NOM to repair   tried   was

              'because an attempt was made to repair the car.'

         b.   Der Wagen   wurde zu reparieren versucht.
              the car-NOM was   to repair   tried

              'An attempt was made to repair the car.'

         c.   * Der Wagen   zu reparieren wurde versucht.
              the car-NOM to repair   was   tried

         d.   Den Wagen   zu reparieren wurde versucht.
              the car-ACC to repair   was   tried

The examples in (3.143a–b) are instances of the so-called remote-passive. In remote passive constructions the object of a verbal complex is promoted to the subject of the whole construction. In (3.143a–b) the object of *zu reparieren* is simultaneously the object of *zu reparieren versucht* and as such it can be promoted to subject in the passive construction. The example in (3.143b) shows that the NP alone can be extracted in remote passive constructions. Now, if frontings like those in (3.141) were multiple frontings of single constituents, it could not be explained why (3.143c) is ungrammatical. If we assume instead that *der Wagen zu reparieren* and *den Wagen zu reparieren* are VPs in (3.143c) and (3.143d), respectively, it follows from the principles of case assignment that the object in the VP has to bear accusative case.

At the moment I do not see how the fronting of single VP parts that would admit (3.143c) can be prohibited without stipulations without prohibiting multiple constituents in the *Vorfeld* in general, but from the discussion above it should be clear that

the elements in the *Vorfeld* in (3.141) and (3.143d) are verbal projections. In what follows I will provide an analysis that treats the elements to the left of the finite verb as constituents.

The analysis of the verbal complex that was provided in section 3.2.1 excludes spurious ambiguities in the *Mittelfeld* by the constraint that the embedded verbal complex has to be LEX+.

(3.144) a. Er wird seiner Tochter   ein Märchen [erzählen müssen].
            he will his   daughter a fairytale tell   must
            'He will have to tell his daughter a fairytale.'

         b. Er wird seiner Tochter [[ein Märchen erzählen] müssen]].

         c. Er wird [[seiner Tochter ein Märchen erzählen] müssen]].

But precisely those constituents that have to be avoided in the *Mittelfeld* are needed in the *Vorfeld*:

(3.145) a. [Ein Märchen erzählen] wird er seiner Tochter müssen.

         b. [Seiner Tochter ein Märchen erzählen] wird er müssen.

This is problematic for all theories which assume that all phrases that appear in the *Vorfeld* can also appear in the *Mittelfeld*. For instance, Jacobs (1991, p. 56) assumes that linear precedence rules have to be checked in a reconstruction of the sentence without fronting. He assumes that (3.146a) is bad because of the violation of linearization rules in the reconstructed version in (3.146b).

(3.146) a. ?? [Es geschenkt] hat er dem Kind.
                 it given   has he the child
                 'He gave it to the child as a present.'

         b. ?? weil   er dem Kind es geschenkt hat.
                because he the child it given   has

However, this cannot be the explanation, since (3.147a) is as bad as (3.146a), but (3.147b) is fine.

(3.147) a. ?? [Es gelesen] hat er.
                 it read   has he
                 'He read it.'

         b.   weil   er es gelesen hat.
                because he it read   has

Furthermore, for the sentence (2.5b)—repeated here as (3.148a)—this approach predicts that (3.148c) is better than (3.148a), since (3.148b) is the normal linearization for this sentence.

(3.148) a. [Der Nachwelt   hinterlassen] hat sie   eine
               the after-world-DAT behind.let   has she-NOM an
               aufgeschlagene *Hör zu*   und einen kurzen Abschiedsbrief:
               open-hit   Hörzu-ACC and a   short   farewell.letter-ACC
               [...][71]

               'What she left posterity was an open Hörzu (magazine listing radio
               and TV shows) and a brief letter of farewell.'

---

[71]taz, 18.11.1998 p. 20

Draft of January 12, 2001. Comments Welcome!

> b. weil sie der Nachwelt eine aufgeschlagene Hör zu und einen kurzen Abschiedsbrief hinterlassen hat.
>
> c. ?? Eine aufgeschlagene Hör zu und einen kurzen Abschiedsbrief hinterlassen hat sie der Nachwelt.

The sentence in (3.148c) hardly makes any sense, and situations in which it could be uttered are hard to imagine.

Furthermore, the examples in (3.149)–(3.150) show that it is not reasonable to assume that the fronted projection corresponds to a position in the *Mittelfeld*.[72]

(3.149) a. Man wird ja wohl noch fragen dürfen, ob einer links
one will yes well still ask may whether somebody left
oder rechts wählt.
or right votes

'It should be allowed to ask somebody whether he votes for left or for right-wing parties.'

b. [Fragen, ob einer links oder rechts wählt,] wird man ja wohl noch dürfen.

c. * Man wird ja wohl noch [fragen, ob einer links oder rechts wählt,] dürfen.

(3.150) a. [Hunde füttern, die Hunger haben,] würde wohl jeder.
dogs feed that hunger have would well everyone

'Presumably everyone would feed dogs that are hungry.'

b. * daß wohl jeder [Hunde füttern, die Hunger haben,] würde.

c. daß wohl jeder [Hunde, die Hunger haben,] füttern würde.

d. daß wohl jeder Hunde füttern würde, die Hunger haben.

In (3.149a) the complement clause of *fragen* is positioned to the right of the verbal complex *fragen dürfen*. If *fragen* is fronted, it can constitute the right sentence bracket in the *Vorfeld* constituent. The extraposed complement clause is adjacent in (3.149b). If the material that is located in the *Vorfeld* in (3.149b) is shifted back to the right in the verbal complex, the sentence gets ungrammatical (3.149c). This shows that *fragen* and its complement clause do not always form a continuous constituent. (3.150) is a similar example with an NP and an extraposed relative clause.

Instead of assuming a reconstruction, I assume that the complex *Vorfeld* and the *Mittelfeld* with the verbal complex constitute separate topological domains in which elements are ordered according to the linearization constraints that hold in general. Elements may be extraposed in the topological field of the constituent located in the *Vorfeld* resulting in sentences like (3.149b) and (3.150a) and they can be extraposed in the topological field that contains the *Mittelfeld* and the verbal complex resulting in sentences like (3.149a) and (3.150d).

Very complicated mechanisms have been introduced to cope with the problem of unwanted structures in the *Mittelfeld* (Nerbonne, 1994; Hinrichs and Nakazawa, 1994b, 1999). In (Müller 1997b; Müller 1999a, Chapter 18), I suggested a very simple solution to the problem: If it is the case that an embedded verb or verbal complex has to be LEX+ when verb and complement are combined locally, and if it is the case that this does not hold if a nonlocal dependency is involved, then the simplest solution is not to view LEX

---

[72](3.149) is taken from (Reis, 1980, p. 83) and (3.150) from (Haider, 1990b, p. 95).

as a local feature. If one assumes that LEX lives under the path SYNSEM, instead of SYNSEM|LOC, then the problem turns into a non-issue.[73]

Figure 3.3 shows the analysis of the sentence in (3.151). In figure 3.3, a trace functions as a verbal complement. This is for explanatory purposes only. In (Müller, 1997b) I use a unary schema for the introduction of the nonlocal dependency. See chapter 7.2.5.1.1 for a discussion of traces and alternative approaches.

(3.151)   [Seiner Tochter   erzählen] wird er das Märchen.
          his   daughter tell   will he the fairytale

        'He will tell his daughter the fairytale.'
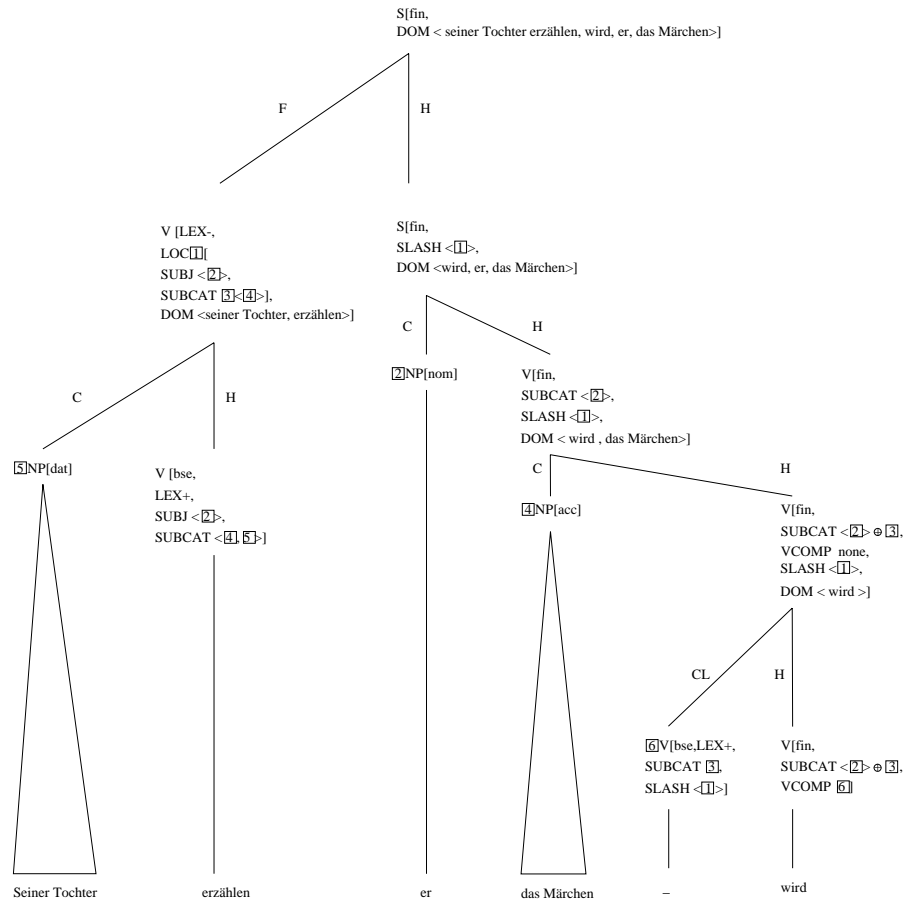
Figure 3.3: Analysis of *Seiner Tochter erzählen wird er das Märchen.*

Note that *seiner Tochter erzählen* is not a maximal projection. In the grammar developed here the type of constituents that may appear in the *Vorfeld* is not restricted by $\overline{\text{X}}$-theoretic assumptions. Instead the restrictions come from the representation of valence properties in the lexicon and general conditions on extraction that are also part of the lexical information.

---

[73]Detmar Meurers (1999a) found the same solution independently. In 1999, he informed me that Tilman Höhle presented similar ideas at a GGS meeting in 1994.

For sentences like (3.152), I assume that the adjunct modifies the trace or a predicate complex that contains the trace.

(3.152) [Solche Bücher schenken]$_i$ sollte   man Kindern lieber nicht _$_i$.
          such   books give   should one children rather not

          'It is better not to give children such books as a present.'

I do not assume a trace inside of the fronted projection that corresponds to the adjunct in the *Mittelfeld*, as is sometimes done in GB.

Sentences like (3.25c), repeated as (3.153), are ruled out because *wird* selects a complement in *bse*-form that has the empty list as its VCOMP value, i.e., a complete verbal complex.

(3.153)   * Müssen wird er ihr ein Märchen erzählen.
            must   will he her a   story   tell

As *erzählen* does not appear in any subcat list, it is not possible for the verb to count as an argument of the fronted verbal complex that is saturated in the *Mittelfeld*.

3.2.3   Copula Constructions

In (Müller, 1999a, p. 314) I suggested the following entry for the copula:

sein (copula):

$$
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \boxed{1} \end{bmatrix} \\
\text{SUBCAT} & \boxed{2} \\
\text{VCOMP} & \left\langle \text{ADJ}[\text{MOD } none, \text{PRD }+, \text{SUBJ } \boxed{1}, \text{SUBCAT } \boxed{2}, \text{VCOMP } \langle\rangle, \text{LEX }+] \right\rangle \\
cat
\end{bmatrix}
\quad (3.154)
$$

This copula is analogous to the lexical entry for the auxiliary *werden* which was given in (3.129). It embeds a predicative complement, the SUBJ and the SUBCAT values of which are attracted. Again no thematic roles are assigned to the elements that are raised from the embedded predicate. Since the value of the SUBJ feature is not instantiated, subjectless predicates and predicates with expletive subjects may be embedded.

(3.155)   a. Am   Montag ist schulfrei.
              at.the Monday is school.free

              'There is no school on Monday.'

              weil   schulfrei   ist.
              because school.free is

              'because there is no school.'

           b. Ihm   wurde schlecht.
              him-DAT got   sick

              'He got sick.'

           c. In der Mensa   ist es   laut.
              in the commons is it-EXPL loud

              'It is loud in the commons.'

           d. Er ist klug.
              he is smart

    e. Er ist seiner Frau treu.
        he is his   wife faithful

        'He is faithful to his wife.'

The SUBJ, SUBCAT, and VCOMP values for the adjectives are given in (3.156).

(3.156)	SUBJ	SUBCAT	VCOMP
a. schulfrei:	$\langle\rangle$	$\langle\rangle$	$\langle\rangle$
b. laut:	$\langle$ NP$[str]_{\text{expl}}$ $\rangle$	$\langle\rangle$	$\langle\rangle$
c. schlecht:	$\langle\rangle$	$\langle$ NP$[ldat]$ $\rangle$	$\langle\rangle$
d. klug:	$\langle$ NP$[str]$ $\rangle$	$\langle\rangle$	$\langle\rangle$
e. treu:	$\langle$ NP$[str]$ $\rangle$	$\langle$ NP$[ldat]$ $\rangle$	$\langle\rangle$

When the finite form of the copula is combined with an entry like *treu*, the subject and
the object of the adjective are raised by the copula. Both NPs are then dependents of
the complex head *treu sein* and can be serialized in any order in the domain of their
head.

  (3.157)   a. weil   niemand ihr treu   war.
              because nobody   her faithful was

                   'because nobody was faithful to her.'

          b. weil   ihr niemand treu   war.
               because her nobody   faithful was

   Examples like (3.55b) are ruled out by the very general linearization constraint in
(3.158):[74]

  (3.158)   Cluster-Dtr [FLIP$-$] $<$ V[LEX+, INITIAL$-$]

This linearization rule holds for all predicate complexes except those where *Oberfeldumstellung* occurs. In verbal complexes with *Oberfeldumstellung*, the embedded verb
has + as the value of FLIP (See (Hinrichs and Nakazawa, 1994a) for details on *Oberfeldumstellung*.

3.2.4 Subject Raising Verbs

The analyses of raising and control verbs that I present in the next sections build on
work by Kiss (1995). It differs from the analyses proposed by Kiss in assuming a
special valence feature for coherent constructions and a special schema for predicate
complex formation.

   (3.159) is the feature description for the local value of raising verbs that construct
coherently.

subject raising verb, coherent construction:

$$
\begin{bmatrix}
\text{CAT} \begin{bmatrix} \text{HEAD} \begin{bmatrix} \text{SUBJ } \boxed{1} \\ verb \end{bmatrix} \\[2ex] \text{VCOMP } \langle\, [\text{SUBJ } \boxed{1}\,] \,\rangle \end{bmatrix} \\[4ex]
loc
\end{bmatrix}
\qquad (3.159)
$$

(3.160) is a local value that describes a subclass of the linguistic objects that are de-
scribed by (3.159). In (3.160) not just the SUBJ value is raised, but also the other
arguments.

---

[74]See (Hoeksema, 1991a, p. 698) for a similar rule.

subject raising verb, coherent construction + argument attraction:

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \boxed{1} \\ verb \end{bmatrix} \\
\text{SUBCAT} & \boxed{2} \\
\text{VCOMP} & \left\langle\; [\text{LEX+, SUBJ}\; \boxed{1}\;, \text{SUBCAT}\; \boxed{2}\;] \;\right\rangle
\end{bmatrix} \\
loc
\end{bmatrix}
\tag{3.160}
$$

(3.161) shows an actual instantiation of the type in (3.160): the LOCAL value of *scheinen* ('seem').

scheinen ('seem', subject raising verb, coherent construction + argument attraction):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \boxed{1} \\ verb \end{bmatrix} \\
\text{SUBCAT} & \boxed{2} \\
\text{VCOMP} & \left\langle\; \text{V}[inf, \text{LEX+, SUBJ}\; \boxed{1}\;, \text{SUBCAT}\; \boxed{2}\;]{:}\,\boxed{3} \;\right\rangle
\end{bmatrix} \\
\text{CONT} & \begin{bmatrix} \text{PROPOSITION} & \boxed{3} \\ scheinen \end{bmatrix} \\
loc
\end{bmatrix}
\tag{3.161}
$$

The finite form of *scheinen* has both the subject and the complements of the embedded verb in its subcat list. The possibility of permuting these elements in the *Mittelfeld* is predicted. The situation is analogous to tense auxiliaries. See page 88.

For phase verbs there is also an entry for the coherent construction that has a structure like (3.161). In addition, there is a lexical entry for the incoherent construction that has the form that is shown in (3.162).[75,76]

anfangen ('start', incoherent version, raising verb, phase verb):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \boxed{1} \\ verb \end{bmatrix} \\
\text{SUBCAT} & \left\langle\; \text{VP}[inf, \text{LEX}-, \text{SUBJ}\; \boxed{1}\;]{:}\,\boxed{2} \;\right\rangle \\
\text{VCOMP} & \langle\rangle
\end{bmatrix} \\
\text{CONT} & \begin{bmatrix} \text{PROPOSITION} & \boxed{2} \\ anfangen \end{bmatrix} \\
loc
\end{bmatrix}
\tag{3.162}
$$

The entry in (3.162) selects for an infinitive VP, i.e., a saturated verbal projection with VFORM*inf*. This VP is an ordinary complement, a maximal projection, and therefore may be intraposed or extraposed. The VP constitutes a separate serialization and scope domain, i.e., a separate coherence field.

---

[75]What (3.162) shows is actually the result of the combination of the particle *an* with a lexical entry that has the PHON value *fangen*. The details of the analysis of *anfangen* will be discussed in chapter 7.2.4.

[76]Another lexical entry for phase verbs is needed, since with an agentive subject they behave like control verbs. See also (Perlmutter, 1970).

3.2.5   Subject Control

The lexical entries in (3.163) and (3.165) show the incoherent and coherent version for the control verb *versuchen* ('try').[77]

versucht ('try', incoherent version):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \text{SUBJ} & \left\langle \text{NP}[\textit{str}]_{\boxed{1}} \right\rangle \\ \text{ACC} & \langle\rangle \\ \textit{verb} \end{bmatrix} \\ \text{SUBCAT} & \left\langle \text{VP}[\textit{inf}, \text{LEX}-, \text{SUBJ} \left\langle \text{NP}[\textit{str}]_{\boxed{1}} \right\rangle]{:}\boxed{3} \right\rangle \\ \text{VCOMP} & \langle\rangle \end{bmatrix} \\
\text{CONT} & \begin{bmatrix} \text{AGENT} & \boxed{1} \\ \text{PROPOSITION} & \boxed{3} \\ \textit{versuchen} \end{bmatrix} \\
\textit{loc}
\end{bmatrix}
\tag{3.163}
$$

In the incoherent version a VP is embedded, whereas in the coherent version the verbal complement is selected via VCOMP. The subjects of the embedded verbal element are not identical to the subject of the matrix verb since in control constructions the case values of the controller and the controlee may differ. In fact, they may even differ in syntactic category, as was shown in section 3.1.3.2. The case difference can even be observed with subject control verbs:

(3.164)   Er ließ den Jungen   und den Mann   versuchen, einer   neben dem
          he let   the boy-ACC and the man-ACC try   one-NOM next   the
          anderen einzuschlafen.
          other   PART (in).to.sleep

          'He let the boy and the man try to sleep next to each other.'

In (3.164) the subject of *versuchen* gets accusative since it is realized in an AcI construction. Nevertheless, the subject of the controlled infinitive is nominative, as the case agreement in the adverbial phrase shows. With accusative in the adverbial phrase, (3.164) would be ungrammatical.

The reference to the controlled subject also ensures that impersonal constructions cannot be embedded under control verbs. The abbreviation NP$_{\boxed{1}}$ stands for a referential noun phrase. Therefore the embedding of expletive predicates is also excluded.

---

[77]The value of ACC may be safely ignored for the moment. I include it here for completeness. It is needed for the analysis of the passive which will be discussed in chapter 4.

versucht ('try', coherent version):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix}
\text{SUBJ} & \langle \text{NP}[\textit{str}]_{\boxed{1}} \rangle \\
\text{ACC} & \boxed{2} \\
\textit{verb}
\end{bmatrix} \\
\text{SUBCAT} & \boxed{3} \\
\text{VCOMP} & \langle \text{V}[\textit{inf}, \text{LEX+}, \text{SUBJ} \langle \text{NP}[\textit{str}]_{\boxed{1}} \rangle, \text{ACC} \boxed{2}, \text{SUBCAT} \boxed{3}]{:}\boxed{4} \rangle
\end{bmatrix} \\
\text{CONT} & \begin{bmatrix}
\text{AGENT} & \boxed{1} \\
\text{PROPOSITION} & \boxed{4} \\
\textit{versuchen}
\end{bmatrix} \\
\textit{loc}
\end{bmatrix}
\tag{3.165}
$$

3.2.6 Object Raising Verbs: AcI-Verbs

Object raising verbs have the following local value.

Object Raising Verbs:

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix}
\text{SUBJ} & \langle \text{NP}[\textit{str}] \rangle \\
\textit{verb}
\end{bmatrix} \\
\text{SUBCAT} & \boxed{1} \oplus \Box \\
\text{VCOMP} & \langle [\text{SUBJ} \boxed{1}] \rangle
\end{bmatrix} \\
\textit{loc}
\end{bmatrix}
\tag{3.166}
$$

The subject of the embedded predicate is raised to the object of the matrix verb, if the embedded verb has one. Otherwise $\boxed{1}$ is the empty list. The description above does not say anything about the length of the subcat list. The only thing it says is that a prefix of this list, namely $\boxed{1}$, is identical to the subject of the embedded predicate.

(3.167) is a further specification of (3.166). The category of the embedded predicate is specified to be *verb* and the form of the verb to be *bse*.

AcI Verbs:

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix}
\text{SUBJ} & \langle \text{NP}[\textit{str}] \rangle \\
\textit{verb}
\end{bmatrix} \\
\text{SUBCAT} & \boxed{1} \oplus \boxed{2} \\
\text{VCOMP} & \langle \text{V}[\textit{bse}, \text{LEX+}, \text{SUBJ} \boxed{1}, \text{SUBCAT} \boxed{2}] \rangle
\end{bmatrix} \\
\textit{loc}
\end{bmatrix}
\tag{3.167}
$$

If the embedded verb has a subject, it is raised to the object of *sehen* ($\boxed{1}$). If it is an NP subject, it has structural case and therefore it surfaces as accusative in active sentences and as nominative in passive sentences. The other complements of the embedded verb are also raised and therefore both the subject of the AcI verb, the subject of the embedded verb and other complements of the embedded verb are complements of the complex that is formed by the AcI verb and the dependent verbal element. Being subject to the constraints that were discussed in section 3.1.7.2, all these elements may be permuted in their head domain.

The lexical entry for a perception verb like *sehen* is shown in (3.168).[78,79]

sehen ('see', AcI Verb):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \left\langle \text{NP}[str]_{\boxed{1}} \right\rangle \\ verb \end{bmatrix} \\
\text{SUBCAT} & \boxed{2} \oplus \boxed{3} \\
\text{VCOMP} & \left\langle \text{V}[bse, \text{LEX+}, \text{SUBJ } \boxed{2}, \text{SUBCAT } \boxed{3}]: \boxed{4} \right\rangle
\end{bmatrix} \\
\text{CONT} & \begin{bmatrix} \text{EXPERIENCER} & \boxed{1} \\ \text{PROPOSITION} & \boxed{4} \\ sehen \end{bmatrix} \\
loc
\end{bmatrix}
\qquad (3.168)
$$

The semantic contribution of the embedded verb is linked to the psoa role of *sehen*, The subject of *sehen* is linked to the EXPERIENCER. The raised element—if there is one—does not get assigned a role.

3.2.7 Object Control

(3.169) and (3.170) show the LOCAL values of the lexical entries for the object control verb *erlauben* ('try').

erlauben ('permit', object control verb, incoherent version):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \left\langle \text{NP}[str]_{\boxed{1}} \right\rangle \\ \text{ACC} & \langle\rangle \\ verb \end{bmatrix} \\
\text{SUBCAT} & \left\langle \text{NP}[dat]_{\boxed{2}} \right\rangle \oplus \\
& \left\langle \text{VP}[inf, \text{LEX}-, \text{SUBJ } \left\langle \text{NP}[str]_{\boxed{2}} \right\rangle]: \boxed{3} \right\rangle \\
\text{VCOMP} & \langle\rangle
\end{bmatrix} \\
\text{CONT} & \begin{bmatrix} \text{AGENT} & \boxed{1} \\ \text{EXPERIENCER} & \boxed{2} \\ \text{PROPOSITION} & \boxed{3} \\ erlauben \end{bmatrix} \\
loc
\end{bmatrix}
\qquad (3.169)
$$

---

[78] Heinz and Matiasek (1994, p. 231) and Suchsland (1997, p. 164) assume that *sehen* embeds a VP. With such an analysis one has to assume a clause union analysis à la Reape (1994) to explain why VP elements can be scrambled with other elements that depend on the matrix verb. Some problems of Reape's analysis will be discussed in section 3.3.1.

[79] Kiss (1995, p. 217) gives a similar lexical entry for *sehen*, but he requires that the embedded verb has a subject by instantiating $\boxed{2}$ with $\langle$ NP $\rangle$. This rules out sentences like (3.88b).

erlauben ('permit', object control verb, coherent version):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \langle \text{NP}[\mathit{str}]_{\boxed{1}} \rangle \\ \text{ACC} & \boxed{2} \\ \mathit{verb} \end{bmatrix} \\[2em]
\text{SUBCAT} & \langle \text{NP}[\mathit{dat}]_{\boxed{3}} \rangle \oplus \boxed{4} \\[1em]
\text{VCOMP} & \left\langle \begin{array}{l} \text{V}[\mathit{inf}, \text{LEX+}, \text{SUBJ} \langle \text{NP}[\mathit{str}]_{\boxed{3}} \rangle, \text{ACC } \boxed{2}, \\ \quad \text{SUBCAT } \boxed{4} \,]{:}\boxed{5} \end{array} \right\rangle
\end{bmatrix} \\[3em]
\text{CONT} & \begin{bmatrix} \text{AGENT} & \boxed{1} \\ \text{EXPERIENCER} & \boxed{3} \\ \text{PROPOSITION} & \boxed{5} \\ \mathit{erlauben} \end{bmatrix} \\[2em]
\mathit{loc}
\end{bmatrix}
\tag{3.170}
$$

Again the dative complement of the matrix verb is coindexed with the subject of the controlled infinitive. The specification of the subject of the embedded infinitive as referential NP excludes both expletive subjects and impersonal constructions.

In the coherent construction the dative complement and the complements of the embedded infinitive are members of the same subcat list, including the subject when the matrix verb is finite. All these elements depend on the same head and their permutability is therefore predicted.

3.2.8 Subject and Object Predicatives

For subject predicative verbs like *erscheinen* I assume a lexical entry that is very similar to the lexical entry for the copula that was presented in (3.154) on page 95.[80]

erschein- ('seem', non-finite form):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \langle \boxed{1} \rangle \\ \text{ACC} & \langle \boxed{1} \rangle \end{bmatrix} \\[1em]
\text{SUBCAT} & \langle (\text{NP}[\mathit{ldat}]_{\boxed{2}}) \rangle \\[1em]
\text{VCOMP} & \left\langle \begin{array}{l} \text{ADJ}[\text{PRD +}, \text{SUBJ} \langle \boxed{1} \rangle, \\ \quad \text{SUBCAT} \langle \rangle, \text{VCOMP} \langle \rangle \,]{:}\boxed{3} \end{array} \right\rangle
\end{bmatrix} \\[3em]
\text{CONT} & \begin{bmatrix} \text{EXPERIENCER} & \boxed{2} \\ \text{PSOA} & \boxed{3} \\ \mathit{erscheinen} \end{bmatrix} \\[2em]
\mathit{loc}
\end{bmatrix}
\tag{3.171}
$$

The sentence (3.101b)—repeated here as (3.172)—is analyzed as follows: The embedded adjective (*klug*) and *erscheinen* form a complex head, the subject of the adjective

---

[80] Again the value of ACC is included in (3.171) and (3.176) for completeness. It is needed for the analysis of passive which will be discussed in chapter 4. Passive applies to (3.176) and promotes the element in ACC to subject. If the subject of the embedded predicate is an NP it gets realized as nominative, since subject NPs always have structural case. If the subject of the embedded predicate is a clause, of course no change in case can be observed, but the analysis works in the same way. The passive of *erscheinen* is excluded because of the specification of the ACC value.

is raised to the subject of *klug erscheinen*. The dative NP is an optional complement of
erscheinen.

(3.172)   Mir   erscheint das klug.[81]
          me-DAT seems   this smart
          'This seems smart to me.'

The lexical entry for *klug* is shown in (3.173), and the finite form of *erscheinen* is
shown in (3.174).

klug ('clever'):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \langle \text{NP}[str]_{\boxed{1}} \rangle \\ \text{PRD} & + \\ adj \end{bmatrix} \\
\text{SUBCAT} & \langle\rangle \\
\text{VCOMP} & \langle\rangle
\end{bmatrix} \\
\text{CONT} & \begin{bmatrix} \text{THEME} & \boxed{1} \\ klug \end{bmatrix} \\
loc
\end{bmatrix}
\tag{3.173}
$$

erscheint ('seem', finite form):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \langle\rangle \end{bmatrix} \\
\text{SUBCAT} & \langle\, \boxed{1}, (\text{NP}[ldat]_{\boxed{2}}) \,\rangle \\
\text{VCOMP} & \left\langle \begin{array}{l} \text{ADJ}[\text{PRD} +, \text{SUBJ} \langle \boxed{1} \rangle, \\ \quad\text{SUBCAT} \langle\rangle, \text{VCOMP} \langle\rangle\,]{:}\boxed{3} \end{array} \right\rangle
\end{bmatrix} \\
\text{CONT} & \begin{bmatrix} \text{EXPERIENCER} & \boxed{2} \\ \text{PSOA} & \boxed{3} \\ erscheinen \end{bmatrix} \\
loc
\end{bmatrix}
\tag{3.174}
$$

klug erscheint ('seems to be clever'):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \langle\rangle \end{bmatrix} \\
\text{SUBCAT} & \langle\, \text{NP}[str]_{\boxed{1}}, (\text{NP}[ldat]_{\boxed{2}}) \,\rangle \\
\text{VCOMP} & \langle\rangle
\end{bmatrix} \\
\text{CONT} & \begin{bmatrix} \text{EXPERIENCER} & \boxed{2} \\ \text{PSOA} & \begin{bmatrix} \text{THEME} & \boxed{1} \\ klug \end{bmatrix} \\ erscheinen \end{bmatrix} \\
loc
\end{bmatrix}
\tag{3.175}
$$

The subject NP of the embedded predicate appears at the first position in the subcat list.
It therefore gets nominative case (see Principle 1 one page 14). Since both elements
depend on the same head, their permutability in the *Mittelfeld* can be accounted for.

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The analysis of object predicative verbs like *finden* is very similar. The only difference is that the subject of the embedded predicate is raised to object instead of becoming the subject.

find- ('find' non-finite form):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix}
\text{SUBJ} & \langle\ \text{NP}[str]\ \boxed{1}\ \rangle \\
\text{ACC} & \langle\ \boxed{2}\ \rangle
\end{bmatrix} \\[2ex]
\text{SUBCAT} & \langle\ \boxed{2}\ \rangle \\[2ex]
\text{VCOMP} & \left\langle\ \begin{array}{l}\text{ADJ}[\text{PRD}+,\ \text{SUBJ}\ \langle\ \boxed{2}\ \rangle\ ,\ \text{SUBCAT}\ \langle\rangle\ , \\ \qquad\qquad \text{VCOMP}\ \langle\rangle\ ]{:}\ \boxed{3}\end{array}\ \right\rangle
\end{bmatrix} \\[6ex]
\text{CONT} & \begin{bmatrix}
\text{EXPERIENCER} & \boxed{1} \\
\text{PSOA} & \boxed{3} \\
\textit{finden}
\end{bmatrix} \\[4ex]
\textit{loc}
\end{bmatrix}
\tag{3.176}
$$

The sentence (3.102b)—repeated here as (3.177)—is analyzed as follows: The embedded adjective (*klug*) and *finden* form a complex head, the subject of the adjective is raised to the object of *klug finden*.

(3.177) Ich finde ihn   klug.
         I   find   him-ACC clever
         'I consider him to be clever.'

The finite form of *finden* is shown in (3.178).

findet ('find' finite form):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix}\text{SUBJ}\ \langle\rangle\end{bmatrix} \\[2ex]
\text{SUBCAT} & \langle\ \text{NP}[str]\ \boxed{1}\ ,\ \boxed{2}\ \rangle \\[2ex]
\text{VCOMP} & \left\langle\ \begin{array}{l}\text{ADJ}[\text{PRD}+,\ \text{SUBJ}\ \langle\ \boxed{2}\ \rangle\ ,\ \text{SUBCAT}\ \langle\rangle\ , \\ \qquad\qquad \text{VCOMP}\ \langle\rangle\ ]{:}\ \boxed{3}\end{array}\ \right\rangle
\end{bmatrix} \\[6ex]
\text{CONT} & \begin{bmatrix}
\text{EXPERIENCER} & \boxed{1} \\
\text{PSOA} & \boxed{3} \\
\textit{finden}
\end{bmatrix} \\[4ex]
\textit{loc}
\end{bmatrix}
\tag{3.178}
$$

The combination of *finden* and *klug* is shown in (3.179).

klug findet ('finds smart'):

$$
\left[
\begin{array}{l}
\text{CAT} \quad
\left[
\begin{array}{ll}
\text{HEAD} & \left[\text{SUBJ } \langle\rangle\right] \\[2mm]
\text{SUBCAT} & \left\langle \text{NP}[str]_{\boxed{1}}, \text{NP}[str]_{\boxed{2}} \right\rangle \\[2mm]
\text{VCOMP} & \langle\rangle
\end{array}
\right] \\[10mm]
\text{CONT} \quad
\left[
\begin{array}{l}
\text{EXPERIENCER } \boxed{1} \\[1mm]
\text{PSOA} \quad
\left[
\begin{array}{l}
\text{THEME } \boxed{2} \\
\textit{klug}
\end{array}
\right] \\[2mm]
\textit{finden}
\end{array}
\right] \\[10mm]
\textit{loc}
\end{array}
\right]
$$

(3.179)
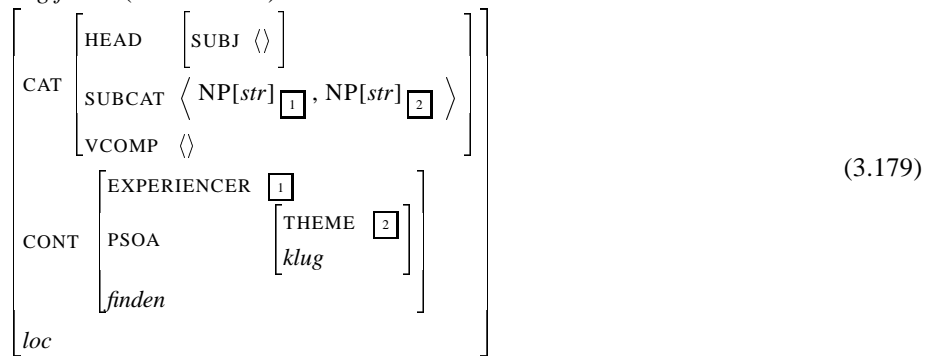
Again both elements depend on the same head, and their permutability in the *Mittelfeld* can be explained. The subcat list contains two NPs with structural case. The first NP gets nominative and the second one accusative. In passive sentences the second NP is promoted to subject and the first one is suppressed. As the first NP the subject of the embedded predicate then gets nominative. The details of the passive analysis will be provided in chapter 4.

An interesting case is still open: predicates that embed a phrasal complement with *als*, *für*, or *wie*.

(3.180) a. Die Zahl   der   Aussteller sieht der Messechef als „gestiegen" an.[82]
             the number of.the exhibitors sees the fair.boss   as   risen   at

             'The trade fair director considers the number of exhibitors to have risen.'

         b. Man hält   ihn für klug.
             one takes him for clever

             'One considers him to be clever.'

For these examples I suggests an entry for *als* and *für* of the form in (3.181).[83]

---

[82]taz, 06.07.1999, p. 8

[83]The *für*-phrase must be distinguishable from other predicative phrases since it cannot appear in copula constructions:

(i)   * Karl ist für glücklich.
         Karl is for happy

It cannot be a normal complement preposition since it is excluded at positions where complement PPs are required:

(ii) a.   Karl sorgt für Maria.
            Karl cares for Maria

      b. * Karl sorgt für glücklich.
            Karl cares for happy

One option is to treat it as a complement PP that differs from other complement PPs in that it has a non-empty SUBJ value.

entry for *für* as used in predicative constructions:

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{PFORM } \textit{für} \\ \text{SUBJ} \quad \boxed{1} \\ \textit{prep} \end{bmatrix} \\[2ex]
\text{SUBCAT} & \left\langle \text{XP[PRD+, SUBJ } \boxed{1} \text{]:} \boxed{2} \right\rangle \\
\text{VCOMP} & \langle\rangle
\end{bmatrix} \\[4ex]
\text{CONT} & \boxed{2} \\
\textit{loc}
\end{bmatrix}
$$

(3.181)

The form of the preposition-like element is selected by the matrix verb, so there has to be a way to distinguish between *als* and *für*. This is done via the selection of a maximal projection of entries like (3.181) with an appropriate PFORM value. The element in (3.181) takes over both the subject and the semantics of the embedded predicate. The combination of *klug* and *für* yields (3.182).

für klug as used in predicative constructions:

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{PFORM } \textit{für} \\ \text{SUBJ} \quad \left\langle \text{NP[}\textit{str}\text{]} \boxed{1} \right\rangle \\ \textit{prep} \end{bmatrix} \\[2ex]
\text{SUBCAT} & \langle\rangle \\
\text{VCOMP} & \langle\rangle
\end{bmatrix} \\[4ex]
\text{CONT} & \begin{bmatrix} \text{THEME} \quad \boxed{1} \\ \textit{klug} \end{bmatrix} \\[2ex]
\textit{loc}
\end{bmatrix}
$$

(3.182)

This phrase is directly embedded under *halten*.[84]

---

[84]Suchsland (1995, p. 88) suggested a lexical entry similar to (i) for a predicate of the *halten* class.

$$
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} \quad \left\langle \text{NP} \right\rangle \\ \textit{verb} \end{bmatrix} \\[2ex]
\text{SUBCAT} & \left\langle \boxed{1} \text{ NP, P[PFORM } \textit{als}, \text{ SUBCAT } \left\langle \text{AP[SUBJ } \left\langle \boxed{1} \right\rangle \text{]} \right\rangle \text{]} \right\rangle \\
\textit{cat}
\end{bmatrix}
$$

(i)

His solution does not work, since it is impossible to specify properties of constituents internal to a selected element in the subcat list of the selected element. The entry in (i) basically selects an unsaturated P, licensing sentences like (ii).

(ii)　* weil　er ihn　für hielt.
　　　　because he him for took

Suchsland (1997, p. 166) gives a lexical entry for *betrachten* that is subcategorized for a preposition with a SUBJ list that contains an AP or an NP. It is totally unclear to me what this lexical entry is supposed to do. In any case, it does not make sense to speak of APs as subjects.

halt- ('take for' non-finite form):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \left\langle \text{NP}[str]_{\boxed{1}} \right\rangle \\ \text{ACC} & \left\langle \boxed{2} \right\rangle \end{bmatrix} \\
\text{SUBCAT} & \left\langle \boxed{2} \right\rangle \\
\text{VCOMP} & \left\langle \begin{array}{l} \text{PP}[\text{PFORM } \textit{für}, \text{PRD } +, \text{SUBJ} \left\langle \boxed{2} \right\rangle, \\ \text{SUBCAT } \langle \rangle, \text{VCOMP } \langle \rangle]:\boxed{3} \end{array} \right\rangle
\end{bmatrix} \\
\text{CONT} & \begin{bmatrix} \text{EXPERIENCER} & \boxed{1} \\ \text{PROPOSITION} & \boxed{3} \\ \textit{halten-für} \end{bmatrix} \\
\textit{loc}
\end{bmatrix}
\tag{3.183}
$$

The fronting examples in (3.127)–(3.128)—repeated here as (3.184)–(3.185)—are ruled out for the same reasons as the sentences in (3.25c) and (3.65).

(3.184) a. ?? Ausgesehen hat er gut.
             PART.looked has he good

             'He looked good.'

         b. * Vorgekommen ist er mir komisch.
             PART.came   is he me strange

             'He seemed strange to me.'

         c. * Mir vorgekommen ist er komisch.
             me PART.came   is he strange

(3.185) a. * Gefunden hat er ihn klug.
             found   has he ihn smart

             Intended: 'He considered him to be clever.'

         b. * Den Langweiler finden   kann Jan nicht nett.[85]
             the bore   consider can Jan not   nice

             Intended: 'Jan can't find that bore nice.'

In (3.184)–(3.185) an incomplete part of the predicate complex is fronted. Parts of the predicate complex were stranded, which is ruled out by the analysis provided in section 3.2.2.

3.3 Alternatives

3.3.1 Linearization Based Theories

Reape (1994) assumes that coherent constructions in German should be analyzed as Clause Union. For (3.75)—repeated here as (3.186)—he assumes that *es zu lesen* is a phrase that is embedded by *ihm versprochen*, which in turn is embedded by *jemand hat*.

(3.186) weil   es   ihm   jemand   zu lesen versprochen hat.[86]
         because it-ACC him-DAT somebody to read promised   had

---

[85] See (Neeleman, 1994, p. 29) for an analogous example in Dutch.
[86] (Haider, 1986b, p. 110; 1990a, p. 128)

'because somebody promised him to read it.'

The phrase *es zu lesen* is a discontinuous maximal projection. The elements that are contained in the order domain of this phrase, i.e., *es* and *lesen* are unioned into the order domain of the head *versprochen*.

For raising verbs like *scheinen*, Reape assumes that the raising verb embeds a non-finite clause that contains the subject.

(3.187) weil   der Fritz die Maria zu lieben scheint.
         because the Fritz the Maria to love   seems

         'because Fritz seems to love Maria.'

This means that *der Fritz die Maria zu lieben* is a clause that is embedded under *scheint*. *der Fritz* agrees with *scheint*, since it is the subject in (3.187). This fact cannot be accounted for in Reape's approach unless one assumes that the non-finite verb *zu lieben* has agreement features that can be checked with the subject of *zu lieben* and that are simultaneously present at *scheint*. As there is no morphological reflex of the agreement features on non-finite forms, such a solution would be pretty ad hoc.

3.3.2 Flat Structures without Verbal Complex: Bouma and van Noord (1998)

Bouma and van Noord (1998) assume a flat analysis for the German clause, including a flat analysis of the predicate complex. Both complements that take part in complex formation and those that do not are represented on the subcat list of their head. Bouma and van Noord assume that a head is combined with all these complements in one step. Such an approach has to come up with a special explanation for sentences like (3.188).

(3.188) Ich liebte ihn, und ich fühlte, daß er mich auch geliebt hat oder doch,
         I   loved him and I   felt   that he me   also loved has or   at.least
         daß er mich hätte [lieben wollen] oder [lieben müssen].[87]
         that he me   had   love   want.to or   love   must

         'I loved him, and I felt that he loved me too, or at least that he would have wanted to or had to love me.'

In (3.188) we have an instance of *Oberfeldumstellung*. The perfect auxiliary *haben* is flipped over a coordination of two verbal complexes. Sentences like (3.188) can be explained easily with the analysis that was proposed in this chapter: The coordination of *lieben wollen* and *lieben müssen* is a symmetric coordination of two verbal complexes. *hätte* governs this coordination. This argument against Bouma and van Noord's approach is not particularly strong, since there is no really conclusive theory of coordination that covers all instances of this phenomenon, but it is clear that any approach that assumes verbal complexes as constituents does not have problems with data like (3.188), whereas approaches that do not assume this have to come up with special explanations.

3.4 Summary

At the beginning of this chapter I introduced the notions of coherence and incoherence and provided tests for distinguishing coherent and incoherent constructions. Further-

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[87](Hoberg, 1981, p. 36)

more, the difference between raising and control was discussed. I provided analyses for subject and object control verbs and for subject and object raising verbs. The copula was analyzed as a raising verb. I showed that subject and object predicatives also have to be treated as raising verbs. AcI verbs and subject and object predicatives form a predicate complex. Dependents of all predicates that are contained in such a predicate complex are combined in the valence list of the predicate complex. The predicate complex functions as the head of the clause and since the dependents of a head may be permuted, it is explained why dependents of an embedded predicate may be separated from this predicate by a dependent of a higher predicate, i.e., why dependents of several predicates may be scrambled.

Chapter 4

Passive

In HPSG grammars for English (Pollard and Sag, 1987, p. 214–218) and in LFG (Bresnan, 1982), the passive is analyzed as a lexical rule. For German many authors followed Haider (1986a) and analyzed the passive as object-to-subject-raising (Kathol, 1991, 1994; Heinz and Matiasek, 1994; Lebeth, 1994; Pollard, 1994; Müller, 1999a). The advantage of the raising analysis is that one entry for the participle is sufficient. However, none of the proposed object-to-subject-raising analyses is without problems. In this chapter I will discuss both the lexical rule-based approach to the German passive and the object-to-subject-raising analyses and suggest that the first is better suited to explain the empirical facts. The decision for lexical rules will have consequences for the analysis of (derivational) morphology that will be discussed in chapter 7.2.5, since *-bar*-derivation is a passive-like process.

4.1   The Phenomena

The sentences in (4.1) are examples of the two main passives in German: the agentive passive formed with *werden* and the stative passive formed with *sein*.

(4.1)   a. Das Fenster wird geöffnet.
            the   window is   opened
            'The window is being opened.'
        b. Das Fenster ist geöffnet.
            the   window is opened
            'The window is open.'

The passive is used to suppress the logical subject of a verb. The wish to suppress this element can have several reasons. The referent of the subject may be less important, or already provided by the context. The logical subject then may be expressed by a *von*-PP which allows for different serializations. Another reason for using the passive is the change of argument structure that promotes the accusative objects to subjects and makes it possible to coordinate the passive predicate with other predicates that have the underlying accusative object of the first predicate as subject.

(4.2)   Der Mann wurde von einem Betrunkenen angefahren und starb an den
        the man   was   by   a   drunk   to.driven   and died at the
        Folgen.
        consequences

Usually passives are also classified with respect to another property: The so-called personal passive is distinguished from the impersonal one.

(4.3) a. Die Frau   liebt den Mann.
           the woman-NOM loves the man-ACC

       b. Der Mann   wird geliebt.
           the man-NOM is   loved

       c. Die Frau   hilft dem Mann.
           the woman-NOM helps the   man-DAT

       d. Dem Mann   wird geholfen.
           the   man-DAT is   helped
           'The man is being given help.'

       e. Hier tanzen alle.
           here dance all
           'Everybody dances here.'

       f. Hier wird getanzt.
           here is   danced
           'There is dancing here.'

When a verb that takes an accusative object is passivized, this accusative changes into nominative (4.3b). This form of passive is called the personal passive. The cases in (4.3d) and (4.3f) are called impersonal passives. Both constructions are subjectless constructions. The dative in (4.3c) does not change when the verb is passivized.

4.1.1 Ergativity

It has been observed that dependents of certain verbs that have nominative case behave like objects nevertheless. Such verbs are called unaccusative (Perlmutter, 1978) or ergative. Grewendorf (1989) provides fourteen tests for distinguishing ergative from non-ergative verbs. Fanselow (1992) adds another six. Despite this big number of tests what has to be counted as an ergative verb is by no means an uncontroversial issue. Kaufmann (1995) showed that many of the alleged differences between ergative and unergative verbs have to be explained by means that are not related to the proposed ergative/unergative distinction.

One property of ergative verbs that is important for the present discussion is that they cannot be passivized.[1]

(4.4) a.   Karl kam an.
            Karl came PART
            'Karl arrived.'

       b. * Dort wurde angekommen.
            there was   arrived

       c.   Er fiel   ihr auf.
            he noticed her PART
            'He got noticed.'

---

[1]For a discussion of certain exceptional passivizations of ergative verbs that have a special reading see (Růžička, 1989, p. 350) and (Müller, 1999a, p. 290).

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> d. * Ihr wurde aufgefallen.
>   her was   noticed

Since this is also true for theme verbs, Grewendorf (1989, p. 184) does not count this property as a defining one for the class of ergative verbs. Wegener (1990, p. 90) showed that theme verbs share a lot of the properties of ergative verbs and therefore it might be reasonable to regard the verbs that are usually referred to as ergative and the theme verbs as members of one class. I will leave this question open here and will concentrate on the clear cases in what follows.

4.1.2 Agentive Passive

Examples for the agentive passive have been provided in (4.3). In impersonal passive constructions, the logical subject of an intransitive verb has to refer to an animate entity (Paul, 1919, p. 40; Jung, 1967, § 429; Zaenen, 1988). Kaufmann (1995, p. 168) discusses the examples in (4.5), and on the basis of (4.5e), she claims that this restriction also holds for transitive verbs.

> (4.5) a. Auf der Party tanzten viele Gäste.
>   on   the party danced many guests
>
>   'Many guests danced at the party.'
>
>   b. Auf der Party wurde (von vielen Gästen) getanzt.
>   on   the party was   by many guests   danced
>
>   'Many guests danced at the party.'
>   'There was dancing at the party.'
>
>   c. Vor   dem Fenster tanzten die Schneeflocken.
>   in.front.of the   window danced the snowflakes
>
>   'Snowflakes danced outside the window.'
>
>   d. § Vor   dem Fenster wurde (von Schneeflocken) getanzt.
>   in.front.of the   window was   by snowflakes   danced
>
>   e. Die Tür wurde von Peter / § vom   Wind geschlossen.
>   the door was   by Peter   by.the wind closed
>
>   'The door was closed by Peter/the wind.'

'§' stands for semantic deviance.

She suggests that passive is possible with human subjects only. However, that this cannot be true in general is shown by sentences like those in (4.6).[2]

> (4.6) a. Die Schneeflocken beeinflußten meine Entscheidung.
>   the snowflakes   influenced   my   decision
>
>   b. Meine Entscheidung wurde durch die Schneeflocken beeinflußt.
>   my   decision   was   by   the snowflakes   influenced
>
>   'My decision was influenced by the snowflakes.'

---

[2]See also example (5.40b) on page 174. The passive participle in this sentence corresponds to the active form in (i).

> (i) Staubschwaden umtanzten   die Journalisten.
>   dust.clouds   around.danced the journalists
>
>   'Dust clouds danced around the journalists.'

     c. Die Grammatikalisierung überlagert sie.
         the grammaticalization overlies   them

        'The grammaticalization eclipses them.'

     d. […] da   sie   von der Grammatikalisierung überlagert werden.[3]
              since they by the grammaticalization   overlain   are

        'since they are eclipsed by the grammaticalization'

For sentences like (4.7a) one can assume that the passive is derived from an active with an animate subject.

  (4.7)   a. Sprachen wie das Gotische oder das Maltesische verfügen über unter-
           schiedliche Ableitungsstrategien, durch die einerseits kausative und an-
           dererseits inchoative Verben abgeleitet werden können.[4]

         'Languages like Gothic or Maltese have at their disposal various deriva-
         tion strategies through which causative verbs can be derived on the one
         hand, and inchoative ones on the other.'

     b. Der Sprecher leitet   die kausativen Verben mittels solcher
         the speaker derives the causative verbs via   such
         Ableitungsstrategien ab.
         derivation.strategies PART (off)

        'The speaker uses such derivation strategies to derive the causative verbs.'

The *durch*-PP in the passive sentence is an instrument as in (4.7b). No such explanation is possible for the pairs in (4.6):

  (4.8)   a. # Man überlagert sie   durch die Grammatikalisierung / mit der
           one overlays them through the grammaticalisation   with the
           Grammatikalisierung / mittels der Grammatikalisierung.
           grammaticalisation   via   the grammaticalisation

     b. # Man beeinflußt meine Entscheidung durch   die Schneeflocken / mit
         one influences my   decision   through the snowflakes   with
         den Schneeflocken / mittels der Schneeflocken.
         the snowflakes   via   the snowflakes

The sentences in (4.8)—if grammatical at all—differ in meaining from those in (4.6).
    Finally, note that (4.5e) gets better if *vom* is replaced by *durch den*. And the exam-
ples in (4.9) show that even with *vom Wind* passive examples can be found.

  (4.9)   a. daß das Laub im   Herbst ungehindert vom Wind verteilt   wird[5]
         that the leaves in.the fall   unhindered by.the wind distributed get

        'that the leaves are scattered by the wind in fall, without anything to stop
        them at all'

     b. Die Schwaden seien vom   Wind in Richtung Mannheim über den Rhein
         the clouds   be   by.the wind in direction Mannheim over the Rhein
         getrieben worden.[6]
         driven   got

---

[3]In the main text of (Kaufmann, 1995, p. 190).

[4]In the main text of (Kaufmann, 1995, p. 186).

[5]Mannheimer Morgen, 06.05.1989, Soziales; Laubfall

'The clouds were driven over the Rhein in the direction of Mannheim by the wind.'

c. ein Kunstwerk, [...] das vom   Wind bewegt werden kann[7]
    an artwork   that by.the wind moved get   can

    'a work of art that can be moved by the wind'

d. Etwa die Hälfte des   Fallouts wird vom   Wind über den Globus
    about the half   of.the fallout   gets by.the wind over the globe
    verteilt   [...][8]
    distributed

    'About half of the fallout is distributed all over the globe by the wind'

e. Die Wahlplakate   werden vom   Wind zerfetzt oder nachts von
    the election.posters get   by.the wind shredded or   nights by
    Unbekannten   übermalt.[9]
    unknown.(people) over-drawn

    'The election posters either get shredded by the wind or scribbled on by unknown individuals at night.'

f. eine radioaktive Wolke, die vom   Wind nach Skandinavien getrieben
    a   radioactive cloud   that by.the wind to   Scandinavia   driven
    wurde[10]
    got

    'A radioactive cloud that was driven to Scandinavia by the wind'

In all cases the logical subject of the passivized verb has to be referential. The passivization of expletive predicates is impossible:

(4.10)   * Heute wurde geregnet.
           today was   rained
           Intended: 'It rained today.'

At the first glance, the sentences in (4.12) seem to contradict this claim, since one might believe that they correspond to the active sentence in (4.11).

(4.11)   Es   trug   ihn aus der Kurve.
         it-EXPL carried him out the curve

(4.12)   a. Das Auto wurde aus   der Kurve getragen und prallte   gegen die
              the car   got   out.of the curve carried   and crashed against the
              Leitplanken.[11]
              crash-barrier

              'The car came off the road in the bend and crashed into the crash-barrier.'

         b. Der Wagen war nach Mitteilung   der   Polizei vermutlich wegen
              the car   was after information of.the police   presumably because
              überhöhter Geschwindigkeit in einem durch   den Wald   führenden
              increased   speed   in a   through the woods leading

---

[6]Mannheimer Morgen, 17.07.1995, Lokales; Unglück in Labor der BASF

[7]Mannheimer Morgen, 11.08.1995, Lokales; Auf Dächern der Klinik geht es wild zu

[8]Mannheimer Morgen, 01.09.1995, Weltwissen; Das Gestein schmilzt wie flüssiges Glas

[9]Die Zeit, 22.02.1985, p. 4

[10]Mannheimer Morgen, 30.04.1986, p. 1

[11]Mannheimer Morgen, 15.12.1995, Lokales

Straßenabschnitt aus   einer Kurve getragen worden und gegen   einen
road.section   out.of a   curve carried got   and against a
Baum geprallt.[12]
tree   crashed

'According to police information, the car came off the road in a bend
in a wooded area and crashed against a tree, presumably as a result of
acceleration.'

But as the examples in (4.13) show, the sentences in (4.12) have to be regarded as
derived from (4.14).

(4.13)   a.   Spiralgalaxien etwa   rotieren so schnell, daß die Sterne durch   die
             spiral.galaxies nearly rotate   so fast   that the stars   through the
             Fliehkraft   aus   der Kurve getragen werden müßten und es
             centrifugal.force out.of the curve carried get   must   and it
             deshalb – ohne   ein solches Schwerkraftzentrum – solche
             therefore   without a   such   gravity.centre   such
             Spiralnebel eigentlich längst nicht mehr geben dürfte.[13]
             spiral.fogs actually   long   not   more give   allowed

             'Spiral galaxies, for instance, rotate so fast, that the centrifugal force
             ought to fling the stars off course, and hence such spiral nebula should
             have ceased to exist long ago, were it not for their gravitational centres.'

         b.   durch   die Wucht des   Aufpralls wurden die beiden mit   insgesamt
             through the force of.the crash   got   the two   with total
             300 Fahrgästen besetzten Omnibusse aus   einer scharfen Kurve
             300 passengers occupied busses   out.of a   sharp   curve
             getragen und stürzten 30 Meter tief   in eine Schlucht.[14]
             carried   and fell   30 meters deep in a   ravine

             'Due to the force of the crash the two busses, which were carrying a total
             of 300 passengers, hurtled out of an abrupt bend and plunged 30 meters
             down into a ravine.'

(4.14)   Die Fliehkraft   trug   ihn aus   der Kurve.
         the centrifugal.force carried him out.of the curve

The embedding of impersonal predicates is impossible:

(4.15)   a.   Dem Student   graut vor   der Prüfung.
               the   student-DAT dreads before the exam

               'The student dreads the exam.'

         b.   * Dem Student   wird (vom   Professor) vor   der Prüfung
               the   student-DAT gets by.the professor before the exam
               gegraut.
               dreaded

---

[12]Mannheimer Morgen, 29.06.1989, Regionales
[13]Stern, 10.12.1987, p. 32
[14]Bildzeitung (Hamburg), 07.01.1967, p. 6

4.1.3 Stative Passive

The stative passive expresses a state that is the result of a dynamic event. As Helbig and Buscha (1970, p. 175) noted, the stative passive is only possible if the agentive passive is possible. The reversal does not hold, as Jüttner (1981, p. 776), Zifonun (1992, p. 261) and Eisenberg (1994, p. 145) showed. The sative passive is excluded for verbs with accusative object if the underlying object is not in a new state. Sensory verbs (*riechen*, ('smell') *sehen*, ('see') *fühlen*, ('feel') *höhren* ('hear')) and other verbs that fit this description, like *loben*, ('praise') *finden*, ('find') *verehren* ('honour'), and *zeigen* ('show'), do not have a stative passive. Therefore the set of verbs that allow a stative passive is a subset of the verbs that allow passive.

The stative passive, like the agentive passive, has both personal and impersonal forms.

(4.16) a. Das Fenster ist geöffnet.
            the window is opened

    b. Es   / jetzt ist serviert.[15]
        it-EXPL   now is served

        'The meal is now served!'

    c. Nun ist lange genug   geredet.[16]
        now is long   enough talked

        'Now enough talking has been done'

    d. Dem Mann ist geholfen.
        the   man is helped

        'That man has been given help.'

    e. Seine dunkelbraunen Haare waren vom   Wind zerzaust [...][17]
        his   dark.brown   hair   were by.the wind tousled

        'His dark brown hair was windswept.'

(4.16e) shows that the stative passive is possible with transitive verbs that have an inanimate subject.

Again the stative passive is impossible with expletive predicates.[18]

(4.17)   * Ist heute geregnet?
            is today rained

The stative passive of subjectless predicates is also impossible.

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[15](Fläming, 1981, p. 549)

[16](Wunderlich, 1985, p. 224)

[17]Bolten, Y.: *Komteß Silvia von Schönthal*. Hamburg, 1990, p. 38, (found with COSMAS).

[18](i) is a remarkable exception.

(i) Die Tische sind naß geregnet.
     the tables are   wet rained

Neeleman (1994, p. 133; 1995, p. 227) discusses analogous examples from Dutch and claims that *naß regnen* is an ergative predicate because of the auxiliary selection. I doubt whether this claim is justified for Dutch, in any case it would be wrong for German. (i) is a stative passive of the active version in (ii).

(ii)   ? Es hat die Tische naß geregnet.
         it has the tables wet rained

Why such a stative passive is possible in connection with resultative constructions is rather unclear to me.

(4.18)   * Dem Student ist (vom   Professor) vor   der Prüfung gegraut.
                the   student is   by.the professor before the exam   dreaded

4.1.4   The Dative Passive

In German there is a special kind of passive that is formed with *bekommen* ('receive'),
erhalten ('obtain'), and *kriegen* ('get'). In this variant of the passive a verb that takes a
dative object is combined with one of the mentioned verbs. The dative of the passivized
verb surfaces as a nominative.

(4.19)   a. Karl   schenkt mir   ein Buch.
              Karl-NOM gives   me-DAT a   book-ACC

              'Karl gives me a book as a present.'

          b. Ich   bekomme ein Buch   geschenkt.
              I-NOM get   a   book-ACC given

              'I get a book as a present.'

That the term "recipient passive", which is also used sometimes in the literature, is
inappropriate is demonstrated by sentences like (4.20) and (4.21).[19]

(4.20)   Er bekam zwei Zähne ausgeschlagen.
          he got   two teeth PART (out).knocked

          'He got two teeth knocked out.'

(4.21)   a. Der Bub bekommt/kriegt das Spielzeug weggenommen.
              the lad gets   the toy   PART (away).taken

              'The boy has the toy taken away from him.'

          b. Der Mann bekommt/kriegt das Fahren verboten.
              the man gets   the driving forbidden

              'The man is forbidden to drive.'

          c. Der Betrunkene bekam/kriegte die Fahrerlaubnis   entzogen.
              the drunk   got   the driving.allowance withdrawn

              'The drunk had his driving license taken away.'

The sentences in (4.20) and (4.21) do not mean that somebody gets something. The
meaning of *bekommen* and *kriegen* is bleached in these constructions.

    The sentence in (4.22a) that corresponds to the active form in (4.22b), which will
be discussed in more detail in chapter 6.1.7, shows that it is also wrong to assume—
as for instance Haider (1986a, p. 23), Heinz and Matiasek (1994, p. 228), and Kathol
(2000, p. 221) do—that both *bekommen* and the embedded sign assign a theme role to
the accusative.

(4.22)   a. Er bekam die Seife aus den Augen gewaschen.
              he got   the soap out the eyes   washed

              'He got the soap washed out of his eyes.'

          b. Jemand   wäscht ihm die Seife aus den Augen.
              someone washes him the soap out the eyes

              'Someone washes the soap out of his eyes.'

---

[19]See also (Askedal, 1984, p. 9, p. 22) and (Wegener, 1985, p. 129) on this point. Eroms (1978, p. 371)
    attributes (4.20) to Fränkel. The examples in (4.21) are taken from (Reis, 1976b, p. 71).

    c. Er wäscht die Seife   aus den Augen.
         he washes the soap-ACC out the eyes

         'He washes the soap out of the eyes.'

As will be argued in chapter 6, the resultative construction in (4.22c) is a raising construction. The NP *die Seife* does not fill a semantic role of the predicate *waschen*. Therefore approaches that assume that dative passive auxiliaries assign semantic roles to an accusative NP are empirically wrong. Instead I suggest treating *bekommen / erhalten / kriegen* as true auxiliaries.

    The dative passive is impossible with ergative verbs:

(4.23) a. * Ich bekomme (von Maria) aufgefallen.
           I   get   by Maria attention.attracted

      b. * Sie kriegt begegnet.
           she gets   met

      c. * Die Gewerkschaft kriegt beigetreten.
           the union   gets joined

But not all verbs that allow a passive with *werden* also allow a dative passive:[20]

(4.24) a. Ihm wurde die Geschichte nicht mehr geglaubt.
           him was   the story   not more believed

         'No one believed his story anymore.'

      b. * Er bekam / erhielt   / kriegte die Geschichte nicht mehr geglaubt.
           he received obtained got   the story   not more believed

The set of verbs that form a dative passive is a subset of the verbs that form a passive with *werden*.

    As the following examples by Leirbukt (1987, p. 104) show, both the logical subject of the embedded predicate (4.25a) and the subject of the passive auxiliary (4.25b) may refer to an inanimate discourse referent.

(4.25) a. [. . .] während wir im   optischen Bereich von der Sonne allein
                while   we in.the optical   area   by the sun   alone
          10^8mal soviel Energie zugestrahlt   bekommen wie von allen
          10^8.times as.much energy PART (to).shone get   as   by all
          anderen Himmelskörpern zusammen [. . .][21]
          other   heavenly.bodies together

         'while in the optical area we receive 10^8 times as much energy from the sun alone as we do from all the other celestial bodies put together'

      b. Beide Konstruktionen erhalten die gleiche Konstituentenstruktur
           both   constructions   receive the same   constituent.structure
          zugeschrieben.[22]
          PART (to).written

         'Both constructions are attributed the same constituent structure.'

---

[20]See (Reis, 1976b, p. 72), (Askedal, 1984, p. 22) and (Leirbukt, 1987). (4.24) is by Askedal.

[21]Stumpff, Karl, Hans-Heinrich Voigt (Hgg). 1972. *Astronomie*. Frankfurt/M., Fischer Taschenbuch Verlag, p. 229

[22]This example is from a hardly accessible paper by Leirbukt, 1977. I quoted it from (Askedal, 1984, p. 23).

Example (4.25b) shows that the animateness restriction Olsen (1997a, p. 315) formulates on subjects of dative passive constructions are empirically wrong. Data like this further support the view that *bekommen* / *erhalten* / *kriegen* are auxiliaries that do not impose restrictions on their non-verbal dependents.

Examples of dative passives without accusatives have already been discussed on page 13 and are repeated here as (4.26) for convenience.

(4.26)   a. Er kriegte von vielen geholfen / gratuliert   / applaudiert.
              he got   by many helped   congratulated applauded
              'Many helped congratulated applauded him.'

          b. Man kriegt täglich gedankt.
              one gets   daily   thanked

Hentschel and Weydt (1995) noted that such examples are not very frequent, but Wegener (1990, p. 75) explains this with the low frequency of transitive verbs that take a dative object and are non-ergative. The fact that examples like (4.26) can be found is not surprising given that the dative passive auxiliaries do not assign semantic roles to their dependents. If they did, both (4.22a) and (4.26) would be ruled out.

4.1.5 Modal Infinitives

Apart from perfect constructions, *haben* and *sein* also appear together with a *zu* infinitive.

(4.27)   a. Die Angelegenheit ist von euch zu erledigen.
              the matter   is by you to settle
              'The matter is to be settled by you.'

          b. Ihr habt die Angelegenheit zu erledigen.
              you have the matter   to settle
              'You have to settle the matter.'

Such sentences have a modal meaning. In sentences with a *zu* infinitive and *sein*, the modal reading can correspond to *können* (*can*), *dürfen* (*be allowed to*), *sollen* (*should*) or *müssen* (*to have to*) (Gelhaus, 1977).

(4.28)   a. Die Tür ist für Hans leicht zu öffnen.
              the door is for Hans easy   to open

          b. Auf Liebe und Gunst von uns Menschen ist ohnehin nicht sehr zu
              on love and favor by us people   is anyway not very to
              bauen.[23]
              build
              'Much love and favor is not to be expected from us humans anyway.'

          c. Ein wütender Straußenhahn ist nicht zu unterschätzen.[24]
              an angry   ostrich.cock is not   to underestimate
              'An an angry ostrich cock is not to be underestimated.'

The logical subject can be expressed by a *von-*, *durch-*, or *für*-PP.

(4.29)   Das Ziel   wird für ihn nicht zu erreichen gewesen sein.[25]
          the aim/goal will for him not   to reach   been   is

---

[23](Gelhaus, 1977, p. 72)
[24](Gelhaus, 1977, p. 69)
[25](Bierwisch, 1963, p. 72)

'Presumably the aim/goal could not be reached by him.'

Usually the preposition *für* is used with the *können* reading, and with the *müssen*/*sollen* reading one uses one of the prepositions *von* and *durch*.

In general, for every active sentence there is a sentence with the *zu* infinitive and *haben* and for every passive sentence there is a sentence with the *zu* infinitive and *sein*.[26]

(4.30) a. Die Angelgenheit wird von euch erledigt.
the matter   is   by you settled

'The matter is settled by you.'

b. Die Angelegenheit muß von euch erledigt werden.
the matter   must by you settled be

'The matter has to be settled by you.'

c. Ihr müßt die Angelegenheit erledigen.
you must the matter   settle

'You have to settle the matter.'

There are also some modal constructions with *sein* that do not have a *werden* passive:

(4.31) a. * Ich werde gehabt.
I   am   had

b. Aber ab   Juli bin ich dann jederzeit zu haben.[27]
but from July am I   then always   to have

'But I will be permanently available from July onwards.'

c. Südfrüchte waren entweder überteuert   oder gar nicht zu
South.fruits were   either   over-expensive or   at.all not to
haben.[28]
have

'Exotic fruit was either overpriced or not available at all.'

I think that these examples are fixed expressions.

4.1.6 *lassen* Passive

In (4.32) we also have passive forms.[29]

(4.32) a. Er läßt den Wagen   von einem Fachmann reparieren.
he lets the car-ACC by an   expert   repair

'He has an expert repair the car.'

b. Der Vater läßt der Mutter   vom Sohn helfen.
the father lets the mother-DAT by.the son   help

'The father has the son help the mother.'

c. Die Regierung läßt der Toten   vom Volke gedenken.
the government lets the dead-GEN by.the people remember

'The governement has the dead be commemorated by the people.'

---

[26](Bierwisch, 1963, p. 72). The examples (4.29) and (4.30) are also taken from Bierwisch.
[27]Verb*mobil* Corpus, CD 15
[28]Spiegel, 46/99, p. 200
[29]The examples in (4.32b–c) are quoted from Reis (1976a, p. 19).

The sentence in (4.32a) corresponds to a personal passive, and the sentences in (4.32b–c) to an impersonal one.

lassen is ambiguous. It has a causative and a permissive reading.

(4.33) a. Der Mann läßt den Fachmann den Wagen reparieren.
            the man lets the expert   the car   repair

        'The man lets/has the expert repair the car.'

      b. Die Mutter ließ das Schnitzel anbrennen.[30]
          the mother let   the schnitzel burn

          'The mother let the schnitzel burn.'
          'The mother burnt the schnitzel.'

      c. Peter ließ es   regnen.
          Peter let   it-EXPL rain

          'Peter let it rain.'
          'Peter made it rain.'

In *lassen* passive constructions, *lassen* usually has the causative reading. However, as Reis (1976a, p. 13) noted, the permissive reading is also possible if the subject of the embedded verb is a reflexive pronoun.

(4.34) a. Der Sänger ließ sich schließlich, um   endlich seine Ruhe zu haben,
            the singer let self finally   COMP at.last his   peace to have
            von seinen Verehrerinnen   abküssen.[31]
            by his   admirers.(female) PART (off)kiss

            'Finally the singer allowed his female fans to kiss him, so that he could get some peace and quiet at long last.'

      b. Gerhard Schröders Doppelgänger mußte sich in Abwesenheit des
          Gerhard Schröder's Doppelganger had.to self in absence   of.the
          Originals die Leviten   lesen lassen.[32]
          original the Leviticus read let

          'Gerhard Schröder's Doppelganger had to have the riot act read to him as the original was not there.'

      c. sich vom   Wind streicheln und sich von   der feinen Gischt erfrischen
          self by.the wind stroke   and self from the fine   spray refresh
          zu lassen[33]
          to let

          'to be caressed by the wind and refreshed by the fine spray'

(4.34c) shows that the logical subject of the embedded verb may be inanimate.

The *lassen* passive is possible with a subset of the verbs that allow agentive passive (Reis, 1976a, p. 20). That it is possible for a subset only is probably due to semantic restrictions by *lassen*.

(4.35) a. Es wurde geglaubt, den Kindern nicht mehr helfen zu können.
            it was   believed the children not   more help   to can

            'It was believed that the children could not be helped anymore.'

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[30](Reis, 1976a, p. 13)
[31](Reis, 1976a, p. 13)
[32]Mannheimer Morgen, 05.03.1999, Politik; „Derblecken" auf dem Nockherberg
[33]Mannheimer Morgen, 03.08.1998, Sport; „Fun" beim Sport: Mit Windsurfen fing alles an

b.   * Er ließ (von allen) glauben, den Kindern nicht mehr helfen zu
he let   by all   believe   the children not   more help   to
können.
can
Intended: 'He let everyone believe that he could do nothing more for
the children.'

In (4.36a) we have the permissive reading which is not possible in the *lassen* passive.
Therefore the embedding of *glauben* in *lassen* passive constructions is impossible.

(4.36)   a.   Er ließ alle die Geschichte glauben.
he let   all   the story   believe
'He let everyone believe the story.'

b.   * Er ließ die Geschichte (von allen) glauben.
he let   the story   by   all   believe

As with the normal passive, the *lassen* passive is impossible with expletive predi-
cates:

(4.37)   * Karl läßt regnen.
Karl lets rain.
Intended: 'Karl made it rain.'

4.2   The Analyses

In HPSG grammars for English (Pollard and Sag, 1987, p. 214–218) and in LFG (Bres-
nan, 1982), the passive is analyzed as a lexical rule that takes a base verb as input and
produces a passive participle with an appropriately changed argument structure. For
German many authors followed Haider (1986a) in assuming that the auxiliaries exe-
cute the argument structure of the embedded participle (Kathol, 1991, 1994; Heinz and
Matiasek, 1994; Lebeth, 1994; Pollard, 1994; Müller, 1999a). The advantage of such
raising analyses is that one entry for the participle is sufficient. The auxiliary for the
perfect (4.38a), passive (4.38b), or dative passive (4.38c) attracts the arguments of the
embedded participle in a way that is appropriate for the construction at hand.

(4.38)   a.   Der Mann   hat den Ball   dem Jungen   geschenkt.
the   man-NOM has the   ball-ACC the   boy-DAT given
'The man gave the ball to the boy.'

b.   Der Ball   wurde dem Jungen   geschenkt.
the ball-NOM was   the   boy-DAT given
'The ball was given to the boy.'

c.   Der Junge   bekam den Ball   geschenkt.
the boy-NOM got   the ball-ACC given
'The boy got the ball as a present.'

In the passive in (4.38b) the accusative object becomes the subject and the logical
subject of the main verb is suppressed. In the dative passive a dative object is promoted
to subject.[34]

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[34]Lebeth (1994) assumes that the object is not promoted to subject, but is represented as object. This
approach will be discussed in section 4.2.1.2.4.

The situation is similar with the bare infinitive in the following constructions. Although the infinitive is used in various different constructions, there is no morphological difference.

(4.39) a. weil   ein Mechaniker   den Wagen   reparieren wird.
           because a   mechanic-NOM the car-ACC repair   will
           'because a mechanic will repair the car.'

        b. weil   Karl   einen Mechaniker   den Wagen   reparieren läßt.
           because Karl-NOM a   mechanic-ACC the car-ACC repair   lets
           'because Karl has a mechanic repair the car.'

        c. weil   Karl   den Wagen   (von einem Mechaniker) reparieren
           because Karl-NOM the car-ACC by a   mechanic   repair
           läßt.
           lets
           'because Karl has somebody / a mechanic repair the car.'

        d. weil   sich der Wagen   nicht reparieren läßt.
           because self the car-NOM not   repair   lets
           'because it is impossible to repair the car.'

In (4.39a) we have a normal future construction, in (4.39b) an AcI construction, in (4.39c) a causative passive and in (4.39d) a middle construction. Again these examples can be analyzed as object-to-subject-raising. The change of the form in which the arguments of the main verb surface is done by the auxiliary, i.e., by *lassen* in (4.39c–d). In (4.39a–b) the auxiliary takes over the arguments of the embedded verb, but does not affect the realization at the surface.

4.2.1   Object-to-Subject-Raising Approaches

There are four proposals for object-to-subject-raising analyses for the German passive. The one that will be discussed first was suggested by Pollard (1994) and elaborated by me in my 1999 book.[35] This analysis assumes a separate specification of subjects and other complements for non-finite verbs as is assumed in this book also. The second analysis was originally developed by Haider (1986a) in the GB framework and partly transferred to HPSG by Heinz and Matiasek (1994). Heinz and Mathiasek assume that both subjects and complements are always listed on the subcat list. Their approach will be discussed in section 4.2.1.2. The third approach was suggested by Lebeth (1994) and is also based on Haider's ideas. It will be discussed in section 4.2.1.2.4. In a subsection Kathol (1994, Chapter 7.3.3) discusses a further variant which will be examined in section 4.2.1.2.5.

To account for the ergative/unergative distinctions one has to be able to distinguish between "underlying subjects" and "ergative subjects". To do this one can mark a dependent of a head that gets nominative in finite contexts as an "underlying subject". This is the approach Haider suggested. Alternatively one can choose to mark the "underlying direct object". This is Pollard's proposal. If something is marked as the "underlying direct object", it cannot be the "underlying subject". Therefore both alternatives are suited to classify ergative and unergative verbs. However, the analyses that

---

[35]Pollard's proposal is an elaboration of Kathol's ideas (1991). Kathol introduced a feature named ERG to single out the complement that has accusative properties. This feature is also used by Pollard. In his paper he unifies the analyses for the personal und impersonal passive and also discusses the remote passive. In what follows I will use the feature name ACC instead of ERG since this is more appropriate.

are built on top of these classifications are not equivalent in their predictions. This will become clear in section 4.2.1.2.

4.2.1.1 Designating the Accusative Element

Pollard (1994) designates the argument that has the properties of an accusative object. For unergative verbs that take an accusative object, the designated argument is the direct object, for ergative verbs it is the subject. Intransitive unergative verbs and transitive verbs that take a dative have no designated element. (4.40) shows the SUBJ, ACC, and SUBCAT values for the verbs *ankommen* ('to arrive'), *tanzen* ('to dance'), *auffallen* ('to attract attention'), *lieben* ('love'), *schenken* ('to give as a present'), and *helfen* ('to help').

(4.40)

		SUBJ	ACC	SUBCAT
a.	ankommen (ergative):	$\langle\; \boxed{1}\; \text{NP}[str] \;\rangle$	$\langle\; \boxed{1}\; \rangle$	$\langle\rangle$
b.	tanzen (non-ergative):	$\langle\; \text{NP}[str] \;\rangle$	$\langle\rangle$	$\langle\rangle$
c.	auffallen (ergative):	$\langle\; \boxed{1}\; \text{NP}[str] \;\rangle$	$\langle\; \boxed{1}\; \rangle$	$\langle\; \text{NP}[ldat] \;\rangle$
d.	lieben (non-ergative):	$\langle\; \text{NP}[str] \;\rangle$	$\langle\; \boxed{1}\; \rangle$	$\langle\; \boxed{1}\; \text{NP}[str] \;\rangle$
e.	schenken (non-ergative):	$\langle\; \text{NP}[str] \;\rangle$	$\langle\; \boxed{1}\; \rangle$	$\langle\; \boxed{1}\; \text{NP}[str], \text{NP}[ldat] \;\rangle$
f.	helfen (non-ergative):	$\langle\; \text{NP}[str] \;\rangle$	$\langle\rangle$	$\langle\; \text{NP}[ldat] \;\rangle$

4.2.1.1.1 Personal and Impersonal Passive

These lexical entries together with the auxiliary for the passive that will be explained below can account for the following pattern:

(4.41)   a.   Karl kam   an.
Karl came PART
'Karl arrived.'

b.   * Dort wurde angekommen.
there was   arrived

c.   Man tanzte   dort.
one   danced there

d.   Dort wurde getanzt.
there was   danced
'There was dancing there.'

e.   Er fiel   ihr auf.
he noticed her PART
'He got noticed.'

f.   * Ihr wurde aufgefallen.
her was   noticed

g.   Man   half   dem Mann.
one-NOM helped the   man-DAT

h.   Dem Mann   wurde geholfen.
the   man-DAT was   helped

i.   Man   liebte diesen Film.
       one-NOM loved this   film-ACC

j.   Dieser Film   wurde geliebt.
       this   film-NOM was   loved

The passivization of ergative verbs in general is impossible (4.41b,f). If non-ergative intransitive verbs are passivized, we get a subjectless construction (4.41d). If a transitive verb that takes no accusative object is passivized, we get a subjectless construction with an oblique complement (4.41h). And finally, the accusative object of transitive or ditransitive verbs turns into a nominative, i.e., it is promoted to subject ((4.41j) and (4.38b)).

The passive auxiliary in (4.42) embeds a verb with the VFORM *ppp*, i.e., a participle. The auxiliary subtracts the value of ACC ($\boxed{1}$) from the subcat list of the embedded verb.

werden (passive auxiliary non-finite form):

$$
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \boxed{1} \\ \text{ACC} & \boxed{1} \\ verb \end{bmatrix} \\
\text{SUBCAT} & \boxed{2} \\
\text{VCOMP} & \left\langle \begin{array}{l} \text{V}[ppp, \text{LEX+}, \text{SUBJ} \left\langle \text{NP}[str]_{ref} \right\rangle, \text{ACC } \boxed{1}, \\ \quad \text{SUBCAT } \boxed{1} \oplus \boxed{2}, \text{VCOMP} \langle\rangle] \end{array} \right\rangle \\
cat
\end{bmatrix}
\tag{4.42}
$$

The remaining elements ($\boxed{2}$) are raised to the subcat list of the auxiliary. The value of ACC is identical to the value of the subject of the auxiliary. Therefore the resulting verbal complex is ergative and the iteration of passivization is ruled out. The lexical entry in (4.42) accounts for both the personal and impersonal passive. In the case of *tanzen* the ACC value is the empty list. The subtraction of the empty list of another list is identical to this other list. In the case of *tanzen* $\boxed{2}$ is the empty list. Since the ACC value of *tanzen* is the empty list, the SUBJ value of *wird getanzt* is also the empty list. The situation is similar with *helfen*. Here $\boxed{2}$ gets instantiated as $\left\langle \text{NP}[ldat] \right\rangle$. The SUBJ value of *wird geholfen* is identical to the ACC value of *geholfen*, i.e., the empty list. Having explained the instances of the so-called impersonal passive, we can now turn to the so-called personal passive. In the case of the passivization of *lieben*, the subtraction of the ACC value of the subcat list of *lieben* yields the empty list. The value of ACC which is the direct object of *lieben* is the subject of *wird lieben*. As such it gets nominative by the case principle.

Assuming an object-to-subject-raising analysis for passive, there are two possibilities to analyze the PP that may be used in passive constructions to express the logical subject. It can either be analyzed as a complement of the passive auxiliary or as an adjunct of the main verb. Since the PP fills a semantic role of the participle, I prefer to assume that the PP is a complement. (4.43) shows a modified version of (4.42) with an optional PP complement added.

werden (passive auxiliary non-finite form):

$$
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \boxed{1} \\ \text{ACC} & \boxed{1} \\ \textit{verb} \end{bmatrix} \\
\text{SUBCAT} & \boxed{2} \oplus \left\langle \, (\text{PP}[\textit{von}]_{\boxed{3}}) \, \right\rangle \\
\text{VCOMP} & \left\langle \begin{array}{l} \text{V}[\textit{ppp}, \text{LEX+}, \text{SUBJ} \left\langle \text{NP}[\textit{str}]_{\boxed{3}} \right\rangle , \text{ACC } \boxed{1}, \\ \quad \text{SUBCAT } \boxed{1} \oplus \boxed{2}, \text{VCOMP} \langle\rangle \,] \end{array} \right\rangle \\
\textit{cat} &
\end{bmatrix}
\tag{4.43}
$$

Because of the structure sharing of the indices of the PP and the logical subject of the main verb, it is ensured that the PP fills the appropriate semantic role of the main verb.

4.2.1.1.2 Remote Passive

Usually objects of infinitives that are embedded under control verbs do not appear in the nominative, but the following examples show that this is possible in certain contexts.

(4.44) a. daß er auch von mir zu überreden versucht wurde.[36]
          that he also from me to persuade tried   got
          'that an attempt to persuade him was also made by me.'
      b. weil   der Wagen oft   [[zu reparieren versucht] wurde].
          because the car   often to repair   tried   was
          'because it was often tried to repair the car.'

In remote passive constructions the object of a verb that is embedded under the passive participle becomes subject of the clause. Pollard (1994, p. 288–289) explained this by assuming that *zu reparieren* (4.45) and *versucht* (4.46)[37] form a verbal complex (4.47), and the object of this verbal complex is promoted to the subject of the complete verbal complex by its head, the auxiliary *werden*, which was given in (4.42).

reparieren ('repair', entry for non-finite form):

$$
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \left\langle \text{NP}[\textit{str}]_{\boxed{i}} \right\rangle \\ \text{ACC} & \left\langle \boxed{2} \right\rangle \\ \textit{verb} \end{bmatrix} \\
\text{SUBCAT} & \left\langle \boxed{2}\,\text{NP}[\textit{str}]_{\boxed{j}} \right\rangle \\
\text{VCOMP} & \langle\rangle \\
\textit{cat} &
\end{bmatrix}
\tag{4.45}
$$

---

[36](Oppenrieder, 1991, p. 212)

[37]The lexical entry in (4.46) differs from Pollard's lexical entry in that it does not require that the ACC value is a prefix of the subcat list of the embedded verb. Pollard's entry predicts that *versuchen* does not embed ergative verbs in coherent constructions, which is empirically wrong.

  (i) weil   Maria ihm nicht aufzufallen   versucht.
        because Maria him not   to.attract.attention tries
       'because Maria does not try to attract his attention.'

versuchen ('try', coherent version, entry for non-finite form):

$$
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \langle\, \text{NP}[\mathit{str}]_{\boxed{i}} \,\rangle \\ \text{ACC} & \boxed{2} \\ \mathit{verb} \end{bmatrix} \\
\text{SUBCAT} & \boxed{3} \\
\text{VCOMP} & \left\langle \begin{array}{l} \text{V}[\mathit{inf},\ \text{LEX+},\ \text{SUBJ} \,\langle\, \text{NP}[\mathit{str}]_{\boxed{i}} \,\rangle,\ \text{ACC} \,\boxed{2},\ \text{SUBCAT} \,\boxed{3} \\ \qquad \text{VCOMP} \,\langle\rangle\ ] \end{array} \right\rangle \\
\mathit{cat}
\end{bmatrix}
\tag{4.46}
$$

zu reparieren versucht ('try to repair'):

$$
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \langle\, \text{NP}[\mathit{str}]_{\boxed{i}} \,\rangle \\ \text{ACC} & \langle\, \boxed{2} \,\rangle \\ \mathit{verb} \end{bmatrix} \\
\text{SUBCAT} & \langle\, \boxed{2}\,\text{NP}[\mathit{str}]_{\boxed{j}} \,\rangle \\
\text{VCOMP} & \langle\rangle \\
\mathit{cat}
\end{bmatrix}
\tag{4.47}
$$

The result of the latter combination is shown in (4.48).

zu reparieren versucht wurde ('was tried to repair'):

$$
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \langle\rangle \\ \text{ACC} & \langle\, \boxed{2} \,\rangle \\ \mathit{verb} \end{bmatrix} \\
\text{SUBCAT} & \langle\, \boxed{2}\ \text{NP}[\mathit{str}]_{\boxed{j}} \,\rangle \\
\text{VCOMP} & \langle\rangle \\
\mathit{cat}
\end{bmatrix}
\tag{4.48}
$$

(4.48) is a description of the verbal complex *zu reparieren versucht wurde*. Since *wurde* is a finite verb, the subject that is identical with the ACC element of the embedded verbal complex is represented on the subcat list. (4.48) represents a finite verbal complex with one NP missing. Since the NP has structural case it will be realized as nominative.

Pollard's approach works well for cases like those discussed above, but it fails on sentences like (4.49).

(4.49) a. Keine Zeitung   wird ihr   zu lesen erlaubt.[38]
            no   newspaper-NOM was her-DAT to read allowed

            'She is not allowed to read any newspapers.'

        b. Der Erfolg   wurde uns   nicht auszukosten erlaubt.[39]
            the success-NOM was   us-DAT not   to.enjoy   permitted

            'We were not permitted to enjoy our success.'

In (4.49) the accusative object of an infinitive that is embedded under an object control verb is realized as nominative NP. *erlauben* is an object control verb that takes a dative object:

---

[38]Stefan Zweig. *Marie Antoinette*. Leipzig: Insel-Verlag. 1932, p. 515, quoted from (Bech, 1955, p. 309). That this is an instance of remote passive was noted by Askedal (1988, p. 13).

[39](Haider, 1986b, p. 110)

erlauben (non-finite form):

$$
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \left\langle \text{NP}[str]_{\boxed{1}} \right\rangle \\ \text{ACC} & \boxed{1} \\ \textit{verb} \end{bmatrix} \\
\text{SUBCAT} & \left\langle \text{NP}[ldat]_{\boxed{j}} \right\rangle \oplus \boxed{2} \\
\text{VCOMP} & \left\langle \text{V}[\textit{inf}, \text{LEX+}, \text{SUBJ} \left\langle \text{NP}[str]_{\boxed{j}} \right\rangle, \text{ACC} \boxed{1}, \text{SUBCAT} \boxed{2}] \right\rangle \\
\textit{cat}
\end{bmatrix}
\tag{4.50}
$$

Since the dative object is at the first position in the subcat list of *erlauben*, a possibly raised object of the embedded verb cannot be subtracted from the beginning of this list.

I therefore suggested generalizing Pollard's approach and subtracting the ACC value not using *append*, but a general relation that removes the first element that matches a description from a list (Müller, 1999a, p. 303). The '$\ominus$' in $A \ominus B = C$ stands for a relation where C is equal to A, iff B is the empty list. Otherwise C is the list that deletes the first part in A that is identical to B. (4.51) lists the cases that are relevant for the present discussion.

$$
\begin{aligned}
\left\langle a, b, c \right\rangle \ominus \left\langle \right\rangle &= \left\langle a, b, c \right\rangle \\
\left\langle a, b, c \right\rangle \ominus \left\langle a \right\rangle &= \left\langle b, c \right\rangle \\
\left\langle a, b, c \right\rangle \ominus \left\langle b \right\rangle &= \left\langle a, c \right\rangle
\end{aligned}
\tag{4.51}
$$

(4.52) shows the generalized entry for *werden* that uses $\ominus$.

werden (passive auxiliary non-finite form):

$$
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \boxed{1} \\ \text{ACC} & \boxed{1} \\ \textit{verb} \end{bmatrix} \\
\text{SUBCAT} & \boxed{2} \oplus \left\langle (\text{PP}[von]_{\boxed{3}}) \right\rangle \\
\text{VCOMP} & \left\langle \begin{array}{l} \text{V}[\textit{ppp}, \text{LEX+}, \text{SUBJ} \left\langle \text{NP}[str]_{\boxed{3}} \right\rangle, \text{ACC} \boxed{1}, \\ \quad \text{SUBCAT} \boxed{4}, \text{VCOMP} \left\langle \right\rangle] \end{array} \right\rangle \\
\textit{cat}
\end{bmatrix}
\tag{4.52}
$$
$$\wedge \ \boxed{2} = \boxed{4} \ominus \boxed{1}$$

The combination of *auszukosten* (4.53) and *erlaubt* (4.50) yields (4.54).

auskosten ('enjoy', entry for non-finite form):

$$
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \left\langle \text{NP}[str]_{\boxed{j}} \right\rangle \\ \text{ACC} & \left\langle \boxed{1} \right\rangle \\ \textit{verb} \end{bmatrix} \\
\text{SUBCAT} & \left\langle \boxed{1} \ \text{NP}[str]_{\boxed{k}} \right\rangle \\
\text{VCOMP} & \left\langle \right\rangle \\
\textit{cat}
\end{bmatrix}
\tag{4.53}
$$

auszukosten erlaubt:

$$
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \left\langle \text{NP}[\mathit{str}]_{\boxed{i}} \right\rangle \\ \text{ACC} & \left\langle \boxed{1} \right\rangle \\ \mathit{verb} \end{bmatrix} \\
\text{SUBCAT} & \left\langle \text{NP}[\mathit{ldat}]_{\boxed{j}} \right\rangle \oplus \left\langle \boxed{1}\ \text{NP}[\mathit{str}]_{\boxed{k}} \right\rangle \\
\text{VCOMP} & \langle \rangle \\
\mathit{cat}
\end{bmatrix}
\tag{4.54}
$$

The list that contains the object of *auskosten* is coindexed with the ACC value of *auszukosten erlaubt*. When this verbal complex is combined with the non-finite form of the lexical entry in (4.52), the result is (4.55).

auszukosten erlaubt werden (non-finite form):

$$
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \boxed{1}\ \left\langle \text{NP}[\mathit{str}]_{\boxed{k}} \right\rangle \\ \text{ACC} & \boxed{1} \\ \mathit{verb} \end{bmatrix} \\
\text{SUBCAT} & \left\langle \text{NP}[\mathit{ldat}]_{\boxed{j}} \right\rangle \oplus \left\langle (\text{PP}[\mathit{von}]_{\boxed{i}}) \right\rangle \\
\text{VCOMP} & \langle \rangle \\
\mathit{cat}
\end{bmatrix}
\tag{4.55}
$$

The ACC list $\left\langle \boxed{1} \right\rangle$ is subtracted from the subcat list of the embedded verb and represented as the SUBJ value. Since the subcat list of the embedded verb only contains the accusative object, the remaining list ($\boxed{2}$ in (4.52)) is the empty list.

When *auszukosten erlaubt* is combined with the finite form of (4.52), the result is (4.56).

auszukosten erlaubt wurde (finite form):

$$
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \langle \rangle \\ \mathit{verb} \end{bmatrix} \\
\text{SUBCAT} & \left\langle \text{NP}[\mathit{str}]_{\boxed{k}}\ ,\ \text{NP}[\mathit{ldat}]_{\boxed{j}} \right\rangle \oplus \left\langle (\text{PP}[\mathit{von}]_{\boxed{i}}) \right\rangle \\
\text{VCOMP} & \langle \rangle \\
\mathit{cat}
\end{bmatrix}
\tag{4.56}
$$

The object of *auskosten* is the first element on the subcat list and since it has structural case, it is realized as nominative.

4.2.1.1.3   Stative Passive

The CAT value of the auxiliary for the stative passive is identical to the CAT value for the auxiliary for the agentive passive:

sein (Stative Passive):

$$
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \boxed{1} \\ \text{ACC} & \boxed{1} \\ verb \end{bmatrix} \\
\text{SUBCAT} & \boxed{2} \oplus \left\langle \; (\text{PP}[\textit{von}]_{\boxed{3}}) \; \right\rangle \\
\text{VCOMP} & \left\langle \begin{array}{l} \text{V}[\textit{ppp}, \text{LEX+}, \text{SUBJ} \left\langle \text{NP}[\textit{str}]_{\boxed{3}} \right\rangle , \text{ACC} \; \boxed{1} , \\ \quad \text{SUBCAT} \; \boxed{4} , \text{VCOMP} \langle \rangle \;] \end{array} \right\rangle \\
cat
\end{bmatrix}
\tag{4.57}
$$

4.2.1.1.4 The Dative Passive

The dative passive can be described using the same mechanism of argument attraction. Since verbs that allow for a dative passive have to be unergative, the subtraction of the ACC value ($\boxed{2}$) from the subcat list of the embedded verb has to be possible.

bekommen (passive):

$$
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \left\langle \text{NP}[\textit{str}]_{\boxed{1}} \right\rangle \\ \text{ACC} & \boxed{2} \\ verb \end{bmatrix} \\
\text{SUBCAT} & \boxed{2} \oplus \boxed{3} \oplus \left\langle \; (\text{PP}[\textit{von}]_{\boxed{4}}) \; \right\rangle \\
\text{VCOMP} & \left\langle \begin{bmatrix} \text{LOC} & \begin{bmatrix} \text{CAT} & \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \text{VFORM} \; \textit{ppp} \\ \text{SUBJ} & \left\langle \text{NP}[\textit{str}]_{\boxed{4}} \right\rangle \\ \text{ACC} & \boxed{2} \\ verb \end{bmatrix} \\ \text{SUBCAT} & \boxed{2} \oplus \left\langle \text{NP}[\textit{ldat}]_{\boxed{1}} \right\rangle \oplus \boxed{3} \end{bmatrix} \end{bmatrix} \\ \text{LEX} \; + \end{bmatrix} \right\rangle \\
cat
\end{bmatrix}
\tag{4.58}
$$

The subject of the dative passive auxiliary is coindexed with the dative element of the embedded verb. All elements from the subcat list of the embedded verb are taken over to the subcat list of *bekommen* except for the dative object which is promoted to subject.

The sentence in (4.59) can also be analyzed.

(4.59)   Ich bekam (von Karl) geholfen.
       I   got   by Karl helped
       'I was helped by Karl.'

helfen has an empty ACC value, i.e., $\boxed{2}$ is the empty list. Since *helfen* does not have other arguments $\boxed{3}$ is the empty list also. The examples in (4.23) are excluded, since these verbs are ergative and their ACC value cannot be subtracted from their subcat list.

The embedding of the dative passive under *sein*, which is marginally possible, can also be explained:[40]

(4.60)   a.   ? So etwas   ist leicht geschenkt zu kriegen.
              such something is easy   given   to get
              'It is easy to be given something like that.'

---

[40]The examples are quoted from (Haider, 1986a, p. 6).

b. ? So   ein Preis ist leicht zugesprochen zu kriegen.
        such a   price is easy   awarded   to get
        'It is easy to get such a price.'

Since *zu kriegen* takes over the ACC value of *geschenkt*, the modal *sein* can raise the object of *geschenkt zu kriegen* to the subject of the complete verbal complex. Unfortunately this specification of ACC also allows sentences like (4.61) which I find unacceptable:

(4.61)   * In diesem Saal   sind viele Preise verliehen bekommen worden.[41]
               in this   room are   many prices awarded gotten   been

(4.60) and (4.61) can be ruled out by assuming that the SUBJ value and the ACC value of *bekommen* are identical.

4.2.1.1.5 Modal Infinitives

The lexical entries for *haben* and *sein* are analogous to the ones that were given for the passive and perfect auxiliaries:

sein (modal with *zu* infinitive):

$$
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \boxed{1} \\ \text{ACC} & \boxed{1} \\ verb \end{bmatrix} \\[2ex]
\text{SUBCAT} & \boxed{2} \oplus \left\langle (\text{PP}[\textit{von-durch-für}]_{\boxed{3}}) \right\rangle \\[2ex]
\text{VCOMP} & \left\langle \begin{array}{l} \text{V}[\textit{inf}, \text{LEX}+, \text{SUBJ} \left\langle \text{NP}[\textit{str}]_{\boxed{3}} \right\rangle, \text{ACC } \boxed{1}, \\ \text{SUBCAT } \boxed{1} \oplus \boxed{2}, \text{VCOMP} \langle\rangle] \end{array} \right\rangle \\[2ex]
cat
\end{bmatrix}
\tag{4.62}
$$

haben (modal with *zu* infinitive):

$$
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \boxed{1} \\ verb \end{bmatrix} \\[2ex]
\text{SUBCAT} & \boxed{2} \\[1ex]
\text{VCOMP} & \left\langle \text{V}[\textit{inf}, \text{LEX}+, \text{SUBJ } \boxed{1}, \text{SUBCAT } \boxed{2}, \text{VCOMP} \langle\rangle] \right\rangle \\[1ex]
cat
\end{bmatrix}
\tag{4.63}
$$

The following sentence by Haider (1990a, p. 137) is excluded, since the *sein*—like other passive auxiliaries—requires an infinitive with a subject.

(4.64)   * daß ihm   nicht geholfen zu werden ist.
               that him-DAT not   helped   to be   is

The verbal complex *geholfen zu werden* is a subjectless construction that cannot be embedded under *ist*.

4.2.1.1.6 *lassen* Passive

The passive version of the verb *lassen* is completely analogous to what has been shown above:

---

[41] Kathol (1991) marks this sentences with a question mark.

Draft of January 12, 2001. Comments Welcome!

lassen (passive version):

$$
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \langle \text{NP}[str] \rangle \\ \text{ACC} & \boxed{1} \\ verb \end{bmatrix} \\
\text{SUBCAT} & \boxed{1} \oplus \boxed{2} \oplus \langle (\text{PP}[von]_{\boxed{3}}) \rangle \\
\text{VCOMP} & \left\langle \begin{array}{l} \text{V}[bse, \text{LEX+}, \text{SUBJ} \langle \text{NP}[str]_{\boxed{3} ref} \rangle, \text{ACC} \boxed{1}, \\ \quad \text{SUBCAT} \boxed{1} \oplus \boxed{2}, \text{VCOMP} \langle \rangle] \end{array} \right\rangle \\
cat
\end{bmatrix}
\tag{4.65}
$$

The ACC value of the embedded verbal complex is subtracted from the subcat list of the embedded constituent. The remaining elements are raised to the subcat list of the matrix verb. The only difference is that the ACC element of the embedded verbal complex is not promoted to the subject of *lassen* since *lassen* has its own subject. Instead the ACC element is inserted into the subcat list of *lassen*, thus functioning as an object.

4.2.1.1.7 Adjectival Forms

As was discussed in the data section, participles have an adjectival form that is used in prenominal position.

(4.66)   a. der reparierte Wagen
           the repaired   car

         b. der angekommene Zug
           the arrived   train

The first example shows an unergative verb and the second an ergative one. If an unergative verb is used in this position, the logical subject of the verb is suppressed. The direct object and the noun to be modified are coindexed. In the case of an ergative verb, the logical subject of the verb is coreferent with the modified noun. No argument is suppressed. In both cases the element that is coreferent with the modified noun is not expressed at the surface.

The prenominal adjectival participles are inflected and if inflection is assumed to be a lexical process, the input to this process has to be lexical too (Bresnan, 1982). Since in (Müller, 1999a, Chapter 7), I assumed inflection to be analyzed with lexical rules, I suggested deriving the adjectival forms with lexical rules also.[42] The rules that I proposed in (Müller, 1999a, chapter 15.5) are repeated here as (4.67) and (4.71). The first rule takes the *ppp* form of a lexical entry like (4.45) as input and produces an adjectival form with a passive argument structure.

---

[42]If one assumed a head affix approach instead, the generalizations about passive could be captured in a better way. However, the problem that will be discussed in the next section stays the same: The head affix combination is basically an entry for the passive participle. To avoid these additional lexical entries is the main goal of the object-to-subject-raising analysis.

Adjective Formation Lexical Rule for Unergative Verbs:

$$
\begin{bmatrix}
\text{SYNSEM}|\text{LOC}
\begin{bmatrix}
\text{CAT}
\begin{bmatrix}
\text{HEAD}
\begin{bmatrix}
\text{VFORM } ppp \\
\text{SUBJ} \quad \left\langle \text{NP}[str]_{\boxed{1}} \right\rangle \\
\text{ACC} \quad \left\langle \boxed{2}\ \text{NP}[str]_{\boxed{3}} \right\rangle \\
verb
\end{bmatrix} \\
\text{SUBCAT} \left\langle \boxed{2} \right\rangle \oplus \boxed{4} \\
\text{CONT } \boxed{5}
\end{bmatrix}
\end{bmatrix}
\end{bmatrix}
\rightarrow
$$

$$
\begin{bmatrix}
\text{SYNSEM}|\text{LOC}
\begin{bmatrix}
\text{CAT}
\begin{bmatrix}
\text{HEAD}
\begin{bmatrix}
\text{PRD } - \\
\text{MOD } \overline{\text{N}}:[\text{IND } \boxed{3}, \text{RESTR } \boxed{6}] \\
adj
\end{bmatrix} \\
\text{SUBCAT } \boxed{4} \oplus \left\langle (\text{PP}[von]_{\boxed{1}}) \right\rangle
\end{bmatrix} \\
\text{CONT}
\begin{bmatrix}
\text{IND} \quad \boxed{3} \\
\text{RESTR } \{\ \boxed{5}\ \} \cup \boxed{6}
\end{bmatrix} \\
loc
\end{bmatrix}
\end{bmatrix}
$$

(4.67)

The coreference of the logical object of the participle and the modified noun is enforced by structure sharing the IND values ($\boxed{3}$). In the entry for *reparieren* the theme is linked to the representation of the direct object in the subcat list. Therefore it is also linked to the element in ACC.

The logical subject of adjectival passives can be expressed by a *von* PP.

(4.68) a. der von seiner Frau betrogene Mann
            the by   his   wife deceived man

            'the man whose wife was unfaithful to him'

        b. das vom   Hund gebissene Kind
            the by.the dog   bit   child

            'the child who the dog bit'

In the lexical rule (4.67) the PP is introduced into the subcat list of the output sign, i.e., it is analyzed as a complement.

Because of the specification of the SUBJ value in the left-hand side of the rule, the rule cannot apply to subjectless verbs.

(4.69)   * der vor   der Prüfung gegraute Student
            the before the exam   dreaded student

For the phrases in (4.70) I suggested the rule in (4.71), which handles ergative verbs.[43]

(4.70) a. der eben erst aufgewachte Mann
            the just only up.woken   man

            'the man who has only just woken up'

---

[43] Kathol (1991) suggested a rule that covers both ergative and non-ergative verbs. His formulation of the rule contains a complex relational constraint (not formalized, but given in prose) that is equivalent to a disjunction, i.e., to the two rules given here. Pollard (1994) does not discuss adjectival formation at all.

b. der eben angekommene Zug
the just   arrived   train
'the train that just arrived'

Adjective Formation Lexical Rule for Ergative Verbs:

$$
\left[\text{SYNSEM}|\text{LOC} \left[\text{CAT} \left[\text{HEAD} \left[\begin{array}{l} \text{VFORM } ppp \\ \text{SUBJ} \quad \left\langle \boxed{1} \right\rangle \\ \text{ACC} \quad \left\langle \boxed{2}\ \text{NP}[str]_{\boxed{3}} \right\rangle \\ verb \end{array} \right] \right] \\ \text{CONT } \boxed{4} \right] \right] \wedge \boxed{1} == \boxed{2}
$$

$\rightarrow$ (4.71)

$$
\left[\text{SYNSEM}|\text{LOC} \left[\begin{array}{l} \text{CAT} \left[\text{HEAD} \left[\begin{array}{l} \text{PRD} \quad - \\ \text{MOD } \overline{\text{N}}: [\text{IND } \boxed{3}, \text{RESTR } \boxed{5}] \\ adj \end{array} \right] \right] \\ \text{CONT} \left[\begin{array}{l} \text{IND} \quad \boxed{3} \\ \text{RESTR } \{ \boxed{4} \} \cup \boxed{5} \end{array} \right] \\ loc \end{array} \right] \right]
$$

In (4.71) the element in the SUBJ list is identical to the one in the ACC list, and in (4.67) the element in the ACC list is identical to the first element in the subcat list. The identity requirement has to be made explicit in (4.71) since lexical rules are applied to elements that unify with the input description. If the tag $\boxed{1}$ were used in the ACC list instead of using $\boxed{2}$ and the identity test ('=='), the rule could also apply to transitive non-ergative verbs. The output of the rule would be a lexical entry with the subject and the object unified, and could be used to analyze ungrammatical sentences like (4.72).

(4.72)   * Die die Frau   geliebte Frau   schläft.
              the the woman loved   woman sleeps

If one follows King's approach (1994) to HPSG, identity tests like the one in (4.71) cannot be formulated. Instead one has to specify inequality constraints in the lexical entries of transitive non-ergative verbs. These constraints then prevent (4.71) from applying.[44]

Since the lexical entry of *tanzen* has an empty ACC list, neither rule (4.67) nor rule (4.72) applies. Therefore the acceptability of (4.70) and the unacceptability of (4.73) is explained.

(4.73)   * der eben erst getanzte Mann
              the just   danced   man
              Intended: 'the man who was only just dancing'

This also works for transitive ergative and unergative verbs:

(4.74)   a.   das ihm zugestoßene Unglück
              the him happened   accident
              'the accident that happened to him'

---

[44]Thanks to Frank Richter for some discussion of this issue.

  b.   * der (ihm) geholfene Mann
         the him   helped   man

(4.74b) is rejected by the grammar, since *helfen* does not have an ACC element and
therefore the sign for *geholfen* is not compatible with the left-hand side of (4.67) or
(4.71). No lexical sign with the PHON value *geholfene* is licensed by the grammar.

   In chapter 3.1.3.2, I discussed Höhle's test (1983, Chapter 6) for determining the
case of unexpressed subjects. In the examples the test was applied to infinitives, but
of course completely analogous examples with adjectival participle heads can be con-
structed.

(4.75)   a.   die [eines   nach dem   anderen]$_i$ einschlafenden
              the one-NOM-NEU after the-DAT-NEU other   nodding.off
              Kinder$_i$
              children-NOM ∨ ACC

              'the children who are nodding off one after the other'

         b.   die [einer   nach dem   anderen]$_i$ durchstartenden
              the one-NOM-MAS after the-DAT-MAS other   revving
              Halbstarken$_i$
              hooligans-NOM ∨ ACC

              'the hooligans who are revving one after the other'

         c.   die [eine   nach der   anderen]$_i$ loskichernden
              the one-NOM-FEM after the-DAT-FEM other   starting.to.giggle
              Frauen$_i$
              women-NOM ∨ ACC

              'the women who are starting to giggle one after the other'

In (4.75a) and (4.75c), the *ein- nach d- ander-* phrase is ambiguous in case. The case
form is *nom ∨ acc*. But (4.75b) suggests that the subject of the adjectival participle
is nominative. Note that the NPs in (4.75) can function as subject and as object in
a higher clause, since the case of the modified noun is independent from the case of
the subject of the adjectival participle. This is accounted for by the lexical rules in
(4.67) and (4.71). Both rules establish a coindexing between the modified noun and
the subject of the participle. The SYNSEM values of the modified noun and the subject
of the participle are not identical, however. The relation between these two elements is
a control relation rather than a raising relation. It is therefore not legitimate to call the
modified NP the subject (or the external argument) of the participle as, for instance,
Levin and Rappaport (1986, p. 646) and Jacobs (1991, p. 9) do. Jacobs, developing a
theory that is influenced by ideas from Categorial Grammar, assumes that the modi-
fied noun is a complement of adjectival participles. He does not represent the grade of
saturation in valence specifications and therefore an $\overline{\text{N}}$ that is modified may simulta-
neously be a complement of the participle. To account for the fact that the case of the
modified noun, which is also reflected by the case inflection of the adjectival participle,
is independent from the nominative, which the subject normally gets, he assumes that
the case requirements for the subject are overwritten by the value that corresponds to
the inflectional case of the adjective. This means that subjects of participles may bear
all four cases. In particular dative subjects are predicted, an option that is excluded by
the theory developed here: In German there are no dative subjects. NP subjects are
specified to have structural case and dative is lexical.

4.2.1.1.8 Problems

There are two problems with the object-to-subject-raising analysis as it was suggested by Pollard (1994) and Müller (1999a). If the examples in (4.76) are seen as frontings of verbal projections rather than multiple constituents in the *Vorfeld*, one has to assume that the PP is an adjunct or a complement of the participle. But according to the analysis sketched above, the PP is a complement of the auxiliary and it is therefore impossible to explain why it can appear together with the participle in the *Vorfeld*.

(4.76)   a. Von Grammatikern angeführt werden auch Fälle mit dem Partizip
         by grammarians mentioned get   also cases with the participle
         intransitiver Verben . . .[45]
         intransitive verbs

         'Grammarians also mention cases with the participle of intransitive verbs.'

    b. Von Riemsdijk entdeckt   sind nun Daten, die   zeigen, daß es
         by Riemsdijk discovered are now data   which show   that it
         möglich ist, eine W-Phrase hinter *glauben* zu haben.[46]
         possible is   a   W-phrase behind *glauben* to have

         'Riemsdijk has now discovered data that demonstrate that it is possible to have a W-phrase following *glauben*.'

    c. Durch   grammatische Fakten belegen läßt sich nur das maskuline
         through grammatical   facts   prove   lets itself only the masculine
         Genus von *wer* [. . .][47]
         gender of   wer

         'The only thing that can be proved by grammatical facts is the masculine gender of *wer*.'

In (4.76a) we have an agentive passive, in (4.76b) a stative passive, and in (4.76c) a middle construction. In all examples the PP that expresses the logical subject and the base verb are positioned in the *Vorfeld*.

At the first glance a treatment of the PP as adjunct seems to be the obvious way to solve this problem, but note that sentences like (4.77) are ungrammatical with the reading where the *von*-PP expresses the logical subject of the participle:

(4.77)   * Grammatiker haben auch andere Fälle von Grammatikern angeführt.
        grammarians have also other   cases by grammarians mentioned

Since the participle is assumed to be the same lexical entry in perfect and passive constructions the *von*-PP can modify the participle in perfect constructions also. In sentences like (4.77), we therefore have both the logical subject of the active sentence (*Grammatiker*) and the *von*-PP that is used to express the logical subject in passive sentences. Two ways of solving this problem suggest themselves: First, one can assume some version of a coherence principle, as is assumed in Lexical Functional Grammar (LFG). This principle ensures that every grammatical function of a predicate is realized exactly once. However, it is not easy to see how such a principle could be formalized and integrated into the fragment described here. The problem is that in an adjunct analysis of (4.76a) the PP is coindexed with the logical subject of the participle. Such

---

[45]In the main text of (Askedal, 1984, p. 28).
[46]In the main text of (Fanselow, 1987, p. 66).
[47]In the main text of (Pittner, 1996, p. 77).

a coindexing had to be ruled out for cases where the subject is actually realized, as in (4.77), but exactly this kind of coindexing is needed in order to account for depictive predicates, as in (4.78).

(4.78)   Grammatiker$_i$ haben diese Fälle nackt$_i$ diskutiert.
         grammarians have   these cases naked discussed
         'Grammarians discussed these cases naked.'

As I will argue in chapter 5, the coreference between the subject of a depictive predicate and its antecedent noun is established with reference to the argument structure of a verb, i.e., *diskutiert* in (4.78). The argument structure is a list that contains representations of subjects and complements. Since the subject of *diskutiert* in the argument structure is identical to the element in the SUBJ list, the situation in terms of coindexing is identical in (4.77) and (4.78). Therefore a coherence principle that rules out (4.77) renders a coindexing analysis for (4.78) impossible.

The second option is to assume that the adjunct PP marks the participle in a way that makes the combination with perfect auxiliaries impossible. But this is rather similar to approaches that use diacritics to differentiate between different lexical entries for participles in passive and perfect environments.

If one assumes a lexical rule for passive, the lexical rule can change the subject of a verb into a PP complement and the PP is then a complement of the main verb and can be fronted together with the main verb. This is not a very strong argument though, since Höhle (1978) has shown that the logical subject can by expressed by several different prepositional phrases that have a locative meaning. So it can well be the case that the *von*-PP is just a special instantiation of the adjunct PP that specifies the logical subject.

The second problem of object-to-subject-raising analyses is that one needs the passive participles anyway to account for sentences like those in (4.79).

(4.79)   a. weil   er die Äpfel gewaschen ißt.
             because he the apples washed   eats
             'because he eats the apples washed'
         b. So lange gilt   die 39-Jährige als nicht suspendiert.[48]
             so long counts the 39 year old as   not   suspended
             'The 39 year old woman is regarded as not suspended for this period.'

For (4.79) a lexical entry in the form of the passive participle that can be used as a predicate directly is needed. In (4.79a) *gewaschen* is a participle that functions as a depictive secondary predicate, and in (4.79b) *gelten* selects *als* + predicate. There are no auxiliaries in (4.79) that could do an object-to-subject-raising. The examples in (4.79) show that it is not just inflected adjectival forms that appear with passive valence properties. In fact, the lexical rule (4.67) does two things in one step: the passivization and the adjective formation. So in the object-to-subject-raising analysis with the ACC feature, passive is partly handled in the lexicon and partly handled in syntax. It is clear that a unified approach should be preferred.

4.2.1.2   Designating the Nominative Element

The alternative to Pollard's approach was first suggested by Haider (1986a) and later formalized by Heinz and Matiasek (1994), Kathol (1994, Chapter 7.3.3) and Lebeth

---

[48]taz, 31.01.2000, p. 17

(1994) in an HPSG style. Later this analysis was also adopted by Gunkel (1999), who deals with causatives and the *lassen* passive. Lebeth's approach differs slightly from the one by Heinz and Mathiasek and will be discussed in section 4.2.1.2.4. Haider suggested designating one argument as the external argument. This designated argument is the subject of non-ergative verbs. Ergative verbs do not have a designated argument. Heinz and Mathiasek assume that subjects are represented on the subcat list for all verbs, including non-finite ones. The following list gives some representative examples:

(4.80)		DA	SUBCAT
	a. ankommen (ergative):	$\langle\rangle$	$\langle$ NP[*str*] $\rangle$
	b. tanzen (non-ergative):	$\langle$ 1 NP[*str*] $\rangle$	$\langle$ 1 $\rangle$
	c. auffallen (ergative):	$\langle\rangle$	$\langle$ NP[*str*], NP[*ldat*] $\rangle$
	d. lieben (non-ergative):	$\langle$ 1 NP[*str*] $\rangle$	$\langle$ 1, NP[*str*] $\rangle$
	e. schenken (non-ergative):	$\langle$ 1 NP[*str*] $\rangle$	$\langle$ 1, NP[*str*], NP[*ldat*] $\rangle$
	f. helfen (non-ergative):	$\langle$ 1 NP[*str*] $\rangle$	$\langle$ 1, NP[*ldat*] $\rangle$

4.2.1.2.1 Personal and Impersonal Passive

Haider suggests blocking the designated argument for participles. The external argument is blocked and cannot be realized in a phrasal projection. Only the perfect auxiliary can deblock this argument. Heinz and Mathiasek suggest a lexical rule that licenses the lexical entries in (4.81) for participles.[49] Heinz and Mathiasek do not separate subjects from other dependents of heads. So they represent all dependents on the subcat list, for non-finite and finite forms alike. Their lexical rule subtracts the designated argument from the subcat list. It follows that this element cannot be realized in a projection of this participle.

(4.81)		DA	SUBCAT
	a. angekommen (ergative):	$\langle\rangle$	$\langle$ NP[*str*] $\rangle$
	b. getanzt (non-ergative):	$\langle$ NP[*str*] $\rangle$	$\langle\rangle$
	c. aufgefallen (ergative):	$\langle\rangle$	$\langle$ NP[*str*], NP[*ldat*] $\rangle$
	d. geliebt (non-ergative):	$\langle$ NP[*str*] $\rangle$	$\langle$ NP[*str*] $\rangle$
	e. geschenkt (non-ergative):	$\langle$ NP[*str*] $\rangle$	$\langle$ NP[*str*], NP[*ldat*] $\rangle$
	f. geholfen (non-ergative):	$\langle$ NP[*str*] $\rangle$	$\langle$ NP[*ldat*] $\rangle$

Heinz and Mathiasek's passive auxiliary is shown in (4.82), in a notation that was adapted to fit the notation used in this book.

---

[49]Note that it is not necessary to assume a lexical rule. An alternative was to assume that the argument blocking is done by the circumfix *ge- -t*. Whether a lexical rule or an affix is chosen depends on general assumptions about inflection and derivation. See chapter 7.2.5 for a general discussion.

werden (passive auxiliary):

$$
\begin{bmatrix}
\text{DA} & \langle\rangle \\
\text{SUBCAT} & \boxed{1} \oplus \left\langle\, (\text{PP}[\textit{von}]\,\boxed{2}\,)\, \right\rangle \\
\text{VCOMP} & \left\langle\, \text{V}[\,\textit{ppp}, \text{DA}\,\left\langle\, \text{NP}[\textit{str}]\,\boxed{2}\, \right\rangle, \text{SUBCAT}\,\boxed{1}\,] \right\rangle \\
\textit{cat} &
\end{bmatrix}
\tag{4.82}
$$

The passive auxiliary takes a participle as complement that has a designated argument, i.e., an element in the DA list. This correctly predicts that the passive of ergative verbs, that do not have anything in DA, is impossible.

The entry for the perfect auxiliaries is shown in (4.83).

haben/*sein* (perfect auxiliary):

$$
\begin{bmatrix}
\text{DA} & \boxed{1} \\
\text{SUBCAT} & \boxed{1} \oplus \boxed{2} \\
\text{VCOMP} & \left\langle\, \text{V}[\,\textit{ppp}, \text{DA}\,\boxed{1}, \text{SUBCAT}\,\boxed{2}\,] \right\rangle \\
\textit{cat} &
\end{bmatrix}
\tag{4.83}
$$

This lexical entry takes the concatenation of the DA value and the subcat list of the embedded participle as its own subcat value. So the blocked designated argument gets reintroduced into the valence list by the auxiliary. If the DA value is the empty list, i.e., if we have an ergative verb, nothing is added to the subcat list of the embedded participle. Since nothing was blocked in the case of ergatives, all arguments get realized in the perfect construction.

4.2.1.2.2   Remote Passive

With a lexical entry like (4.84) for the version of *versuchen* that appears in coherent constructions the remote passive can be explained without any new mechanisms:[50]

versuchen ('try', coherent version):

$$
\begin{bmatrix}
\text{DA} & \left\langle\, \boxed{1}\; \text{NP}[\textit{str}]\,\boxed{2}\, \right\rangle \\
\text{SUBCAT} & \left\langle\, \boxed{1}\, \right\rangle \oplus \boxed{3} \\
\text{VCOMP} & \left\langle\, \text{V}[\,\textit{ppp}, \text{SUBCAT}\,\left\langle\, \text{NP}[\textit{str}]\,\boxed{2}\, \right\rangle \oplus \boxed{3}\,] \right\rangle \\
\textit{cat} &
\end{bmatrix}
\tag{4.84}
$$

The argument blocking lexical rule licenses the lexical entry in (4.85):

versucht ('tried', coherent version):

$$
\begin{bmatrix}
\text{DA} & \left\langle\, \boxed{1}\; \text{NP}[\textit{str}]\,\boxed{2}\, \right\rangle \\
\text{SUBCAT} & \boxed{3} \\
\text{VCOMP} & \left\langle\, \text{V}[\,\textit{ppp}, \text{SUBCAT}\,\left\langle\, \text{NP}[\textit{str}]\,\boxed{2}\, \right\rangle \oplus \boxed{3}\,] \right\rangle \\
\textit{cat} &
\end{bmatrix}
\tag{4.85}
$$

The result of the combination of (4.85) with (4.86) is (4.87).

---

[50]This lexical entry differs from the one given by Heinz and Matiasek (1994, p. 232) in that the subjects of the matrix and the embedded verb are not identified. As was discussed in chapter 3.1.3.2, control relations are best described with coindexing rather than identity.

Draft of January 12, 2001. Comments Welcome!

reparieren ('repair'):

$$
\begin{bmatrix}
\text{DA} & \left\langle \boxed{1}\ \text{NP}[str]_{\boxed{i}} \right\rangle \\
\text{SUBCAT} & \left\langle \boxed{1},\ \text{NP}[str]_{\boxed{j}} \right\rangle \\
cat
\end{bmatrix}
\tag{4.86}
$$

zu reparieren versucht ('tried to repair'):

$$
\begin{bmatrix}
\text{DA} & \left\langle \text{NP}[str]_{\boxed{i}} \right\rangle \\
\text{SUBCAT} & \left\langle \text{NP}[str]_{\boxed{j}} \right\rangle \\
\text{VCOMP} & \langle\rangle \\
cat
\end{bmatrix}
\tag{4.87}
$$

Since the passive auxiliary does not unblock the designated argument, the NP that refers to the object of *reparieren* is the first element of the subcat list of *zu reparieren versucht wurde* and is therefore realized as nominative.

Interestingly this also works for the examples with *erlauben*:

erlauben ('permit', coherent version):

$$
\begin{bmatrix}
\text{DA} & \left\langle \boxed{1}\ \text{NP}[str] \right\rangle \\
\text{SUBCAT} & \left\langle \boxed{1},\ \text{NP}[ldat]_{\boxed{2}} \right\rangle \oplus \boxed{3} \\
\text{VCOMP} & \left\langle \text{V}[\,ppp,\ \text{SUBCAT} \left\langle \text{NP}[str]_{\boxed{2}} \right\rangle \oplus \boxed{3}\,] \right\rangle \\
cat
\end{bmatrix}
\tag{4.88}
$$

The argument blocking lexical rule licenses the lexical entry in (4.89):

erlaubt ('permit', coherent version):

$$
\begin{bmatrix}
\text{DA} & \left\langle \boxed{1}\ \text{NP}[str] \right\rangle \\
\text{SUBCAT} & \left\langle \text{NP}[ldat]_{\boxed{2}} \right\rangle \oplus \boxed{3} \\
\text{VCOMP} & \left\langle \text{V}[\,ppp,\ \text{SUBCAT} \left\langle \text{NP}[str]_{\boxed{2}} \right\rangle \oplus \boxed{3}\,] \right\rangle \\
cat
\end{bmatrix}
\tag{4.89}
$$

If one combines (4.89) with an entry for *auszukosten* one gets (4.90).

auszukosten erlaubt ('permitted to enjoy', coherent version):

$$
\begin{bmatrix}
\text{DA} & \left\langle \text{NP}[str] \right\rangle \\
\text{SUBCAT} & \left\langle \text{NP}[ldat],\ \text{NP}[str] \right\rangle \\
\text{VCOMP} & \langle\rangle \\
cat
\end{bmatrix}
\tag{4.90}
$$

Since the object of *auszukosten* is the first element on the subcat list of *auszukosten erlaubt wurde*, it receives nominative.

This approach differs in an interesting way from the one that was discussed in section 4.2.1.1.2: The order of elements in the subcat list in the structure (4.56) is the reverse of the order in (4.90). Since the HPSG Binding Theory refers to the order of elements in the subcat list in order to account for binding facts, this difference in order should make different predictions as far as binding properties are concerned. I leave this for further studies.

4.2.1.2.3 Problems

The problem with this formalization of Haider's ideas is that it is incompatible with the standard HPSG control theory. To see this, consider the modal infinitives that were discussed in section 4.1.5. Heinz and Mathiasek do not discuss this construction, but they are entirely parallel to the passive cases and this was also noted by Haider. The lexical entries for the infinitives are shown in (4.91).

(4.91)

		DA	SUBCAT
a.	anzukommen (ergative):	$\langle \rangle$	$\langle$ NP[*str*] $\rangle$
b.	zu tanzen (non-ergative):	$\langle$ NP[*str*] $\rangle$	$\langle \rangle$
c.	aufzufallen (ergative):	$\langle \rangle$	$\langle$ NP[*str*], NP[*ldat*] $\rangle$
d.	zu lieben (non-ergative):	$\langle$ NP[*str*] $\rangle$	$\langle$ NP[*str*] $\rangle$
e.	zu schenken (non-ergative):	$\langle$ NP[*str*] $\rangle$	$\langle$ NP[*str*], NP[*ldat*] $\rangle$
f.	zu helfen (non-ergative):	$\langle$ NP[*str*] $\rangle$	$\langle$ NP[*ldat*] $\rangle$

The designated argument is blocked and can only be reactivated by the *haben*. In connection with *sein* it stays blocked. The problem now is that all infinitives in (4.91) can be used in control constructions:

(4.92)   a. Er behauptet, spät anzukommen.
             he claims   late to.arrive
             'He claims to arrive late.'

         b. Er behauptet, nicht gern   zu tanzen.
             he claims   not   with.pleasure to dance
             'He claims not to like dancing.'

         c. Er behauptet, Frauen   selten aufzufallen.
             he claims   women-DAT seldom to.attract.attention
             'He claims to seldom attract the attention of women.'

         d. Er behauptet, sie zu lieben.
             he claims   her to love
             'He claims to love her.'

         e. Er behauptet, ihr nie   etwas   zu schenken.
             he claims   her never something to give.as.a.present
             'He claims to never give her a present.'

         f. Er behauptet, Blinden zu helfen.
             he claims   blind   to help
             'He claims to help blind people.'

Since the subject of the embedded verb is not represented in a uniform way for the controlled verbs in (4.92), the controlling verb had to distinguish between ergative and non-ergative embedded verbs. Heinz and Mathiasek propose an analysis of control where the first element of the subcat list of the embedded verb is coindexed with the subject or an oblique complement of the matrix verb, but this analysis only works if no designated argument reduction is assumed for infinitives. But such an argument reduction is necessary because of the modal infinitives discussed above.

Draft of January 12, 2001. Comments Welcome!

One could try to save this approach by stipulating a SUBJ feature that contains the subject of both ergative and non-ergative verbs and that is used to establish the control relation only.

(4.93)

		DA	SUBCAT	SUBJ
a.	anzukommen (ergative):	$\langle\rangle$	$\langle\; \boxed{1}\; NP[str]\; \rangle$	$\langle\; \boxed{1}\; \rangle$
b.	zu tanzen (non-ergative):	$\langle\; \boxed{1}\; NP[str]\; \rangle$	$\langle\rangle$	$\langle\; \boxed{1}\; \rangle$
c.	aufzufallen (ergative):	$\langle\rangle$	$\langle\; \boxed{1}\; NP[str], NP[ldat]\; \rangle$	$\langle\; \boxed{1}\; \rangle$
d.	zu lieben (non-ergative):	$\langle\; \boxed{1}\; NP[str]\; \rangle$	$\langle\; NP[str]\; \rangle$	$\langle\; \boxed{1}\; \rangle$
e.	zu schenken (non-ergative):	$\langle\; \boxed{1}\; NP[str]\; \rangle$	$\langle\; NP[str], NP[ldat]\; \rangle$	$\langle\; \boxed{1}\; \rangle$
f.	zu helfen (non-ergative):	$\langle\; \boxed{1}\; NP[str]\; \rangle$	$\langle\; NP[ldat]\; \rangle$	$\langle\; \boxed{1}\; \rangle$

The problem of this approach is the notion of phrase: The control verb (in incoherent constructions) can neither select for an infinitive with one single element on the subcat list, as was suggested by Heinz and Mathiasek, nor can it select for a fully saturated projection of an infinitive. The first option does not work since the designated argument of non-ergative verbs is blocked and there is either nothing left on the subcat list (*tanzen*) or the elements that are left have to be realized in a projection of the infinitive (*lieben*, *schenken*, *helfen*). The second option does not work since the subject of ergative verbs is still a member of the subcat list. The approach would wrongly predict that sentences like those in (4.94) are grammatical.

(4.94)   a.   * Er behauptet, er spät anzukommen.
               he claims   he late to.arrive

       b.   * Er behauptet, er Frauen selten aufzufallen.
              he claims   he women seldom to.attract.attention

Gunkel (1999, p. 144–145) suggested two lexical entries for *zu* infinitives: one for normal control constructions and one that appears in modal constructions. Since it is a goal of the object-to-subject-raising analyses to avoid multiple entries for one morphological form, this solution is not in the spirit of the overall approach.

4.2.1.2.4 Lebeth's Approach

Lebeth also assumes that a nominative NP of non-ergative verbs is the designated argument. The designated argument is not contained in the subcat list of base lexical entries. It is introduced into the subcat list by the tempus morpheme, i.e., it is a member of the subcat list only for finite verbs. With this approach no argument reduction lexical rule is needed to license the participle, since the designated argument was not listed in the subcat list in the first place. Lebeth's approach suffers from the same problem that Heinz and Mathiasek's approach suffers from: since the logical subject of ergative and non-ergative verbs is represented differently, control relations cannot be established in a uniform way and the notion of maximal projection is not clear.

4.2.1.2.5 Kathol's Approach

Kathol (1994, Chapter 7.3.3) suggests the following representation for participles:

(4.95)   EXT   SUBJ   SUBCAT

    a. angekommen (ergative): $\left\langle\; \boxed{1}\; \text{NP}[\textit{nom}] \right\rangle$ $\left\langle\; \boxed{1}\; \right\rangle$ $\langle\rangle$

    b. geschlafen (non-ergative): $\left\langle\; \text{NP}[\textit{nom}] \right\rangle$ $\langle\rangle$ $\langle\rangle$

    c. geliebt (non-ergative): $\left\langle\; \text{NP}[\textit{nom}] \right\rangle$ $\left\langle\; \text{NP}[\textit{acc}] \right\rangle$ $\langle\rangle$

The logical subject of all participles is represented uniformly, but note that *geliebt* does not have any elements in the SUBCAT list. This falsely predicts that the participle cannot be combined with any complements.

(4.96)   Seine Frau geliebt hat er nie.
        his   wife loved   has he never
        'He never loved his wife.'

Since in Kathol's approach the auxiliary *hat* deblocks both the external argument and the SUBJ element, *seine Frau* in (4.96) depends on the auxiliary and it is unclear what licenses this NP together with the participle in the *Vorfeld*. Apart from this problem this approach cannot account for incoherent infinitival constructions: It has the same problem that Heinz and Mathiasek's and Lebeth's approaches have.

4.2.1.3   Summary

In concluding this section about auxiliary driven approaches, it must be said that neither the object-to-subject-raising approach of Pollard (1994) and the extensions that I suggested in (Müller, 1999a, Chapter 15), nor the HPSG implementations of Haider's approach by Heinz and Mathiasek, Lebeth, and Kathol are satisfying. While the first approach cannot provide a unified treatment of passivization and adjective formation, the latter completely fail to account for modal infinitive constructions and for incoherent constructions with *zu* infinitives. In what follows I will provide an alternative analysis that uses lexical rules to derive several lexical entries per verb, that all reflect the argument structure that later surfaces in the sentence.

4.2.2   Lexical Rules

In HPSG grammars for English (Pollard and Sag, 1987, p. 214–218) and in LFG (Bresnan, 1982), the passive is assumed to be a lexical rule. Kiss (1992, p. 276), Hinrichs and Nakazawa (1998), and Kathol (1998, p. 255) suggested such an analysis for German.

4.2.2.1   Personal and Impersonal Passive

(4.97) and (4.98) are adapted versions of the lexical rules that Kiss proposed.

Lexical Rule for Personal Passives following Kiss (1992):

$$
\begin{bmatrix}
\text{SYNSEM}|\text{LOC}|\text{CAT} &
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \langle\, \text{NP}[str]_{\boxed{i}} \,\rangle \\ verb \end{bmatrix} \\
\text{SUBCAT} & \langle\, \text{NP}[str]_{\boxed{j}} \,\rangle \oplus \boxed{3}
\end{bmatrix} \\
stem
\end{bmatrix}
\;\rightarrow\;
$$

$$
\begin{bmatrix}
\text{SYNSEM}|\text{LOC}|\text{CAT} &
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{VFORM} & pass\text{-}part \\ \text{SUBJ} & \langle\, \text{NP}[str]_{\boxed{j}} \,\rangle \end{bmatrix} \\
\text{SUBCAT} & \boxed{3}
\end{bmatrix} \\
lexical\text{-}sign
\end{bmatrix}
$$

(4.97)

Lexical Rule for Impersonal Passives following Kiss (1992):

$$
\begin{bmatrix}
\text{SYNSEM}|\text{LOC}|\text{CAT} &
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \langle\, \text{NP}[str]_{\boxed{i}} \,\rangle \\ verb \end{bmatrix} \\
\text{SUBCAT} & \langle\, \text{NP}[lex]_{\boxed{j}} \,\rangle \oplus \boxed{2}
\end{bmatrix} \\
stem
\end{bmatrix}
\;\rightarrow\;
$$

$$
\begin{bmatrix}
\text{SYNSEM}|\text{LOC}|\text{CAT} &
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{VFORM} & pass\text{-}part \\ \text{SUBJ} & \langle\rangle \end{bmatrix} \\
\text{SUBCAT} & \langle\, \text{NP}[lex]_{\boxed{j}} \,\rangle \oplus \boxed{2}
\end{bmatrix} \\
lexical\text{-}sign
\end{bmatrix}
$$

(4.98)

The lexical rule in (4.97) applies to verbs that have an object with structural case, i.e., a direct object. For the entries in (4.99), the passive forms in (4.100) are produced.

(4.99)		SUBJ	SUBCAT
	a. lieben (non-ergative):	$\langle\, \text{NP}[str]_{\boxed{1}} \,\rangle$	$\langle\, \text{NP}[str]_{\boxed{2}} \,\rangle$
	b. schenken (non-ergative):	$\langle\, \text{NP}[str]_{\boxed{1}} \,\rangle$	$\langle\, \text{NP}[str]_{\boxed{2}}, \text{NP}[ldat]_{\boxed{3}} \,\rangle$

(4.100)		SUBJ	SUBCAT
	a. geliebt (non-ergative):	$\langle\, \text{NP}[str]_{\boxed{2}} \,\rangle$	$\langle\rangle$
	b. geschenkt (non-ergative):	$\langle\, \text{NP}[str]_{\boxed{2}} \,\rangle$	$\langle\, \text{NP}[ldat]_{\boxed{3}} \,\rangle$

The subject of the verbs in (4.99) is discharged, and the NP with the index $\boxed{2}$ is promoted to subject. The forms in (4.100) are the complex-forming complement of the passive auxiliary *werden* shown in (4.101).

werden (passive auxiliary):

$$
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \boxed{1} \\ verb \end{bmatrix} \\
\text{SUBCAT} & \boxed{2} \\
\text{VCOMP} & \langle\, \text{V}[pass\text{-}part, \text{LEX}+, \text{SUBJ}\;\boxed{1}, \text{SUBCAT}\;\boxed{2}] \,\rangle \\
cat
\end{bmatrix}
$$

(4.101)

This auxiliary does not have an argument structure that is different from the argument structure of the embedded verb. It just takes over whatever there is. The lexical entry for *werden* in (4.101) is parallel to the lexical entries for the future auxiliary *werden* and the perfect auxiliaries *haben* and *sein* that were introduced on page 84. Note that it is important to have distinct VFORM values for perfect participles and passive participles in a lexical rule-based approach, since otherwise the auxiliaries for perfect and passive could not differentiate between the various entries for participles and the examples in (4.102b,d) would be admitted by the grammar.

(4.102) a.   Karl hat Maria geliebt.
               Karl has Maria loved

         b. * Karl wird Maria geliebt.
               Karl is   Maria loved

         c.   Karl wird von Maria geliebt.
               Karl is   by Maria loved

         d. * Maria hat von Karl geliebt.
               Maria has by Karl loved

The two types *perf-part* (perfect participle) and *pass-part* (passive participle) are subtypes of *part* (participle), which is the supertype of all possible VFORM values of participles.

The lexical rule in (4.98) applies to verbs that do not have an object with structural case like *tanzen* and *helfen*.

(4.103)   SUBJ   SUBCAT

         helfen (non-ergative): $\langle$ NP[*str*]$_{\boxed{1}}$ $\rangle$ $\langle$ NP[*ldat*]$_{\boxed{2}}$ $\rangle$

The result of the rule application is shown in (4.104).

(4.104)   SUBJ   SUBCAT

         geholfen (non-ergative): $\langle\rangle$ $\langle$ NP[*ldat*]$_{\boxed{2}}$ $\rangle$

The passive participle in (4.104) does not have a subject. It appears in the so-called impersonal passive.

The example (4.41d)—repeated here as (4.105)—is not explained yet.

(4.105)   Dort wurde getanzt.
          there was   danced

          'There was dancing there.'

To make Kiss' approach complete, we need a third lexical rule that deals with the impersonal passive of intransitive verbs.

Lexical rule for impersonal passives of intransitive verbs needed for the Kiss approach:

$$
\begin{bmatrix}
\text{SYNSEM}|\text{LOC}|\text{CAT} \begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \left\langle \text{NP}[\textit{str}] \right\rangle \\ \textit{verb} \end{bmatrix} \\[2ex]
\text{SUBCAT} & \langle \rangle
\end{bmatrix} \\[4ex]
\textit{stem}
\end{bmatrix} \rightarrow
$$

$$
\begin{bmatrix}
\text{SYNSEM}|\text{LOC}|\text{CAT} \begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \langle \rangle \\ \text{VFORM} & \textit{pass-part} \end{bmatrix} \\[2ex]
\text{SUBCAT} & \langle \rangle
\end{bmatrix} \\[4ex]
\textit{lexical-sign}
\end{bmatrix}
$$

(4.106)

This rule maps the entry in (4.107) to (4.108).

		SUBJ	SUBCAT
(4.107)	tanzen (non-ergative):	$\left\langle \text{NP}[\textit{str}]_{\boxed{1}} \right\rangle$	$\langle \rangle$

		SUBJ	SUBCAT
(4.108)	getanzt (non-ergative):	$\langle \rangle$	$\langle \rangle$

So, in fact, three different lexical rules had to be stipulated in order to account for the passive in German.[51] Though the last two rules can be unified by stipulating the constraint that the subcat list of the input element must not contain an element with structural case. Of course this constraint also holds for the empty list. It can be encoded in the type specification of the list type.

4.2.2.2 Remote Passive

Proponents of lexical rule-based analyses have not been able to explain the so-called remote passive in a satisfying way: Kiss (1992) does not account for it at all, and Hinrichs and Nakazawa (1998) stipulate a special purpose lexical rule.

In what follows, I will propose a lexical rule that can account for the personal and impersonal variants of the normal passive and for the remote passive as well. The rule uses the feature ACC to designate the accusative element. This feature is eqivalent to Pollard's ERG feature.[52] It is written in DLR notation since this makes it possible to show the generalizations of various passive lexical rules.

---

[51] Kathol (1998, p. 255) assumes that subjects and other complements are represented on the subcat list. With this assumption, two lexical rules are sufficient. Kathol gives only one though. His rule corresponds to the first rules given by Kiss. The *tanzen* example is not covered by his rule.

[52] A less general rule that produces similar results was suggested by Kathol (1998, p. 255). Kathol does not use the ACC feature in his rule. His rule does not extend to the cases discussed below.

Lexical Rule for the Personal and Impersonal Passive (preliminary version):

$$
\begin{bmatrix}
\text{SYNSEM|LOC|CAT}
\begin{bmatrix}
\text{HEAD}
\begin{bmatrix}
\text{VFORM } \textit{pass-part} \\
\text{SUBJ} \quad \boxed{1} \\
\text{ACC} \quad \boxed{1}
\end{bmatrix} \\[2em]
\text{SUBCAT} \quad \boxed{2} \ \oplus \ \left\langle \ (\text{PP}[\textit{von}]_{\boxed{3}}) \ \right\rangle
\end{bmatrix} \\[4em]
\text{LEX-DTR}
\begin{bmatrix}
\text{SYNSEM|LOC|CAT}
\begin{bmatrix}
\text{HEAD}
\begin{bmatrix}
\text{SUBJ} \ \left\langle \ \text{NP}[\textit{str}]_{\boxed{3}} \ \right\rangle \\
\text{ACC} \quad \boxed{1} \\
\textit{verb}
\end{bmatrix} \\[2em]
\text{SUBCAT} \quad \boxed{1} \ \oplus \ \boxed{2}
\end{bmatrix} \\[2em]
\textit{stem}
\end{bmatrix} \\[2em]
\textit{acc-passive-lr-derived-lexical-sign}
\end{bmatrix}
\tag{4.109}
$$

The type *acc-passive-lr-derived-lexical-sign* is a subtype of *lexical-rule-derived-lexi-cal-sign*, which in turn is a subtype of both *lexical-rule* and *lexical-sign*. See section 4.6 on this part of the type hierarchy.

The output this rule produces for (4.45) is shown in (4.110).

repariert (passive participle):

$$
\begin{bmatrix}
\text{HEAD}
\begin{bmatrix}
\text{SUBJ} \quad \boxed{1} \ \left\langle \ \text{NP}[\textit{str}] \ \right\rangle \\
\text{ACC} \quad \boxed{1} \\
\textit{verb}
\end{bmatrix} \\[2em]
\text{SUBCAT} \ \langle\rangle \\
\text{VCOMP} \ \langle\rangle \\
\textit{cat}
\end{bmatrix}
\tag{4.110}
$$

The passive auxiliary is a raising verb that selects a passive participle and raises both its subject and its complements (Kiss, 1992):

werden (passive auxiliary):

$$
\begin{bmatrix}
\text{HEAD}
\begin{bmatrix}
\text{SUBJ} \quad \boxed{1} \\
\text{ACC} \quad \boxed{1} \\
\textit{verb}
\end{bmatrix} \\[2em]
\text{SUBCAT} \quad \boxed{2} \\
\text{VCOMP} \ \left\langle \ \text{V}[\textit{pass-part}, \text{SUBJ } \boxed{1}, \text{SUBCAT } \boxed{2}] \ \right\rangle \\
\textit{cat}
\end{bmatrix}
\tag{4.111}
$$

Since the accusative element of *werden* is identical to its subject, the iteration of passive with this auxiliary is excluded: The lexical rule in (4.109) does not apply to (4.111).

The result of an application of the lexical rule in (4.109) to the entry (4.46) for *versuchen* is shown in (4.112).

versucht (coherent version, passive participle):

$$
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \boxed{1} \\ \text{ACC} & \boxed{1} \\ \textit{verb} \end{bmatrix} \\
\text{SUBCAT} & \boxed{2} \oplus \left\langle\; (\text{PP}[\textit{von}]_{\boxed{3}})\; \right\rangle \\
\text{VCOMP} & \left\langle\; \text{V}[\textit{inf}, \text{LEX+}, \text{SUBJ} \left\langle \text{NP}[\textit{str}]_{\boxed{3}} \right\rangle , \text{ACC } \boxed{1}, \text{SUBCAT } \boxed{1} \oplus \boxed{2}] \right\rangle \\
\textit{cat}
\end{bmatrix}
\qquad (4.112)
$$

The interesting thing about this result of the rule application is that the ACC value of the verb that is embedded under *versucht* is subtracted from the embedded verb's subcat list and only the remainder of this list is raised. The accusative object of the verb that is embedded under *versucht* is the subject of the passive participle. After the combination of (4.112) with (4.45), one gets (4.113).

zu reparieren versucht (verbal complex):

$$
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \left\langle \text{NP}[\textit{str}] \right\rangle \\ \textit{verb} \end{bmatrix} \\
\text{SUBCAT} & \left\langle\; (\text{PP}[\textit{von}])\; \right\rangle \\
\text{VCOMP} & \left\langle\; \right\rangle \\
\textit{cat}
\end{bmatrix}
\qquad (4.113)
$$

The object of *zu reparieren* ($\boxed{2}$ in (4.45)) is subtracted from the complete subcat list of the embedded verb. Since the embedded verb has only one element on its subcat list, the result ($\boxed{3}$ in (4.112)) is the empty list. The only element in the subcat list of *zu reparieren versucht* is the optional PP for the logical subject of *reparieren*.

The preliminary rule in (4.109) cannot account for the sentences in (4.49)—repeated here as (4.114).

(4.114) a. Keine Zeitung wird ihr zu lesen erlaubt.[53]
no newspaper-NOM was her-DAT to read allowed

'She is not allowed to read any newspapers.'

b. Der Erfolg wurde uns nicht auszukosten erlaubt.[54]
the success-NOM was us-DAT not to.enjoy permitted

'We were not permitted to enjoy our success.'

The reason is that *erlauben* is an object control verb that takes a dative object.

erlauben (entry for base and *zu* infinitive):

$$
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \left\langle \text{NP}[\textit{str}] \right\rangle \\ \text{ACC} & \boxed{1} \\ \textit{verb} \end{bmatrix} \\
\text{SUBCAT} & \left\langle \text{NP}[\textit{ldat}] \right\rangle \oplus \boxed{2} \\
\text{VCOMP} & \left\langle\; \text{V}[\textit{inf}, \text{LEX+}, \text{SUBJ} \left\langle \text{NP}[\textit{str}] \right\rangle , \text{ACC } \boxed{1}, \text{SUBCAT } \boxed{2}] \right\rangle \\
\textit{cat}
\end{bmatrix}
\qquad (4.115)
$$

---

[53]Stefan Zweig. *Marie Antoinette*. Leipzig: Insel-Verlag. 1932, p. 515, quoted from (Bech, 1955, p. 309). That this is an instance of remote passive was noted by Askedal (1988, p. 13).

[54](Haider, 1986b, p. 110)

Since the dative object is at the first position in the subcat list of *erlauben*, a possibly raised object of the embedded verb cannot be subtracted from the beginning of this list. The rule in (4.109) is generalized to (4.116).

Lexical Rule for the Personal and Impersonal Passive (final version):

$$
\begin{bmatrix}
\text{SYNSEM}|\text{LOC}|\text{CAT}
\begin{bmatrix}
\text{HEAD}
\begin{bmatrix}
\text{VFORM } pass\text{-}part \\
\text{SUBJ} \quad \boxed{1} \\
\text{ACC} \quad \boxed{1}
\end{bmatrix} \\
\text{SUBCAT } (\boxed{2} \ominus \boxed{1}) \oplus \langle (\text{PP}[von]_{\boxed{3}}) \rangle
\end{bmatrix} \\
\text{LEX-DTR}
\begin{bmatrix}
\text{SYNSEM}|\text{LOC}|\text{CAT}
\begin{bmatrix}
\text{HEAD}
\begin{bmatrix}
\text{SUBJ} \langle \text{NP}[str]_{\boxed{3}} \rangle \\
\text{ACC} \quad \boxed{1} \\
verb
\end{bmatrix} \\
\text{SUBCAT} \quad \boxed{2}
\end{bmatrix} \\
stem
\end{bmatrix} \\
acc\text{-}passive\text{-}lexical\text{-}rule
\end{bmatrix}
\tag{4.116}
$$

The relation '$\ominus$' was introduced in section 4.2.1.1.2 on page 127. In the rule (4.116) the subcat list of the input is not split by $\oplus$ as in (4.109), but instead $\ominus$ is used in the output to subtract the ACC value, possibly coming from an embedded sign. Note that although the condition on the ACC and subcat values of the input description are not stated in the daughter of the rule, the rule does not apply to ergative verbs. The reason is that the $\ominus$ relation in the mother of the rule fails.

The result of applying this rule to *erlauben* is shown in (4.117).

erlaubt (coherent version, passive participle):

$$
\begin{bmatrix}
\text{HEAD}
\begin{bmatrix}
\text{SUBJ} \quad \boxed{1} \\
\text{ACC} \quad \boxed{1} \\
verb
\end{bmatrix} \\
\text{SUBCAT } ((\langle \text{NP}[ldat] \rangle \oplus \boxed{2}) \ominus \boxed{1}) \oplus \langle (\text{PP}[von]_{\boxed{3}}) \rangle \\
\text{VCOMP } \langle \text{V}[inf, \text{LEX+}, \text{SUBJ} \langle \text{NP}[str]_{\boxed{3}} \rangle, \text{ACC } \boxed{1}, \text{SUBCAT } \boxed{2}] \rangle \\
cat
\end{bmatrix}
\tag{4.117}
$$

The entry for *auszukosten* has the same syntactic features as the one for *zu reparieren* which was given in (4.45). The combination of (4.117) with this entry yields (4.118).

auszukosten erlaubt (coherent construction with the passive participle):

$$
\begin{bmatrix}
\text{HEAD}
\begin{bmatrix}
\text{SUBJ} \quad \boxed{1} \langle \text{NP}[str] \rangle \\
\text{ACC} \quad \boxed{1} \\
verb
\end{bmatrix} \\
\text{SUBCAT } \langle \text{NP}[ldat] \rangle \oplus \langle (\text{PP}[von]) \rangle \\
\text{VCOMP } \langle \rangle \\
cat
\end{bmatrix}
\tag{4.118}
$$

As I have demonstrated above, it is possible to account for the personal, the impersonal, and the remote passive by one lexical rule. In the next sections I will discuss modal infinitives, the dative passive, *lassen* passive, and adjective formation.

4.2.2.3 The Dative Passive

The lexical rule in (4.119) accounts for the dative passive.

Lexical Rule for the Dative Passive:

$$
\begin{bmatrix}
\text{SYNSEM}|\text{LOC}|\text{CAT}
\begin{bmatrix}
\text{HEAD}
\begin{bmatrix}
\text{VFORM } \textit{dat-pass-part} \\
\text{SUBJ } \left\langle \text{NP}[str]\,\boxed{1} \right\rangle \\
\text{ACC } \boxed{2}
\end{bmatrix} \\
\text{SUBCAT } \boxed{2} \oplus \boxed{3} \oplus \left\langle (\text{PP}[von]\,\boxed{4}) \right\rangle
\end{bmatrix} \\[2em]
\text{LEX-DTR}
\begin{bmatrix}
\text{SYNSEM}|\text{LOC}|\text{CAT}
\begin{bmatrix}
\text{HEAD}
\begin{bmatrix}
\text{SUBJ } \left\langle \text{NP}[str]\,\boxed{4} \right\rangle \\
\text{ACC } \boxed{2} \\
\textit{verb}
\end{bmatrix} \\
\text{SUBCAT } \boxed{2} \oplus \left\langle \text{NP}[ldat]\,\boxed{1} \right\rangle \oplus \boxed{3}
\end{bmatrix} \\[1em]
\textit{stem}
\end{bmatrix} \\[1em]
\textit{dat-passive-lexical-rule}
\end{bmatrix}
\qquad (4.119)
$$

The append relations are similar to what has been discussed in section 4.2.1.1.4: The input verb has to be non-ergative, i.e., the value of ACC must be a prefix of the verb's subcat list. For the dative passive, the ACC value is not subtracted from the subcat list of the input verb, but is taken over unchanged. Instead the dative element in the subcat list of the input verb is promoted to subject in the output verb. The subject of the input verb can be realized as an oblique PP. The ACC value of the input verb is identical to the ACC value of the output verb. It is therefore possible to account for examples like the ones in (4.60) on page 129—repeated here as (4.120):

(4.120) a. ? So etwas   ist leicht geschenkt zu kriegen.
             such something is easy   given   to get

             'It is easy to be given something like that.'

         b. ? So   ein Preis ist leicht zugesprochen zu kriegen.
             such a   price is easy   awarded   to get

             'It is easy to get such a price.'

The dative passive lexical rule applies to *geschenkt*. The modal infinitive lexical rule (see next section) applies to *kriegen* and the combination of the dative passive *geschenkt* and the modal passive infinitive *zu kriegen* is then combined with the auxiliary *ist*.

4.2.2.4 Modal Infinitives

The lexical rule that derives *zu* infinitives that can be used with *sein* is almost identical to the passive rule in (4.116). The only difference is the value of VFORM in the output representation which has to be *pass-inf*. Since lexical rules are described by feature descriptions, this commonality can be captured by having both the rule for passive participles and for passive *zu* infinitives inherit from a common supertype that specifies the information that is common for passive lexical rules.

The auxiliaries *sein* and *haben* select for the passivized infinitive and for the active infinitive, respectively. They are argument attraction verbs like the *werden* in (4.111).

4.2.2.5 *lassen* **Passive**

As with the passive version of modal infinitives, the lexical rule that licenses passive versions of bare infinitives is almost identical to the general passive lexical rule, the only difference being the value of VFORM of the output, which has to be *pass-bse*. The future auxiliary and the entries for *lassen* have to be sensitive to the VFORM values of the various forms of bare infinitives. The lexical entry for *lassen* that embeds the output of the lexical rule is shown in (4.121):[55]

lassen ('let' + Passive):

$$
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \langle \text{NP}[str] \rangle \\ \text{ACC} & \boxed{1} \\ verb \end{bmatrix} \\
\text{SUBCAT} & \boxed{1} \oplus \boxed{2} \\
\text{VCOMP} & \langle \text{V}[pass\text{-}bse, \text{LEX+}, \text{SUBJ } \boxed{1}, \text{ACC } \boxed{1}, \text{SUBCAT } \boxed{2}] \rangle \\
cat
\end{bmatrix}
\tag{4.121}
$$

Since the embedded verb is licensed by a passive lexical rule, its SUBJ and ACC value is identical.

4.2.2.6 **Adjectival Forms**

With an approach that assumes a passive argument structure for participles, the adjective formation lexical rule is simple:[56]

Adjective Formation Lexical Rule for Participles:

$$
\begin{bmatrix}
\text{SYNSEM}|\text{LOC}|\text{CAT}|\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \langle \boxed{1} \rangle \\ adj \end{bmatrix} \\
\text{LEX-DTR} & \begin{bmatrix} \text{SYNSEM}|\text{LOC}|\text{CAT}|\text{HEAD} & \begin{bmatrix} \text{VFORM} & part \\ \text{SUBJ} & \langle \boxed{1} \rangle \\ \text{ACC} & \langle \boxed{2} \text{ NP}[str]_{ref} \rangle \\ verb \end{bmatrix} \\ lexical\text{-}sign \end{bmatrix} \\
participle\text{-}adjective\text{-}stem
\end{bmatrix}
\tag{4.122}
$$

$\wedge \boxed{1} == \boxed{2}$

The rule applies to both participles of ergative verbs and to passive participles of non-ergative verbs. Since *part* is a supertype of *perf-part* and *pass-part*, verbs of both forms are admitted. Since the values of $\boxed{1}$ and $\boxed{2}$ are required to be identical, the rule cannot apply to perfect participles of transitive verbs like *lieben* and phrases like (4.72) are ruled out. If $\boxed{1}$ were just structure-shared with $\boxed{2}$, a unification of the subject and the

---

[55]This lexical entry can be generalized to allow the embedding of verbs with active argument structure, since the lexical entries in (3.167) for the active *lassen* and in (4.121) for the passive variant differ only in the value of VFORM of the embedded verbal complex. If one generalizes this VFORM value in an appropriate way, one lexical entry for active and passive *lassen* constructions is sufficient. See section 4.3.2 for details.

[56]The approach with the designated subject by Haider (1986a) and Heinz and Matiasek (1994) also allows for a unified treatment of adjective formation.

object of the perfect participle would be the result of applying the rule to a perfect participle of *lieben*. Because of the identity requirement, the rule applies to ergative verbs, which have structure sharing between the SUBJ and ACC value because of their lexical specification, and to passivized verbs with an accusative object in the active form only. See also the discussion around (4.72). The dative passive participles that are produced by the rule (4.119) cannot be the input of (4.122), since the output of (4.119) has distinct SUBJ and ACC values.

(4.123)   a.   Der Mann bekommt den Roman geschenkt.
            the man gets   the novel given

            'The man is given the novel.'

       b.   * der den Roman geschenkte Mann
            the the novel   given   man

            Intended: 'the man who is given the novel'

       c.   Der Mann bekommt geholfen.
            the man gets   helped

            'The man gets help.'

       d.   * der geholfene Mann
            the helped   man

The ACC value either contains the direct object as in (4.123a), or is the empty list as in (4.123c). Therefore (4.123b,d) are correctly predicted to be ungrammatical.

The rule is rather similar to the one that was suggested by Bresnan (1982, p. 23). The most important difference is that it does not refer to the notion of theme. As Levin and Rappaport (1986) have argued, an approach that refers to the ergative/non-ergative distinction is superior to one that refers to thematic roles.

The output of this rule is a stem for the adjective that has properties similar to those of listed adjectival stems. Both the output of the lexical rule and the listed adjectives license fully inflected lexical signs that correspond to the attributive and predicative use of adjectives.

As I have demonstrated above, it is possible to account for the personal, the impersonal, and the remote passive, modal infinitives, the dative passive, *lassen* passive, and adjective formation by lexical rules. In the next sections I will discuss some arguments using coordination and binding data to argue for or against lexical rules.

4.3   Coordination Data

In the following I will provide coordination data where one auxiliary embedds a coordination of two elements of different category, where a verb is combined with a coordination where one conjunct requires an auxiliary and the other requires a main verb, or where a causative *lassen* embeds a coordination of an active and a passive verb. I will show that these data can be accounted for by lexical rules provided some additional assumptions are made, but I will also provide similar coordination data that suggest that we have a more general coordination problem that has not been solved yet.

4.3.1   Modal Infinitives and Copula Constructions

Maier (1987) claims that examples like (4.124) show that the modal component in modal infinitive constructions comes from the infinitive rather than the auxiliary.[57]

(4.124) a. Die Bücher sind schon   bewertet und nur   noch vom   Lektor zu
             the books   are already assessed and only still from.the editor to
             beurteilen.
             judge

             'The books have already been assessed and only have to be judged by
             the editor (now).'

         b. Die Bilder   sind gestern   angekommen und heute schon   zu
             the pictures are yesterday arrived   and today already to
             besichtigen.
             view

             'The pictures arrived yesterday and can already be viewed today.'

         c. Radfahren ist schön und leicht zu lernen.
             cycling   is nice   and easy to learn

             'Cycling is nice and easy to learn.'

         d. Der Lektor hat das Buch schon   gelesen, aber noch zu beurteilen.
             the editor has the book already read   but   still to judge

             'The editor has already read the book, but he has still to judge it.'

         e. Peter ist ein kleiner Junge und unbedingt zu beaufsichtigen.
             Peter is a   small   boy   and really   to supervise

             'Peter is a small boy and really must be supervised.'

She argues that there is just one entry for *sein* and *haben* respectively, and that the complements of these entries are underspecified in a way that allows adjectives, nominal phrases, participles and infinitives to be embedded under the appropriate auxiliaries. With such an assumption one is forced to conclude that the auxiliaries *sein* and *haben* do not contribute a modal meaning to the semantics of an utterance, since otherwise this modal meaning would also be present in simple sentences with adjectives.

   At first glance this seems to be an attractive approach, but note that the auxiliaries have to select for rather special forms of lexical entries.

(4.125) a. Er versucht, das Buch zu bewerten.
             he tries   the book to evaluate

             'He tries to evaluate the book.'

         b. Er hat das Buch zu bewerten.
             he has the book to evaluate

             'He has to evaluate the book.'

If the modal meaning is contributed by the infinitives in examples like (4.124), one has to assume that there are two versions of infinitives in (4.125), the first one having no modal meaning while the second one has. The auxiliary must be able to select for the right one. The elements that can appear together with *sein* or *haben* do not seem to

---

[57](4.124c) is a slightly modified version of an example of Maier. Note that (4.124b) and (4.124d) contradict Grewendorf's claim (1987, p. 124) that verbs with different status, i.e., with different VFORM values cannot be coordinated.

form a natural class. I will therefore assume that the modal meaning is contributed by lexical entries for *sein* and *haben*.[58]

However, the assumption of lexical entries for *sein* and *haben* that introduce the modal meaning leaves the coordination cases in (4.124) unexplained, but note that there are different examples where a main verb is involved that has a meaning that clearly differs from the one of the auxiliary.

(4.126)   a. Und zu diesen köstlichen Phantasien bekommt man gute Suppe,
       and to these delicious fantasies gets   one good soup
       gutes Fleisch, gutes Brot, ein gutes Bett und das Haar geschoren.[59]
       good meat   good bread a   good bed and the hair cropped

       'In addition to these delicious fantasies you get good soup, good meat, good bread, a good bed and a haircut.'

   b. Die entsprechenden Kurse stiegen aufgrund der angeheizten Nachfrage, Egbert Prior kassierte ab, bekam als Bonus obendrein noch eine Anzeige wegen verbotener Insider-Geschäfte dazu und schließlich seine Sendung entzogen.[60]

       'The (share) prices in question rose on account of the increased demand. Egbert Prior cashed in and received the additional bonus of being reported to the police for illegal insider dealings, and finally had his program taken away as well.'

In (4.126) we have one part of the coordination where *bekommen* has the main verb reading, i.e. *get* and another part of the coordination where we have an auxiliary verb that is combined with a participle to form the dative passive. As was demonstrated by (4.20) and (4.21) on page 116, the auxiliary *bekommen* does not have the *get* reading anymore. Even if one assumed a semantic representation containing either a negated or unnegated form of *poss*, like the one that was suggested by Olsen (1997a, p. 315), one would have conflicting values in (4.126b), since in the reading required for the first conjunct, Prior gets something, and in the second one he loses something.

The data in (4.127) pose similar problems.

(4.127)   a. Für Kinobesucher unter den Abonnenten las   sich Dresslers
       for cinema.visitors under the subscribers read itself Dressler's
       schwiemelige Verschwörungstheorie allerdings, als hätte der
       dizzy   conspiracy.theory   but   as had the
       sittenstrenge Katholik den Film gar   nicht gesehen, dafür   aber
       devout   Catholic the film at.all not   seen   instead but
       einen Stapel *Hustler* unter dem Kopfkissen.[61]
       a   pile   Hustler under the   pillow

---

[58]Note, that an approach like the one that is suggested by Ackerman and Webelhuth (1998) can account for the coordination cases. Ackerman and Webelhuth assume that the base verb selects for its auxiliary and already contains the appropriate meaning of the complex predicate. So there is no semantic contribution by auxiliaries. If they handle adjectives as parts of complex predicates, they can account for the coordination of modal infinitives and adjectives. The adjective projection and the projection of the modal infinitive are coordinated and then the resulting phrase is combined with the auxiliary which both conjuncts need. This also works for (4.130) and (4.133). However, in chapter 8.2 I will show that Ackerman and Webelhuth's approach is problematic for various reasons and therefore has to be rejected. Their account provides no analysis for (4.126) and (4.127).

[59]Georg Büchner, *Leonce und Lena* 7,1. quoted from (Askedal, 1984, p. 34)

[60]Martin Sonneborn, taz, 03.08.1999, p. 20

'To those readers who go to the cinema Dressler's dizzy conspiracy
theory made it appear that the devout Catholic had not actually seen
the film, but kept a pile of *Hustlers* under his pillow instead.'

b. Er ist, sozusagen qua Natur und von Hause aus, ein Freund der
   he is   so.to.speak qua nature and from house out a   friend of.the
   gesitteten Menschen, die   einen Besitzstand zu verteidigen und auch
   mannered humans   who an   assets   to defend   and also
   sonst   ein geordnetes Weltbild   haben.[62]
   otherwise an ordered   view.of.life have

   'He is, so to speak, by nature and upbringing a friend of individuals of
   manners who have assets to defend and an ordered view of life in other
   respects too.'

In (4.127a) we have a coordination of a conjunct that is combined with the perfect
auxiliary *haben* and another one where *haben* has the main verb reading. In (4.127b)
the *haben* is an auxiliary with a modal infinitive and a main verb.

There are other coordination data that suggest that the phonological form and not
the semantic content of a head is relevant for the coordination of dependent elements:

(4.128) a. Mit Busen und der Seilbahn zum   Hexentanzplatz auf den Brocken[63]
             with bosom and the funicular to.the Hexentanzplatz on the Brocken

         b. Ob   McCartney auch inhaliert hat, steht   nicht in der Biographie
            whether McCartney also inhaled has stands not   in the biography
            und in den Sternen.[64]
            and in the stars

            'Whether McCartney inhaled as well is not written in the biography
            and can only be divined from the stars.'

The sentences in (4.128) are word games and rather funny. (4.128a) was quoted from
the *Hohlspiegel*. One can regard these sentences as puns in the sense of Zaenen and
Karttunen (1984, p. 316). Zaenen and Karttunen formulate the *Anti-Pun Ordinance* that
states that a phrase may not be used with two different meanings in an utterance. How-
ever, I think that the examples in (4.129) are rather good and should not be regarded as
puns.

(4.129) a. Wenn Ihr Lust und noch nichts   anderes vorhabt,   können
             if   you lust and yet   nothing else   PART (before).have can
             wir sie ja   vom   Flughafen abholen.
             we her yes from.the airport   PART (up).pick
             'If you feel like it and if you haven't got any other plans, we can pick
             her up from the airport.'

         b. Er verprügelt gern   Auswechselspieler und guckt in der
            he beats-up   with.pleasure substitute.players   and looks in the
            Freizeit   lieber „Schweinchen Dick" als in die von Jackson
            free.time prefer Porky   as in the from Jackson
            verordneten Bücher.[65]
            prescribed   books

---

[61]taz, 15./16.03.1997, p. 20

[62]taz, 04.03.1998, p. 12

[63]Dresdner neuste Nachrichten, quoted from Hohlspiegel, Spiegel, 16/1997, p. 256

[64]taz, 15.09.1997, p. 20

'He likes beating up substitute players and would rather watch "Porky" in his free time than glance at the books on Jackson's reading list.'

c. Zudem ist nicht gesagt, daß diese Nebentätigkeit sofort   beginnt
to.that is not   said   that this side.activity   immediately begins
– eventuell wartet das Programm eine bestimmte Zeit oder sogar auf
   possibly waits the program a   certain   time or   even on
eine Aktivierung.[66]
an   activation

'In addition, it is not certain that this sideline will begin immediately, possibly the program will be put on hold for a certain period of time or even until it is activated.'

d. Die Kleine spielt Schach und im   Fanfarenzug.[67]
the little   plays chess   and in.the trumpeters

'The little girl plays chess and with the trumpeters.'

vorhaben and *Lust haben* are two different verbs with different semantics that share only parts of their phonological form. Similarly, *etwas gucken* ('watch TV') is different from *in etwas gucken* ('read'). In (4.129c) the aspect of the two *warten* is different. In (4.129d) we have the particle verb *Schach spielen* and *spielen* in the sense of making music.

4.3.2 *lassen*

Reis (1976a, p. 21) discussed other interesting coordination data that suggest that a lexical rule-based approach has to be preferred.

(4.130)   Mich haben sie   aber taufen   und auch zum   Kindergottesdienst gehen
me   have   they but christen and also to.the children's.service   go
lassen, wenn die anderen Kinder   gingen.[68]
let   when the other   children went

'But they had me christened and also sent me to Sunday school with the other children.'

In (4.130) we have a coordination of a (causative) *lassen* passive and a causative *lassen*. In an analysis that assumes that the *lassen* executes the argument structure of the embedded verbal complex, one would need two different forms of *lassen* to license the two different conjuncts.

(4.131)   a. Mich haben sie   aber (vom Pfarrer) taufen   lassen. (passive)
me   have they but by.the priest   christen let

'They had the priest / somebody christen me.'

b. Mich haben sie   auch zum Kindergottesdienst gehen lassen. (active)
me   have   they also to.the children's.service   go   let

'They had me go to Sunday school.'

---

[65]Spiegel, 18/1997, p. 174
[66]c't, 13/97, p. 170
[67]taz, 10.01.2000, p. 11
[68]E. Runge, *Frauen*, edition suhrkamp 359, Frankfurt/Main, 1970, p. 33, quoted from (Reis, 1976a, p. 21).

The entry in (4.65) is used for the analysis of (4.131a). For the analysis of (4.131b), the lexical entry in (3.167) is used: Both the subject and the complements are raised.

With a lexical rule-based approach the situation is different: The lexical rule applies to *taufen* and produces a lexical entry with reduced valence requirements. This verb can be coordinated with *auch zum Kindergottesdienst gehen* in a symmetric coordination.[69] With a type hierarchy like the one in figure 4.1, one single lexical entry for *lassen* that selects a verb with the VFORM value of type *bse-and-pass-bse* is sufficient to analyze (4.130). When the phrases *aber taufen* and *auch zum Kindergottesdienst gehen* are
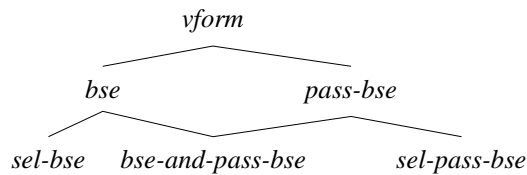
Figure 4.1: Part of a possible type hierarchy with subtypes of *vform*

coordinated, a CAT value of a verb with the VFORM value *bse* and a CAT value of a verb with the VFORM value *pass-bse* are unified (see (Pollard and Sag, 1994, p. 202)). The result is a CAT value with the VFORM value *bse-and-pass-bse*. This is exactly what is required by the matrix verb *lassen*.

In figure 4.1 the types *bse* and *pass-bse* have explicitly been made compatible. To rule out sentences like (4.132b), the future auxiliary *werden* has to select a verbal complex with a VFORM value *sel-bse* rather than *bse*.

(4.132)   a.   Der Mann wird den Aufsatz lesen.
              the man   will the essay   read
              'The man will read the essay.'

          b.   * Der Aufsatz wird (von dem Mann) lesen.
                 the essay   will by the man   read
                 Intended: 'The essay is being read by the man.'

werden selects a verbal complex that is compatible with *bse* only, but not with *pass-bse*.

4.3.3   Future and Passive

In the asyndetic construction in (4.133), the *werden* has the function of a future auxiliary in *werden aussteigen* and of a passive auxiliary in *werden übernommen*.

(4.133)   „Einige Firmen   werden wieder aussteigen, andere übernommen."[70]
          some companies will   again opt.out   others overtaken
          'Some companies will opt out again, others will be taken over.'

Following Maier's argumentation one would have to assume that the information about the future tense is contained in the lexical entry for the main verb, i.e., *aussteigen* in (4.133). But this means that one has several lexical entries for the infinitive in the base form, since one needs a lexical entry for modals and AcI constructions that do not have a future tense semantics.

---

[69]Dan Flickinger was the first to use type hierarchies as the one below for coordination in the grammar that has been developed at CSLI in Stanford. Levine, Hukari and Calcagno (1999) use similar techniques to account for case mismatches in parasitic gap constructions.

[70]taz, 04.02.2000, p. 4

(4.134) a. Er konnte nicht kommen.
             he could not come

         b. Er sah ihn kommen.
             he saw him come

Modals, AcI verbs, and future auxiliaries must be able to distinguish whether the verb they embed is marked for future tense or not. I do not follow her argumentation and assume that for all active sentences the same *bse* form entry is used. (4.133) can be accounted for if one assumes that *werden* takes a verbal complement with a VFORM value of the type *bse-and-pass-part*.

4.3.4 Conclusion

Examples like (4.124), (4.130), and (4.133) seem to be evidence for a lexical rule-based account of the passive, but as the discussion in section 4.3.1 showed, there are other coordination cases that cannot be explained away as easily.

Examples like (4.124), (4.130), and (4.133) may be regarded as instances of a more general coordination problem that has not been solved yet. In the absence of a properly working theory of coordination, examples like the ones that have been discussed in this section should not be used to argue for or against a lexical rule-based account of the passive.

4.4 Binding Data

Binding principles in HPSG are formulated with reference to the relation (local) o-command (Pollard and Sag, 1994, Chapter 6). The definitions are as follows:

Def. 1 *Let Y and Z be* synsem *objects with distinct* LOCAL *values, Y referential. Then Y locally o-commands Z just in case Y is less oblique than Z.*

Obliqueness is defined in reference to the hierarchy presented in chapter 2.2 on page 10.

Def. 2 *Let Y and Z be* synsem *objects with distinct* LOCAL *values, Y referential. Then Y o-commands Z just in case Y locally o-commands X dominating Z.*

Using these definitions what 'binds' means can be defined.

Def. 3 *Y (locally) o-binds Z just in case Y and Z are coindexed and Y (locally) o-commands Z. If Z is not (locally) o-bound, then it is said to be (locally) o-free.*

The binding principles are as follows:

Principle 4 (HPSG Binding Theory)
Principle A *A locally o-commanded anaphor must be locally o-bound.*

Principle B *A personal pronoun must be o-free.*

Principle C *A nonpronoun must be o-free.*

In Müller (1999a, Chapter 20) I have shown that the HPSG Binding Theory as it is has some fundamental problems. Evidence from binding data should therefore be

treated with care. In the absence of a working Binding Theory, binding data has the same status as coordination data.

In what follows I will nevertheless discuss some binding data that was used by Kathol (1994, p. 252) to argue for an object-to-subject raising analysis.

(4.135)   Otto wird von sich selbst geliebt.
            Otto is   by self   loved
            'Otto loves himself.'

He assumes that the *von*-PP is an argument of the auxiliary. Since in an object-to-subject raising analysis the subcat list of the embedded verb is still present, it is also relevant for Binding Theory: The logical subject of *geliebt* locally o-commands the object (*Otto*). The logical subject is realized by the *von*-PP which is an oblique complement of the matrix verb. The subject of the auxiliary is the object of the embedded verb.

(4.136)   a. geliebt: NP_i, NP_j
            b. wird geliebt: NP_j, PP_i

So, since all phrases locally o-command each other, we have a contradiction. Kathol claims that this is the reason for (4.135) being ungrammatical. I do not agree with his judgment, since (4.135) can be uttered in an appropriate context. And (4.137) indeed is an instance of an analogous construction.

(4.137)   Das schon, aber ich will mich von mir besser verstanden fühlen.[71]
            that already but I   want me   from me better understood feel
            'Yes, but I want to feel I understand myself better.'

If one follows Kathol's argumentation, data like (4.135) and (4.137) actually seem to support the lexical rule analysis: In an lexical rule-based account the valence list of the passive participle and the valence list of the verbal complex with the passive participle are identical. To analyze the phrase that expresses the logical subject as an adjunct does not help solving the binding problem since in German adjuncts are not exempt from Binding Theory as in English.

4.5   The Accessibility of the Argument Structure

The sentences in (4.138), which will be discussed in chapter 5.1.1 in more detail, show that depictive predicates can refer to the logical subject of a passivized predicate even if this is not realized by a PP.

(4.138)   a. Das Buch wurde nackt gelesen.
                the book was   naked read
                'The book was read naked.'

            b. Das Buch ist nackt zu lesen.
                the book is naked to read
                'The book has to be read naked.'

---

[71] Helge Schneider, Spiegel, 30/99, p. 176

Draft of January 12, 2001. Comments Welcome!

As will become clear in chapter 5.1.1, subjects, objects, and other complements are possible antecedents for depictive predicates. Since these elements may be non-overt, they must be represented at some place where they can be accessed by the depictive predicate. This suggests that the complete argument structure is still present in syntax. Hence an object-to-subject raising analysis seems to be the better alternative here, as all dependents are represented in the lexical entry for the participle. In a lexical rule-based approach one has to use a feature that contains the complete argument structure or analyze adjuncts as complements to allow reference to the logical subject of a passive participle. However, the advantage of the object-to-subject-raising analysis is only an apparent one. Consider examples like those in (4.139).

(4.139) a. Jedes nackt geputzte Fenster muß extra   bezahlt werden.
             every naked cleaned window must separately payed   get
             'Every window that has been cleaned naked has to be paid separately.'

         b. das nackt zu lesende Buch
             the naked to read   book
             'the book that is to be read naked'

The adjectival forms are derived by a lexical rule or by a head affix combination. The result is a lexical entry that has SUBJ and subcat values that are different from the input of the rule or from the embedded verbal stem, respectively. The logical subject of the verb stem is neither represented in the SUBJ, nor in the subcat list in the resulting sign:

(4.140)   SUBJ SUBCAT

         a. putzen: $\langle$ NP$_i$ $\rangle$ $\langle$ NP$_j$ $\rangle$

         b. geputzt-: $\langle$ NP$_j$ $\rangle$ $\langle\rangle$

         c. lesen: $\langle$ NP$_i$ $\rangle$ $\langle$ NP$_j$ $\rangle$

         d. zu lesend-: $\langle$ NP$_j$ $\rangle$ $\langle\rangle$

This means that the object-to-subject-raising analysis also has to represent the argument structure separately from valence and SUBJ representations.[72] Such a separate representation was suggested independently for various reasons. The feature for the representation of the argument structure is called ARG-ST.

So the possibility of depictive predicates to refer to non-overt material does not provide arguments for either analysis.

4.6 Generalizations

In auxiliary based approaches to passive, the generalizations about passive are represented in the part of the type hierarchy that describes lexical entries for auxiliaries.

---

[72]This is not true for the analysis that uses the designated argument. But this analysis was dismissed because of problems with modal infinitives and incoherent constructions.

Supertype of all passive auxiliaries:

$$
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{ACC} & \boxed{1} \\ \textit{verb} \end{bmatrix} \\[2ex]
\text{VCOMP} & \left\langle \begin{array}{l} \text{V}[\textit{non-fin}, \text{LEX+}, \text{SUBJ} \left\langle \text{NP}[\textit{str}]_{\textit{ref}} \right\rangle, \text{ACC} \boxed{1}, \\ \quad \text{SUBCAT} \boxed{2}, \text{VCOMP} \langle\rangle \,] \end{array} \right\rangle \\[3ex]
\textit{cat}
\end{bmatrix}
\qquad (4.141)
$$

$$\wedge \boxed{} = \boxed{2} \ominus \boxed{1}$$

The type in (4.141) contains the generalization that all passive auxiliaries form a verbal complex with the verb they embed. Whatever the value of ACC is has to be subtractable from the subcat list of the embedded verb. In this general type, the result of the subtraction is not coreferent with any other value in the description. Therefore the tag is empty.

The type in (4.142) is the supertype of the auxiliaries for the normal *werden* passive, the stative passive formed with *sein*, the modal infinitive formed with *sein* and the *lassen* passive.

Supertype of all passive auxiliaries except the dative passive:

$$
\begin{bmatrix}
\text{SUBCAT} & \boxed{} \oplus \boxed{2} \oplus \left\langle (\text{PP}_{\boxed{3}}) \right\rangle \\[1ex]
\text{VCOMP} & \left\langle \text{V}[\text{SUBJ} \left\langle \text{NP}_{\boxed{3}} \right\rangle, \text{ACC} \boxed{1}, \text{SUBCAT} \boxed{4}] \right\rangle \\[1ex]
\textit{cat}
\end{bmatrix}
\qquad (4.142)
$$

$$\wedge \boxed{2} = \boxed{4} \ominus \boxed{1}$$

Together with the constraints that are inherited from (4.141), this corresponds to (4.143).

Supertype of all passive auxiliaries except the dative passive + inherited constraints:

$$
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{ACC} & \boxed{1} \\ \textit{verb} \end{bmatrix} \\[2ex]
\text{SUBCAT} & \boxed{} \oplus \boxed{2} \oplus \left\langle (\text{PP}_{\boxed{3}}) \right\rangle \\[1ex]
\text{VCOMP} & \left\langle \begin{array}{l} \text{V}[\textit{non-fin}, \text{LEX+}, \text{SUBJ} \left\langle \text{NP}[\textit{str}]_{\boxed{3}} \right\rangle, \text{ACC} \boxed{1}, \\ \quad \text{SUBCAT} \boxed{4}, \text{VCOMP} \langle\rangle \,] \end{array} \right\rangle \\[3ex]
\textit{cat}
\end{bmatrix}
\qquad (4.143)
$$

$$\wedge \boxed{2} = \boxed{4} \ominus \boxed{1}$$

This type has a subtype for the first three variants of passive where the empty tag is instantiated as the empty list and the SUBJ value is identical to the ACC value. The subtypes of this type are the types that describe the actual lexical entries for the various passive forms. These subtypes only add information about the VFORM value of the embedded verbal complex, the PFORM value of the preposition that expresses the logical subject, and information about the semantics in the case of the modal infinitive construction. In the case of the *lassen* passive, the empty tag in (4.143) corresponds to the ACC value. *lassen* has its own subject.

In the lexical rule-based approach, generalizations can be captured in a similar way. The generalizations are not expressed in a hierarchy for lexical entries, but in a hierarchy of lexical rules that license lexical entries. (4.144) shows the supertype of all lexical rules for the passive.

Supertype of all lexical rules for the passive:

$$
\begin{bmatrix}
\text{SYNSEM}|\text{LOC}|\text{CAT}|\text{HEAD} \begin{bmatrix} \text{VFORM} & \textit{non-fin} \\ \text{ACC} & \boxed{1} \end{bmatrix} \\[4ex]
\text{LEX-DTR} \begin{bmatrix} \text{SYNSEM}|\text{LOC}|\text{CAT} \begin{bmatrix} \text{HEAD} \begin{bmatrix} \text{SUBJ} & \left\langle \text{NP}[str]_{ref} \right\rangle \\ \text{ACC} & \boxed{1} \\ \textit{verb} \end{bmatrix} \\ \text{SUBCAT} & \boxed{2} \end{bmatrix} \\ \textit{stem} \end{bmatrix} \\[4ex]
\textit{passive-lr}
\end{bmatrix}
\tag{4.144}
$$

$$
\wedge\ \boxed{} = \boxed{2} \ominus \boxed{1}
$$

This type corresponds to (4.141).

The supertype of all lexical rules that are needed for the *werden* passive, the stative passive formed with *sein*, the modal infinitive formed with *sein* and the *lassen* passive is shown in (4.145).

Supertype of all lexical rules for the passive except the dative passive:

$$
\begin{bmatrix}
\text{SYNSEM}|\text{LOC}|\text{CAT} \begin{bmatrix} \text{HEAD} \begin{bmatrix} \text{VFORM} & \textit{non-fin} \\ \text{SUBJ} & \boxed{1} \\ \text{ACC} & \boxed{1} \end{bmatrix} \\ \text{SUBCAT} & (\boxed{2} \ominus \boxed{1}) \oplus \left\langle (\text{PP}_{\boxed{3}}) \right\rangle \end{bmatrix} \\[4ex]
\text{LEX-DTR} \begin{bmatrix} \text{SYNSEM}|\text{LOC}|\text{CAT} \begin{bmatrix} \text{HEAD} \begin{bmatrix} \text{SUBJ} & \left\langle \text{NP}[str]_{\boxed{3}} \right\rangle \\ \text{ACC} & \boxed{1} \\ \textit{verb} \end{bmatrix} \\ \text{SUBCAT} & \boxed{2} \end{bmatrix} \\ \textit{stem} \end{bmatrix} \\[4ex]
\textit{acc-passive-lr-derived-lexical-sign}
\end{bmatrix}
\tag{4.145}
$$

Note that the lexical rule for the *lassen* passive differs from the rules for the other sorts of passive only in its VFORM value. In the auxiliary based approach an additional type was needed since the valence properties of the passive *lassen* differ from those of the passive auxiliaries.

4.7 Summary

To sum up, it can be said that neither of the approaches discussed in this chapter is satisfying: The lexical rule-based approach produces several morphologically equal entries with different valence properties and the object-to-subject raising analysis needs a lexical rule that does passivization and adjective formation in the lexicon. Furthermore, fronting and binding data can only be explained under the assumption that the PP that expresses the logical subject of a passivized verb is an adjunct. The adjunct analysis is not without problems since it is unclear how a coherence principle could be integrated into HPSG.

At the moment the lexical rule-based approach seems to be the more consequent one, so I will assume this approach for the time being.

This has the following consequence: If one wants to capture the generalization about passive in a uniform way, one has to treat morphological processes that yield lexical entries with a passive-like valence in a way that corresponds to the treatment of passive sentences in syntax. So, if one assumes an auxiliary based approach to passive, one has to assume that -*bar* in (4.146b) is an affix that fulfills the function of the passive auxiliaries. The description of the affix is a subtype of the type (4.142), which is a generalization of all heads that do a object-to-subject-raising with the arguments of the verb that is embedded under the head.

If one assumes that passive is analyzed with lexical rules, one also has to assume a lexical rule-based approach for derivational morphology. The lexical rule that licenses *lesbar* on the basis of *les-* is a subtype of (4.145).

(4.146)   a. Er liest   den Aufsatz.
              he reads the essay

          b. Der Aufsatz ist lesbar.
              the essay   is readable

A lexical rule-based approach to morphology will be discussed in chapter 7.2.5.

Chapter 5

Depictive Predicates

The next two chapters will deal with secondary predication. I will show that depictive predicates have to be analyzed as adjuncts while resultative predicates are part of the predicate complex and form a complex predicate with their matrix verb. The subject of the depictive predicate is coindexed with its antecedent element whereas the subject of the resultative predicate is identical to the object or subject of the resultative construction, depending on the type of the matrix verb.

5.1   The Phenomena

In the examples in (5.1) we have adjectives that are secondary predicates.

(5.1)   a.   Er ißt   das Fleisch roh.
             he eats the meat   raw

        b.   Er ißt   das Fleisch nackt.
             he eats the meat   naked

        c.   Er schneidet das Fleisch klein.
             he cuts   the meat   small

        d.   Er ißt   den Teller leer.
             he eats the plate   empty

In (5.1a–b) the secondary predicate provides information about the state of the entity it refers to. In (5.1c–d) the result of an event is specified by the adjective. In this chapter I will examine the properties of the predicates in (5.1a–b), so-called depictive predicates. I will return to the resultative constructions in chapter 6.

In German, uninflected adjectives and prepositional phrases may appear as depictive predicates.

(5.2)   a.   Er liest das Buch nackt.
             he reads the book naked

        b.   Er ißt   die Äpfel ungewaschen.
             he eats the apples unwashed

(5.3)   Ich traf ihn (gestern) im   dunklen Anzug.[1]
        I   met him yesterday in.the dark   suit

---

[1](Helbig and Buscha, 1970, p. 556). I added the adverb *gestern* to exclude the possibility of the PP modifying *ihn* directly.

'I met him in a dark suit yesterday.'

5.1.1 Antecedent Elements

Depictive predicates may refer to subjects and to objects.[2] Sometimes readings are not available because of selectional restrictions of the depictive predicate. So, *nackt* can refer to the book in (5.2a) only in very made-up contexts. Furthermore, the depictive predicate must be compatible with the verb.[3]

(5.4)   a.   Gustav bügelt seine Hemden feucht / * kariert.
           Gustav irons his   shirts   damp   checked

       b.   Gustav kauft seine Hemden kariert.
           Gustav buys his   shirts   checked

The state expressed by the depictive predicate has to be relevant for the main proposition. For the action of the ironing the permanent property of being checked is irrelevant. Therefore the second part of (5.4a) is deviant.

(5.2a) is not ambiguous because of the selectional restrictions of the adjective. (5.2b), on the other hand, has two readings. Reference to the subject and to the object is possible.

This possibility to refer to non-adjacent NPs makes depictives different from simple uninflected adjectives that follow their noun.

(5.5)   a.   Röslein, Röslein, [Röslein rot], Röslein   auf der Heiden.
           little.rose, little.rose, little.rose red, little.rose on the heath

           'Little rose, little rose, little red rose, little rose on the heath'

       b.   Der dynamische Kapitalismus, [nicht *bereit*, sich ein gewinnträchtiges
           the dynamic   capitalism   not   ready self a win.pregnant
           Geschäft zu irgendeiner Zeit entgehen zu lassen], und die
           business to any   time escape to let   and the
           Leistungsgesellschaft, die Muße verabscheut, Konsum aber für das
           meritocracy   the leisure abhors   consume but for the
           große Glück   hält,   haben den 24-Stunden-Tag so parzelliert, dass
           greatest happiness holds have the 24-hour.day   so parceled   that
           selbst in ländlichen Gegenden Mittagsruhe   und Mittagsschlaf
           self   in rural   areas   midday.peace and siesta
           weitgehend perdu sind.[4]
           largely   lost   are

           'Dynamic capitalism, not ready to let a lucrative business opportunity escape it's grasp at any one time, and the meritocracy that abhors leisure while considering consumerism to be ultimate bliss, have parceled the 24-hour day to such a degree, that midday rest and siestas are largely a thing of the past, even in rural areas.'

---

[2] See also (Paul, 1919, p. 49) for examples of predicates referring to nominative and accusative NPs.

[3] The sentences in (5.4) are quoted from (Oppenrieder, 1991, p. 123). See also (Rothstein, 1985, p. 84) for a discussion of English data.

[4] Spiegel, 48/99, p. 307

    c. Und begonnen hat diese Reihe US-Präsident Clinton, indem er sich
       and begun   had this series US.president Clinton in.that he self

       wegen   seiner [Lügen betreffend Monica Lewinsky] entschuldigte.[5]
       because.of his   lies   regarding Monica Lewinsky excused

       'And US president Clinton started this fad by excusing himself for his lies
       about the Monica Lewinsky matter.'

In (5.5) the adjective is inside the nominal projection. In (5.5b) the adjective is used postnominally, since if the adjective were used inflected in prenominal position, the sentence would hardly be processable. A further difference is that postnominal adjuncts like those in (5.5) modify neither proper names nor pronouns (Wilder, 1991, p. 219).

    Sentences like those in (5.2a) and (5.3) contradict Wunderlich's claim (1995, p. 464–465) that the reference of depictives to subjects is restricted and that a reordering of (5.6a) of the kind in (5.6b) is necessary to allow subject reference.

(5.6)   a. weil   sie den Fisch angezogen essen wollte.
         because she the fish   dressed   eat   wanted.to

        'because she wanted to eat the fish dressed.'

    b. weil   sie angezogen den Fisch essen wollte.
         because she dressed   the fish   eat   wanted.to

In (5.7) no object is present, only subject reference is possible.

(5.7)   Karl hat nackt geschlafen.
       Karl has naked slept

       'Karl slept naked.'

An analysis that is empirically adequate has to cover both reference to the subject and to the object. An observation that is implicit in the examples by Wunderlich is that there is a strong preference for serializations where the depictive predicate follows its antecedent.[6]

(5.8)   a.   weil   er die Äpfel ungewaschen ißt.
           because he the apples unwashed   eats

        'because he eats the apples unwashed.'
        (He is unwashed or the apples are unwashed.)

    b.   weil   er ungewaschen die Äpfel ißt.
          because he unwashed   the apples eats

        'because he eats the apples unwashed.'
        (He is unwashed.)

    c. * weil   ungewaschen er / der Mann die Äpfel ißt.
         because unwashed   he the man the apples eats

(5.8a) has two readings, (5.8b) just one. Since the object follows the depictive it cannot be an antecedent.

    It is also possible to refer with depictives to arguments that are not expressed at the surface, although this is sometimes denied.[7] For example, Zifonun (1997, p. 1803)

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[5]taz, 03.05.2000, p. 12

[6]Lötscher (1985, p. 208) makes this observation explicit with regard to objects. See also (Neeleman, 1994, p. 157) for examples from Durch. For more discussion and exceptions to this ordering rule see section 5.1.3.1.

[7]See also (Paul, 1919, p. 51), (Haider, 1997a, p. 6), and (Müller, 1999a, p. 320) on non-overt antecedents.

gives the following example and claims that the depictive predicate cannot refer to the logical subject of the passivized verb.[8]

(5.9) Die Äpfel wurden ungewaschen in den Keller   getragen.
       the apples were   unwashed   in the basement carried

       'The apples were carried to the basement unwashed.'

That the reading where the depictive refers to the agent of the carrying is hardly available has semantic reasons. If the reading where the depictive refers to the logical object of the main verb is semantically implausible, the reference to the logical subject of the main verb is fine:

(5.10) a. Das Buch wurde nackt gelesen.
            the book was   naked read

            'The book was read naked.'

        b. Das Buch ist nackt zu lesen.
            the book is naked to read

            'The book is to be read naked.'

Paul (1919, p. 51) gives the examples in (5.11).

(5.11) a. angetrieben durch   meinen Oheim, angelockt durch   Freunde ...
            on.driven   through my   uncle   lured   through friends
            ward der Entschluß gefaßt.[9]
            was the decision   seized

            'Driven on by my uncle, lured by friends, the decision was made.'

        b. erschöpft, ermüdet wird der Rückzug angetreten.[10]
            exhausted tired   gets the retreat   begun

            'Exhausted, tired, the retreat is begun.'

   Depictive predicates can also refer to the non-expressed subject of an adjectival participle:

(5.12) a. die nackt schlafende Frau
            the naked sleeping   woman

            'the woman who is sleeping naked'

        b. Es enthält   laut   Hersteller Alfredo Dupetit „87 Prozent
            it contains according.to producer Alfredo Dupetit 87 percent
            kaltgepreßtes Hanfsaatöl   und als Duftkomponente 13 Prozent
            cold.pressed hemp.seed.oil and as scent.component 13 percent
            ätherische Öle".[11]
            essential   oils

            'According to the producer Alfredo Dupetit it contains 87 percent cold pressed hemp seed oil, and 13 percent essential oils provide the scent component.'

---

[8]Jaeggli (1986, p. 614)—following Chomsky—makes a similar claim for English. As the translations of the examples below show this claim is as wrong for English as it is for German.
[9]Goethe
[10]Holtei
[11]taz berlin, 19.11.1994, p. 43

In (5.12) *Frau* is coreferent with the syntactic and the logical subject of *schlafende* and *Hanfsaatöl* is coreferent with the syntactic subject of *kaltgepreßte*, which is the logical object of *pressen*. Neither *Frau* nor *Hanfsaatöl* is syntactically realized in a projection of the deverbal adjective.

In the same vein, depictives may refer to non-expressed subjects in coherent and incoherent infinitival constructions.

(5.13) a. Er hat ihr nackt zu schlafen geraten.
           he has her naked to sleep   advised

           'Naked, he advised her to sleep.'
           'He advised her to sleep naked.'

      b. Er hat ihr geraten, nackt zu schlafen.
           he has her advised naked to sleep

           'He adviced her to sleep naked.'

      c. Nackt zu schlafen hat er ihr geraten.
           naked to sleep   has he her advised

           'He advised her to sleep naked.'

In coherent constructions we have readings with reference to the subject of the embedded verb (*schlafen*) and to the subject and to the object of the matrix verb (*raten*). In the incoherent construction only the reference to elements that depend on heads in the respective coherence field is possible. Since *nackt zu schlafen* is a separate coherence field in (5.13b–c), *nackt* can only refer to the subject of *schlafen*. Since the subject of the controlled verb *schlafen* is coreferent with the dative object of the controlee, the element the depictive predicate refers to is visible at the surface.[12] But it is also possible to omit the dative object of *raten*:

(5.14) Er hat geraten,   nackt zu schlafen.
        he has suggested naked to sleep.

        'He suggested sleeping naked.'

In Chapter 4.5, I already discussed examples like (4.139)—repeated here as (5.15)—that show that depictive predicates may refer to elements in the argument structure of verbs even if it is impossible to realize the antecedents.

(5.15) a. Jedes nackt geputzte Fenster muß extra   bezahlt werden.
           every naked cleaned   window must separately paid   get

           'Every window that has been/is cleaned naked has to be paid separately.'

---

[12]An interesting fact about the scope in coherent constructions is that the depictive cannot scope over verbs that do not assign a semantic role to the NP that would be coreferent with the subject of the depictive if such scopings were permitted.

(i) a. Er ließ den Mann nackt die Frau   küssen.
        he let   the man   naked the woman kiss

        'He had/let the man kiss the woman naked.'

    b. lassen(er, küssen(Mann, Frau)) & nackt(er)

    c. lassen(er, küssen(Mann, Frau) & nackt(mann))

    d. * lassen(er, küssen(Mann, Frau)) & nackt(Mann)

So the reading where *nackt* refers to the man and scopes over *lassen* is not available. This is another difference between control constructions (5.13) and raising constructions (i).

    b. das nackt zu lesende Buch
        the naked to read   book

      'the book that is to be read naked'

The subject of *geputzte* is coindexed with *Fenster* and the one of *zu lesende* with *Buch*. The depictive predicate refers to the subject of the verb stem that underlies the deverbal adjectives in (5.15). Because of data like (5.10)–(5.14) the explanation that was suggested by Williams (1980, p. 207) for examples like (5.16b) cannot be valid.

(5.16)   a.   John strikes Bill as stupid.

          b.   * John was struck as sick.

Williams states the constraint that every predicate must have an antecedent. What he means is that every predicate must have an overt antecedent and this claim cannot be upheld as a constraint on predication for all languages in the light of the data presented above.

    Haider (1985a, p. 94) claims that depictive predicates can refer to NPs with structural case only. According to Haider only nominative and accusative are structural cases while dative is not (See also section 2.3 for some discussion on case.).

(5.17)   a. Er sah sie   nackt.
            he saw her-ACC naked

          b. Er half   ihr   nackt.
              he helped her-DAT naked

In (5.17a) both the reference to the subject and to the accusative object is possible, while the reading with reference to the object is hardly available in (5.17b). As Haider notes, this is explained easily by the fact that the subject of the predicate and the NP it refers to are identical. The fact that in German, NP subjects always have structural case explains why a depictive element cannot refer to a dative NP, because dative is taken to be a lexical case.

    Wunderlich (1997b, p. 131) develops an analysis for depictives that constitutes two different subanalyses: Depictives that refer to the subject (VP-adjuncts), and depictives that refer to the direct object (V-adjuncts). Therefore he predicts that reference to dative NPs is not possible.

    Rothstein (1985, p. 85) gives an English example that is equivalent to the sentences in (5.18).

(5.18)   a. Die Krankenschwester gab John   krank die Medizin.
            the nurse   gave John-DAT ill   the medicine-ACC

            'The nurse gave John the medicine ill.'

          b. Die Krankenschwester gab John   die Medizin   krank.
            the nurse   gave John-DAT the medicine-ACC ill

Rothstein explains the impossibility of *krank* referring to *John* by a restriction that allows depictives to refer to agents and patiens, but not to goals.

    However, the reference to dative NPs is possible:

(5.19) Nackt wurde   ihm   klar, daß sein Anzug wohl   für immer verloren
        naked became him-DAT clear that his suit   possibly for ever   lost
        war.
        was

        'Naked it became clear to him that his suit was possibly gone for ever.'

What we see here is probably another instance of the accessibility hierarchy that was observed in connection with a broad variety of phenomena like ellipsis (Klein, 1985, p. 15), topic drop (*Vorfeldellipse*) (Fries, 1988), non-matching free relative clauses (Bausewein, 1990; Pittner, 1995; Müller, 1999b), passive (Keenan and Comrie, 1977), and Binding Theory (Grewendorf, 1985, p. 160; Pollard and Sag, 1992; Pollard and Sag, 1994, Chapter 6). This hierarchy was originally proposed by Keenan and Comrie (1977) and has the following form:

SUBJECT => DIRECT => INDIRECT => OBLIQUES => GENITIVES => OBJECTS OF
            OBJECT   OBJECT   COMPARISON

This accessibility hypothesis is further supported by passive examples:

(5.20)   a. Ihr   wurde nackt geholfen.
            her-DAT was   naked helped

            'She was helped naked.'

        b. John   wurde die Medizin   nackt verabreicht.
            John-DAT was   the medicine-NOM naked given

            'John was given the medicine naked.'

In both sentences the reference to the dative NP is considerably better than in (5.17b) and (5.18), where another candidate for coreference appears at the surface. Of course both sentences in (5.20) have a reading where the helper or the nurse is naked, respectively. And finally one can even find examples that have overt accusative objects and a depictive predicate that refers to a dative NP:

(5.21)   Mangos werden manchmal als 'Badewannenfrüchte' bezeichnet, weil das saftige Fruchtfleisch Flecken hinterlassen kann, die schwer oder gar nicht zu entfernen sind. In den Tropen gibt man sie den Kindern meistens nackt zu essen.[13]

      'Mangos are sometimes described as „bathtub fruits" because their juicy flesh can leave stains that are difficult to remove or even permanent. In tropical countries one usually gives them to the children when they are naked.'

The example in (5.21) was quoted from the "Hohlspiegel" which is part of the magazine *Der Spiegel*. The "Hohlspiegel" contains quotes from other publications that are either semantic nonsense, like *a dead man was killed*, or ambiguous with a preference for a strange reading. (5.22) is an example for the latter kind.

(5.22)   Der Senat plant offenbar noch in der kommenden Woche eine
       the senate plans clearly   still in the coming   week a
       Gesetzesinitiative gegen Kampfhunde im   Abgeordnetenhaus.[14]
       law.initiative   against fighting.dogs in.the house.of.representatives

      'The senate clearly plans a legal initiative against fighting dogs in the House of Representatives as early as the coming week.'

The ambiguities arise because of several possibilities for PP attachment. The sentence in (5.21) made it to the "Hohlspiegel" because the reading where *man* is the subject of

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[13]From the magazine "Natur und Heilen", quoted from Hohlspiegel, Spiegel, 9/2000, p. 262

[14]Tagesspiegel, quoted from Hohlspiegel, Spiegel, 30/2000, p. 194

nackt is the more common one syntactically. However, from the context of the sentence it is clear that the children are naked.

Wunderlich provides another example for a depictive that refers to a dative NP. I quote it here as (5.23) with his judgements.

(5.23)   a. ?? weil   er dem Hemd ungebügelt einen Knopf annähen wollte.
                because he the shirt unironed   a   button on.sew wanted.to
                'because he wanted to sew a button onto the shirt while it was unironed.'

          b. * weil   er dem Hemd einen Knopf ungebügelt annähen wollte.
                 because he the shirt a   button unironed   on.sew wanted.to

He argues that *ungebügelt* in (5.23a) is a postnominal adjective (see (5.5) for examples), since it cannot be an instance of scrambling, as (5.23b), which he claims to be the base order from which (5.23a) is derived, is ungrammatical. The only thing that his pair of sentences shows is that it does not make sense to assume a base order from which other configurations are derived. In a grammar that has linearization rules that restrict surface orderings, one does not have to assume base orders that are ungrammatical. (5.24) proves that the adjective in (5.23) is not necessarily a postnominal one.

(5.24)   ?? weil   er dem Hemd gestern   ungebügelt einen Knopf annähen
              because he the shirt yesterday unironed   a   button sew
              wollte.
              wanted.to
              'because he wanted to sew a button onto the shirt while it was unironed yesterday.'

(5.24) is of the same quality as (5.23a). (5.23b) is bad since the depictive predicate follows three NPs that are syntactic antecedent candidates. The two preferred candidates, i.e., the subject and the accusative object are semantically implausible. In (5.23a) there are just two candidates and only one is inanimate.

From the data presented above it must be concluded that both the restriction of the case of possible antecedent phrases and the restriction of the grammatical role of the antecedent phrase are not adequate. In what follows I will therefore assume that the subject of the depictive predicate is coindexed, i.e., coreferent with the antecedent phrase, but not identical to it, as it was suggested by Haider.

The reference to NPs inside PPs that are complements of a verb is hardly possible.

(5.25)   daß Jan [mit Maria$_i$] nackt$_{*i}$ sprach.
            that Jan with Maria   naked talked
            'that Jan talked to Maria naked.'

Kayne (1985, p. 123) gives an example for English, that is not transferable to German with a similar depictive construction.

(5.26)   a. (?) Why, he's so enamoured of that chair, he'd even sit in it unpainted.

          b. * Er ist ja so verliebt in diesen Stuhl, daß er sogar auf ihm / darauf ungestrichen sitzen würde.

          c. * Er ist ja so verliebt in diesen Stuhl, daß er sogar ungestrichen auf ihm / darauf sitzen würde.

Depictive predicates in passive constructions can refer to the agent-PP, but this reference can be established indirectly via the subject of the passivized verb that does not surface, but is nevertheless accessible (see above).

(5.27) Das Buch wurde von den meisten Lesern nackt gelesen.
        the book was   by the most   readers naked read

        'The book was read naked by most of the readers.'

Since the non-expressed subject of the main verb is coindexed with the PP, the subject of the depictive predicate can be coindexed with the logical subject of the main verb and therefore all three phrases are coindexed via transitivity.

The only example with reference to an NP in a PP I could find so far is (5.28).

(5.28) Beim Betreten des Gehwegs sei er mit großer Wucht zu Boden geschleudert
        worden, wo er kurzzeitig das Bewußtsein verlor.
        Noch am   Boden liegend, sei auf ihn eingetreten   worden.[15]
        still on.the floor lying   be on him PART(in).stepped got

        'When he stepped onto the path he was violently thrown to the ground where he lost consciousness for a short period. While he was still on the floor he was kicked.'

Again, we have a passive sentence. The subject of *treten* was a police officer and therefore the reference of *liegend* to the logical subject of *eintreten* is excluded as antecedent by world knowledge. The only remaining antecedent candidate is the NP in the PP.

NPs in adjuncts are excluded from the list of possible referents of depictives.

(5.29) weil   Karl$_i$ [neben Maria$_j$] nackt$_{i/*j}$ schlief.
        because Karl near Maria   naked   slept

        'because Karl slept near to Maria naked.'

(5.30) shows that pronouns in adjuncts can refer to NPs that are inside other adjuncts.

(5.30) weil   Karl$_i$ [neben Maria$_j$] [auf ihrem$_j$ Bett] schlief.
        because Karl near Maria   on her   bed   slept

        'because Karl slept next to Maria on her bed.'

An analysis that assumes that a phonologically empty pronoun which follows the rules of Binding Theory functions as the subject of the depictive predicate must be rejected, since it cannot explain the difference between (5.29) and (5.30) without stipulations.

While Williams (1980, p. 204) claims that depictive predicates never refer to NPs inside PPs, Rothstein (1985, p. 85) notes that *dog* can be understood as the subject of *sick* in (5.31).

(5.31) John's gift of the dog$_i$ to Mary$_j$ sick$_{i/*j}$

Such constructions are also possible in German. The depictive predicate is always serialized immediately to the left of the noun. The noun *Kaltpressung* as used in (5.32) is also imaginable in contexts like (5.33a).

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[15]taz, 10.06.2000, p. 21

(5.32)   a.   Sie   sind ein Hinweis   darauf, daß das Öl erhitzt und nicht kalt
             they are   an indication that.on that the oil heated and not   cold

             gepreßt wurde.[16]
             pressed got

             'They indicate that the oil was heated and not cold-pressed.'

         b.   Denn die schonende Kaltpressung ist nur   für Speiseöle von
             for   the gentle   cold-pressing is only for edible.oils of

             Bedeutung.[17]
             meaning

             'For the gentle cold-pressing method is only for edible oils of signifi-
             cance.'

(5.33)   a.   die Kaltpressung von Öl / des Öls
             the cold.pressing of   oil   the oil-GEN

         b.   das Kalttrinken   von Milch / der Milch   (ist nicht zu empfehlen)
             the cold.drinking of   milk   the milk-GEN is not   to suggest

             'It is not good to drink milk cold.'

         c.   das Nacktbaden   von John / Johns Nacktbaden
             the naked.bathing of   John   John's naked.bathing

             'John's bathing naked'

On nominalization see also chapter 7.1.11.2.1.

The reference to NPs that are internal to other NPs is excluded.[18]

(5.34)   a.   daß Jan [den Freund von Maria$_i$] nackt$_{*i}$ traf.
             that Jan the friend of   Maria   naked   met

             'that Jan met the (male) friend of Maria naked.'

         b.   daß Jan [Marias$_i$ Vater] nackt$_{*i}$ traf.
             that Jan Maria's father naked   met

             'that Jan met Maria's father naked.'

         c. * daß Jan [Maria nackt und ihren Freund] traf.
             that Jan Maria naked and her   friend   met

             Intended: 'that Jan met Maria naked together with her friend.'

Here we have a clear difference between (5.34c) and (5.5b). In (5.5b) we have a co-
ordinated structure of the same type as in (5.34c), but the adjective (5.5b) is a normal
attributive adjective that is in the domain of the noun that it modifies.

5.1.2   The Case of the Subject of the Depictive Predicate

The example in (5.35) shows that the case of the subject of the secondary predicate is
nominative while the case of the antecedent is accusative.

(5.35)   Er sah [den Wirt   und den Fahrer]   am   Haus, einer   / * einen
        he saw the landlord and the driver-ACC at.the house one-NOM   one-ACC

        neben dem anderen stehend.
        next   the   other   standing

---

[16]taz berlin, 19.11.1994, p. 43
[17]taz berlin, 19.11.1994, p. 43
[18]Neeleman (1994, p. 157) gives Dutch that are equivalent to those in (5.34a–b).

Draft of January 12, 2001. Comments Welcome!

'He saw the landlord and the driver standing next to each other by the house.'

The subject of the depictive and the antecedent noun are coindexed rather than identical. This shows that depictives pattern with control constructions rather than with raising constructions.

5.1.3 Linearization

5.1.3.1 Linearization with Respect to the Antecedent

As was already mentioned during the discussion of the sentences in (5.8)—repeated here as (5.36)—there is a strong preference to let the depictive predicate follow its antecedent.

(5.36)   a.   weil   er die Äpfel ungewaschen ißt.
              because he the apples unwashed   eats

              'because he eats the apples unwashed.'
              (He is unwashed or the apples are unwashed.)

          b.   weil   er ungewaschen die Äpfel ißt.
              because he unwashed   the apples eats
              'because he eats the apples unwashed.'
              (He is unwashed.)

          c.   * weil   ungewaschen er / der Mann die Äpfel ißt.
              because unwashed   he   the man   the apples eats

Appropriate ordering of the depictive predicate may help to disambiguate sentences. In (5.36b) the reading where the apples are unwashed is not available. However, with appropriate focussing even (5.36b) has two readings:

(5.37)   weil   er ungewaschen nur Äpfel ißt.
          because he unwashed   only apples eats

    The following example by Paul (1919, p. 51) also shows that the rule is not strict:

(5.38)   die Bosheiten,   die Ihr unschuldig (ohne   meine Schuld) an mir
          the malicious.things that you innocently without my   fault   at me
          ausübt
          practice
          'the unmerited malicious things that you (Sir) do to me'

As Paul remarks, such examples occur quite infrequently. The sentence is remarkable in another way: The depictive refers to an element in a PP, which is generally rather marked. See the discussion of (5.26). While I find the sentence in (5.38) not really acceptable, the following example is fine:

(5.39)   weil   betrunken niemand hereinkommt.[19]
          because drunk   nobody in.comes
          'because nobody gets in drunk.'

So the ordering constraint has to be treated as a rule that has a strong preference, but may be violated. Note that no other possible antecedent candidate for the depictive is present in (5.39). There are no ambiguities that have to be avoided by ordering the elements in an appropriate way.

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[19](von Stechow and Sternefeld, 1988, p. 466)

5.1.3.2   Fronting

Hoberg (1981, p. 218) observed that depictive predicates can be fronted independently of the element they refer to.

(5.40)   a.   Sie hatten die Kraft gehabt zu klingeln, aber *ohnmächtig* fanden die Her-
              beieilenden, Tochter und Magd, *sie* in ihrem Blut.[20]

              'They had had the strength to ring, but the daughter and maid who rushed
              to the scene found them lying unconscious in their blood.'

         b.   [...] *von Staubschwaden umtanzt,*   stehen Journalisten in
                    by dust.clouds   around.danced stand journalists in
              kurzärmeligen Hosen   vor   Fassaden grandioser Karstigkeit.[21]
              short-sleeved trousers before façades grandiose karsticness
              'With clouds of dust dancing around them, the journalists stand in front
              of grandiose karstic façades in short-sleeved trousers.'

But they can also stay in the *Mittelfeld* while their antecedent is fronted:

(5.41)   a.   Peter hat nackt geschlafen.
              Peter has naked slept
              'Peter slept naked.'

         b.   31 Menschen konnten aber noch *lebend* aus   den Trümmern
              31 humans   could   but still living out.of the wreckage
              geborgen werden.[22]
              rescued   get
              'However, 31 survivors could be rescued from the wreckage.'

The simultaneous fronting of the depictive and its antecedent is in general not possible.

(5.42)   a.   * Den Rotwein temperiert habe ich getrunken, nicht deine Freunde.[23]
                the red.wine warm   have I drunk   not your friends

         b.   * Das Fleisch roh schneiden Sie am   besten in kleine Streifen.[24]
                the meat   raw cut   you at.the best   in small   strips

The appearance of two constituents in the *Vorfeld* is restricted by thematic conditions as was discussed in chapter 2.8.3.1. Within an appropriate context frontings like the one in (5.42) maybe found, but the fact that without such special conditions frontings like (5.42) are excluded suggests that *das Fleisch* and *roh* are independent constituents.

5.1.3.3   Linearization in the *Mittelfeld*

Depictive predicates can be serialized in the *Mittelfeld* rather freely. The position immediately before the verb is not the preferred position as Lüdeling (1998, p. 57–58, fn. 17) claims and as she tries to show with the following examples.

(5.43)   a.   daß Dornröschen   ihre Milch gern   heiß trinkt.
              that Sleeping Beauty her milk with.pleasure hot drinks
              'that Sleeping Beauty likes to drink her milk hot.'

---

[20]Thomas Mann, *Die Betrogene*, Frankfurt/Main, 1954, quoted from (Hoberg, 1981, p. 218).

[21]Max Goldt 1998. *'Mind-boggling' — Evening Post*. Zürich: Haffmans Verlag, p. 143

[22]Bildzeitung, Juni 1967, quoted from (Hoberg, 1981, p. 218)

[23](Reis, 1985, p. 10)

[24](Oppenrieder, 1991, p. 130)

  b. daß Dornröschen   ihre Milch heiß gern   trinkt.
     that Sleeping Beauty her milk   hot   with.pleasure drinks

She claims that (5.43a) is much better than (5.43b). The only thing that her examples
show is that the sentence where *gern* scopes over *heiß* is preferred. As (5.44a) shows,
subject reference is also possible and (5.44b,c) are deviant in the same way.

(5.44) a. daß Dornröschen   gern   nackt ihre Milch trinkt.
           that Sleeping Beauty with.pleasure naked her milk   drinks

        b. daß Dornröschen   nackt gern   ihre Milch trinkt.
           that Sleeping Beauty naked with.pleasure her milk   drinks

        c. daß Dornröschen   nackt ihre Milch gern   trinkt.
           that Sleeping Beauty naked her milk   with.pleasure drinks

With regard to their serialization the (adjectival) depictive predicates behave like ad-
verbs. That these predicates should not be treated as adverbs becomes obvious when
one considers languages like English where adverbs are inflected differently.[25]

(5.45) a. He ate the meat raw / * rawly. (depictive)
        b. He ate the meat slowly / * slow. (adverb)

There are also adjectives in German that are used adverbially, so that a reference of an
adjective to an event cannot be excluded in general. Rosengren (1995, p. 92) demon-
strates this by the following examples:[26]

(5.46) a. The father opened the letter rather nervous.
        b. The father opened the letter nervously.
        c. Der Vater öffnete nervös den Brief.

The sentence in (5.46c) corresponds to the two examples in (5.46a,b). In one reading
nervös is used adverbially and in the other reading it is a depictive predicate that refers
to *Vater*.

5.1.4 Iteration

It is possible to have more than one depictive predicate per verb:

(5.47) a. daß er nackt die Äpfel ungewaschen aß.
           that he naked the apples unwashed   ate

           'that he ate the apples unwashed naked.'

        b. daß er die Äpfel nackt ungewaschen aß.
           that he the apples naked unwashed   ate

        c. daß er die Äpfel ungewaschen nackt aß.
           that he the apples unwashed   naked ate

        d. daß er gestern   im   Anzug fröhlich die Äpfel aß.
           that he yesterday in.the suit   happy   the apples ate

           'that he ate the apples yesterday in the suit happy.'

---

[25]The sentences in (5.45) are quoted from (Rosengren, 1995, p. 92).
[26]She took the English data from a reference grammar.

Reference to both the subject and to the object is possible with iterated depictives. Multiple reference to the subject or object is also not excluded. The following example by Rosengren (1995, p. 108) is a translation of a similar sentence provided by Winkler (1997, p. 79) and shows two depictive predicates, one with reference to the subject and one with reference to the object, together with a resultative predicate.

(5.48)   Die Holzfäller   haben, ungerührt von den Bitten der   jungen Leute,
         the lumberjacks have   untouched by the pleas of.the young people
         einen alten Baum noch grün in Stücke gesägt.
         an   old   tree   still   green in pieces sawn
         'Unmoved by the young people's pleas, the lumberjacks sawed an old tree
         into pieces while it was still green.'

As the examples in (5.47a–c) show, there are no specific ordering constraints on depictives. They can be permuted as other adjuncts can in the German *Mittelfeld* provided the antecedent precedes the respective depictive predicate. In particular there is no nesting requirement: In (5.47c) the depictive predicate that refers to the subject follows the depictive predicate that refers to the object. Wunderlich's claim (1997a, p. 129) that such orders are not possible is wrong. Informants rather had processing problems with both serializations in (5.47b–c) since the references are more difficult to resolve for (5.47b–c) than for (5.47a). As far as the examples in (5.47b–c) are concerned, the informants preferred the linearization in (5.47c), which should be ungrammatical according to Wunderlich. Berthold Crysmann observed that the length of the constituents and the possibility to have phrasal breaks plays a role.

(5.49)   a.   weil   sie den Fisch noch völlig ungekocht nackt essen wollte.
               because she the fish   still   totally uncooked naked eat   wanted.to
               'because she wanted to eat the fish totally uncooked naked.'
         b. * weil   sie den Fisch roh schick   angezogen essen wollte.
               because she the fish   raw fashionably dressed   eat   wanted.to
               'because she wanted to eat the fish raw fashionably-dressed.'

Wunderlich judged (5.49b) to be ungrammatical, but it has the same linearization as (5.49a). So, if his judgment is justified at all, it is due to non-structural factors.

5.1.5   Focus Projection and Stress

In a very detailed study, Winkler (1997) compared focus projection properties of depictive and resultative predicate constructions. She showed that a wide focus reading of resultatives is obtained if the secondary object is directly assigned a pitch accent, which can indirectly license the resultative predicate as a [+focus]-constituent. In depictive constructions a pitch accent on the secondary subject and the secondary predicate is required to achieve a wide focus reading (p. 310). Since adjuncts differ from complements in that they form an independent intonational phrase (p. 220), this supports the assumption that depictive predicates are adjuncts. Furthermore, Winkler's experiments support a complex predicate analysis for resultative predicates.

5.2   The Analysis

In the data section I showed that depictive predicates behave like adjuncts. They can be serialized independently from their antecedent. They can be serialized rather freely

in the *Mittelfeld* and there is no restriction on the number of depictive predicates per clause. Since the discussion in the data section showed that the subject of the depictive predicate can be coreferent with a dative NP, a raising analysis cannot be adequate if dative is assumed to be a lexical case.

The following lexical rule maps a predicative element that can be used in copula constructions or subject or object predicatives onto a depictive predicate.[27]

Lexical Rule that maps predicative elements onto depictive predicates:

$$
\begin{bmatrix}
\text{SYNSEM|LOC} \begin{bmatrix} \text{CAT|HEAD} \begin{bmatrix} \text{SUBJ} \left\langle \text{NP}_{\boxed{1}} \right\rangle \\ \text{PRD} \quad + \\ \textit{adj-or-prep} \end{bmatrix} \\ \text{CONT} \boxed{2} \end{bmatrix} \\ \textit{lexical-sign}
\end{bmatrix} \rightarrow
$$

$$
\begin{bmatrix}
\text{SYNSEM|LOC} \begin{bmatrix} \text{CAT|HEAD} \begin{bmatrix} \text{MOD} \begin{bmatrix} \text{LOC} \begin{bmatrix} \text{CAT} \begin{bmatrix} \text{HEAD} \begin{bmatrix} \text{VERBAL} + \end{bmatrix} \\ \text{VCOMP} \langle \rangle \\ \text{ARG-ST} \boxed{3} \end{bmatrix} \\ \text{CONT} \boxed{4} \end{bmatrix} \\ \text{LEX} + \end{bmatrix} \end{bmatrix} \\ \text{CONT} \begin{bmatrix} \text{ARG1} \boxed{2} \\ \text{ARG2} \boxed{4} \\ \textit{and} \end{bmatrix} \end{bmatrix} \\ \textit{lexical-sign}
\end{bmatrix} \wedge
$$

$$\text{(5.50)}$$

$$\text{XP}_{\boxed{1}} = \textit{member}(\boxed{3})$$

I will demonstrate how this rule works with the examples in (5.51).

(5.51) a. Er ist nackt.
            he is naked

        b. Er sah sie nackt.
            he saw her naked

The entry for the predicative version of *nackt* that is used in copula constructions like (5.51a) is shown in (5.52).

---

[27]The semantic representation is of course a simplification. It is a place holder for whatever turns out to be the correct semantic representation for depictive predicates.

nackt ('naked'):

$$
\begin{bmatrix}
\text{CAT} &
\begin{bmatrix}
\text{HEAD} &
\begin{bmatrix}
\text{SUBJ} & \langle \text{NP}[str]\ \boxed{1} \rangle \\
\text{PRD} & + \\
adj
\end{bmatrix} \\
\text{SUBCAT} & \langle\rangle \\
\text{VCOMP} & \langle\rangle
\end{bmatrix} \\
\text{CONT} &
\begin{bmatrix}
\text{THEME} & \boxed{1} \\
naked
\end{bmatrix} \\
loc
\end{bmatrix}
\tag{5.52}
$$

The entry in (5.52) is the input for the rule (5.50). The result of the rule application is shown in (5.53).

$$
\begin{bmatrix}
\text{SYNSEM}|\text{LOC}
\begin{bmatrix}
\text{CAT}|\text{HEAD}
\begin{bmatrix}
\text{MOD}
\begin{bmatrix}
\text{LOC}
\begin{bmatrix}
\text{CAT}
\begin{bmatrix}
\text{HEAD} & [\text{VERBAL} +] \\
\text{VCOMP} & \langle\rangle \\
\text{ARG-ST} & \boxed{1}
\end{bmatrix} \\
\text{CONT} & \boxed{2}
\end{bmatrix} \\
\text{LEX} +
\end{bmatrix} \\
\text{SUBJ} & \langle \text{NP}[str]\ \boxed{3} \rangle
\end{bmatrix} \\
\text{CONT}
\begin{bmatrix}
\text{ARG1} &
\begin{bmatrix}
\text{THEME} & \boxed{3} \\
naked
\end{bmatrix} \\
\text{ARG2} & \boxed{2} \\
and
\end{bmatrix}
\end{bmatrix} \\
lexical\text{-}sign
\end{bmatrix} \wedge
\tag{5.53}
$$

$$\text{XP}_{\boxed{3}} = member(\boxed{1})$$

Since the input specification requires a subject, subjectless predicates like for instance the adjective *warm*, cannot be input to the rule.

(5.54)   Ihm   ist warm.
         him-DAT is warm

         'He is warm.'

The specification of the subject as referential rules out expletive predicates as input.[28]

(5.55)   a.   Es   ist kalt.
              it-EXPL is cold

         b.   ? Es   regnet kalt.
              it-EXPL rains   cold

(5.55) means that the rain is cold, not that it is cold in general. It may be cold rain in warm weather. The predicate *kalt* cannot refer to the expletive nominal complement of

---

[28]Note that the *es* in (5.55a) is ambiguous between a referential and an expletive *es*. Only the expletive reading matters here.

regnen. The condition on referentiality cannot be imposed on the subject of the verb that is modified, since verbs with expletive subjects allow for depictives if these do not refer to the expletive element:

(5.56) Es   trug ihn unangeschnallt   aus der Kurve.
       it-EXPL carried him not.seat.belt.fastend out the curve

       'He was carried out of the bend without having his seatbelt on.'

In (5.50), the index of the subject of the input predicate ([1]) is structure-shared with the index of an element of the ARG-ST list of the element that is modified by the depictive. As was already mentioned in chapter 4.5, the ARG-ST list is a list that contains the complete argument structure of a predicate. Both subjects and other dependents of finite and non-finite verbs are members of this list. The structure sharing of the indices is equivalent to the structure sharings of a modified noun and a modifying adjective or adjectival participle. The modification of the verbal element can be seen as an instance of control: The depictive controls an argument of the verbal head.

The item at the left hand side of the *member*-relation is specified as an XP in (5.50). The rule admits the predication of depictives over subjects, direct and indirect objects and genitives. It also allows PPs to occur as antecedents of depictives, since PPs have a CONT value of the type *nom-obj*. That examples of reference to PP elements are hardly acceptable can be explained by their low accessibility on the scale.

Haider's approach is equivalent to identifying the complete SUBJ value of the input predicate with the left-hand side of the *member*-relation. It is a raising approach. Since subject NPs always have structural case, only reference to the subject and the direct object of the modifed verbal element is predicted to be possible. This is empirically wrong, as the data that was discussed in chapter 5.1.1 showed.

The coindexing analysis that has been developed here has interesting consequences for the overall architecture of the grammar. As Kaufmann (1995, p. 87–88) observed, the coindexation approach enforces the modification of lexical predicates if one assumes that the argument structure is represented only at lexical items. This is unproblematic for grammars with flat dominance structures for the German clause, but with binary branching structures it is not trivial to establish the coindexing. Figure 5.1 on the next page shows the standard analysis for (5.57) with binary branching dominance structures.

(5.57) weil   er nackt der Frau   hilft.
       because he naked the woman helps

       'because he helps the woman naked.'

nackt modifies the projection *der Frau hilft*, which is non-lexical and does not contain the argument structure. It is not possible to refer to the semantic contribution of *hilft*, which is, of course, contained in *der Frau hilft*, since *helfen* may be embedded under a modal or causative verb:

(5.58) weil   sie ihn nackt der Frau   helfen sieht.
       because she him naked the woman help   sees

       'because she sees him help the woman naked.'

sie, *ihn*, and *der Frau* are dependents of the verbal complex *helfen sieht*.

To solve this problem one could project the argument structure. Kiss (To Appear) suggests making ARG-ST a head feature. The problem with the projection of the argument structure is that it is incompatible with the standard approach for coordination in

V[*fin*, SUBCAT ⟨⟩]

C   H

[1] NP[*nom*]   V[*fin*, SUBCAT ⟨ [1] ⟩]

A   H

AP   V[*fin*, SUBCAT ⟨ [1] ⟩]

C   H

[2] NP[*dat*]   V[*fin*, SUBCAT ⟨ [1], [2] ⟩ ,

ARG-ST ⟨ [1], [2] ⟩]

er   nackt   der Frau   hilft
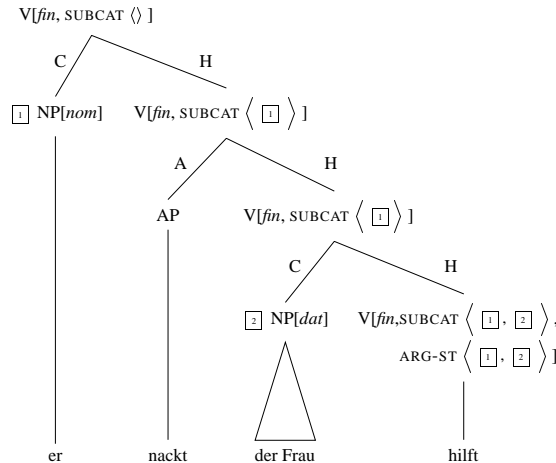
Figure 5.1: Binary Branching Structures and Depictive Predicates (Continuous)

HPSG. In the standard treatment of coordination it is assumed that the CAT values of two coordinated elements have to be identical. If we have coordinations of sentences that have ARG-ST lists of differing length, coordination fails.

(5.59)   a.   The woman sleeps and the man washes the dishes.
         b.   The man beats the dog and the child kicks the zebra.

Since the elements in the ARG-ST lists of *sleeps* and *washes* are still present in the maximal projections, coordination fails because these lists differ in length. The situation is even worse: (5.59b) also cannot be analyzed either, since Kiss' projected ARG-ST list also contains semantic information and this information is incompatible (dog ≠ zebra). So, if we wanted to project the argument structure, this would have to happen outside of CAT. Furthermore, this projection of the complete argument structure violates locality since the internal structure of a maximal projection could be selected by governing heads.

Another possibility is to treat adjuncts as complements and introduce them into the subcat list of the head they modify (van Noord and Bouma, 1994). Since then modification is treated in the lexicon, the combination of depictives and the predicates they modify can be established before argument saturation takes place. See chapter 5.3.1 for a discussion of this approach.

In earlier work I assumed that adjuncts modify lexical elements for independent reasons (Müller, 1999a, Chapter 17.6). The lexical rule in (5.50) is set up accordingly. Depictives modify lexical elements or quasi-lexical elements, like verbal complexes. The analysis of (5.57) is shown in figure 5.2 on the facing page. Since depictive predicates may be iterated, the argument structure must be present at the mother node in head adjunct structures.

There are some more things to notice about the rule (5.50): Since adjectival forms that are derived from verbs are also categorized as verbal elements, phrases like (5.60) can be analyzed.

(5.60)   a.   roh gegessenes Obst
              raw eaten   fruits
              'fruits that are/were eaten raw'

V[SUBCAT ⟨⟩ ,
  DOM ⟨ *er, nackt, der Frau, hilft* ⟩]

C   H

[1] NP[*nom*]   V[SUBCAT ⟨ [1] ⟩ ,
      DOM ⟨ *nackt, der Frau, hilft* ⟩]

    C   H

    [2] NP[*dat*]   V[SUBCAT ⟨ [1], [2] ⟩ ,
      ARG-ST ⟨ [1], [2] ⟩
      DOM ⟨ *nackt, hilft* ⟩]

        A   H

        AP   V[SUBCAT ⟨ [1], [2] ⟩ ,
      ARG-ST ⟨ [1], [2] ⟩]

er   der Frau   nackt   hilft
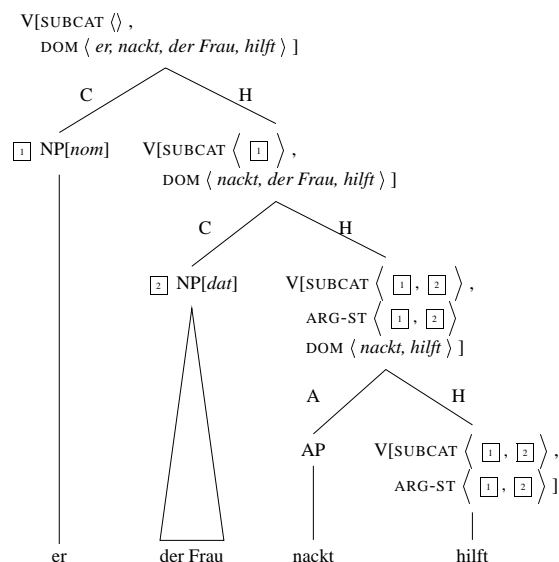
Figure 5.2: Binary Branching Structures and Depictive Predicates (Discontinuous)

    b. die nackt schlafende Frau
        the naked sleeping   woman

        'the woman who sleeps naked'

Similarly nominalizations are marked as verbal and therefore depictive predicates can be combined with them. Alternatively one could of course refer to the semantic contribution of the modified verb, adjectival participle, or noun.

The linearization rule in (5.61) expresses the preference for depictives to be ordered after their antecedent element.

(5.61)   COMP XP[1] < AP/PP[SUBJ ⟨ NP[2] ⟩] ∧ [1] == [2]

Like other ordering rules that affect the elements in the *Mittelfeld*, it is a preference rule only. The less such weighted rules are violated, the better a sentence is (Uszkoreit, 1987, Chapter 5).

The rule cannot test for the unification of the index of the depictive since otherwise no phrase with a compatible index could be positioned after the depictive.

(5.62)   weil   sie nackt die Frau   sah.
        because she naked the woman saw

        'because she saw the woman naked.'

Rather, an identity test of the two indices has to be made. The structure sharing of the indices is established by the modification, it must not be established by linearization rules via unification.

The examples in (5.40), where the depictive predicate is located in the *Vorfeld*, are not affected by this rule, as the elements in the *Vorfeld* are fillers and not complements. The rule applies to complements only.

5.3   Alternatives

An alternative to the analysis suggested in this chapter is to handle adjuncts as complements and use a lexical rule that introduces depictive predicates into subcat lists. In the following section I will discuss the adjuncts as complements approach.

5.3.1   Adjuncts as Complements

Van Noord and Bouma (1994) suggested a lexical rule that is similar to the following:

$$
\begin{bmatrix} \text{SYNSEM}|\text{LOC} & \begin{bmatrix} \text{CAT} & \begin{bmatrix} \text{HEAD} & \boxed{1} \\ \text{SUBCAT} & \boxed{2} \oplus \boxed{3} \end{bmatrix} \\ \text{CONT} & \boxed{4} \end{bmatrix} \end{bmatrix} \rightarrow
$$

$$
\begin{bmatrix} \text{SYNSEM}|\text{LOC} & \begin{bmatrix} \text{CAT}|\text{SUBCAT} \; \boxed{2} \; \oplus \; \left\langle \begin{bmatrix} \text{LOC} & \begin{bmatrix} \text{CAT} & \begin{bmatrix} \text{H} & \begin{bmatrix} \text{MOD}|\text{L} & \begin{bmatrix} \text{CAT}|\text{H} & \boxed{1} \\ \text{CONT} & \boxed{4} \end{bmatrix} \end{bmatrix} \end{bmatrix} \\ \text{SUBCAT} \langle \rangle \end{bmatrix} \\ \text{CONT} \; \boxed{5} \end{bmatrix} \end{bmatrix} \right\rangle \; \oplus \; \boxed{3} \\ \text{CONT} \; \boxed{5} \end{bmatrix} \end{bmatrix} \quad (5.63)
$$

This rule does modification "in the lexicon".[29] A modifier is introduced into the subcat frame of the head. At the same time the semantic contribution of the head is changed in a way that reflects the semantic contribution that one would obtain after a combination of an adjunct and a head in syntax ($\boxed{5}$). Such a lexical rule renders the head adjunct schema superfluous. To see how this rule works, consider (5.64). The rule in (5.63) applies to *singen*. The output will create a new lexical entry for *singen* that contains an adjunct in its subcat list. The semantic contribution of this adjunct is taken over to be the semantic contribution of the complete lexical entry.

(5.64)   Karl singt dieses Lied oft.
         Karl sings this   song often
         'Karl often sings this song.'

In (5.64), *oft* would be a complement of *singen* and the meaning of *oft singen* would already be represented in *singt* in an underspecified way, and would get instantiated by the adverbial complement of *singen* with the predicate *oft*.

---

[29] Dowty (1979, Chapter 5.8.1) discusses a similar analysis for the internal reading of (i) in his decomposition approach.

    (i)   John opens the door again.

He introduces an additional lexical entry for *open* with the semantics $cause(become(S(open)))$, where S gets instantiated by *again*. He dismisses this proposal in favor of one with an ambiguous adverb (p. 267).

5.3.1.1 Permutation in the *Mittelfeld*

All accounts that represent adjuncts in valency lists have the problem that scope inter-
actions between adjuncts cannot be explained easily.

(5.65) a. weil   der Mann   der Frau   das Buch   gibt.
            because the man-NOM the woman-DAT the book-ACC gives

            'because the man gives the woman the book.'

        b. weil   der Mann   das Buch   der Frau   gibt.
            because the man-NOM the book-ACC the woman-DAT gives

The reordering of NPs in (5.65a) does not change the core meaning of the sentence.

(5.66) a. weil   Hans oft   nicht lacht.
            because Hans often not   laughs

            'because Hans often does not laugh.'

        b. weil   Hans nicht oft   lacht.
            because Hans not   often laughs

            'because Hans does not laugh often.'

However, if we permute the adverbs in (5.66a) the meaning of the sentence changes:

(5.67) a. oft(¬lachen(Hans))

        b. ¬oft(lachen(Hans))

Both formulae in (5.67) can be derived with appropriate lexical entries for both
(5.66a) and (5.66b). For instance, (5.66a) can get an analysis with the meaning in
(5.67a) in an analysis that uses the lexical entry that subcategorizes for the two ad-
juncts. But (5.66b) can also be derived if the lexical entry that is needed for (5.66b)
is used and the adjuncts are permuted like other elements on the subcat list, as for in-
stance the NPs in (5.65). The permutation of adjuncts cannot be prohibited in general
since really subcategorized adjuncts can be permuted without change in meaning, as
(5.68) shows.

(5.68) weil   in solch einem Fünf-Sterne-Hotel keine Sau wohnen will.
        because in such a   five.star.hotel   no   sow live   wants.to

        'because no bloody idiot wants to live in a five star hotel.'

If one uses a schema for head adjunct structures, a linearization rule can be used to-
gether with this schema. But with the lexical rule in (5.63) one cannot tell apart ad-
juncts that are truly subcategorized from those that were introduced by the rule. This
means that we have to change the rule in (5.63) in such a way that newly introduced
adjuncts are marked for being not permutable. This is a rather unwanted consequence
since it implies that we have a fixed order with regard to a subpart of elements in the
valence list. There are subcategorized elements that have a relatively fixed position,
but this fixed position is relative to the head of the element and not to other elements
that depend on other heads.

5.3.1.2 Coordination

As Robert Levine pointed out at the HPSG 2000 conference in Berkeley, the following
sentence is even more problematic for the adjuncts as complements analysis.[30]

---

[30]Levine's example is also discussed in (Cipollone, 2000).

(5.69)   John came in, found a chair, sat down, and pulled off his logging boots in
         exactly thirty seconds flat.

The problem that such sentences pose for adjuncts as complements analyses is that the
adjunct phrase *in exactly thirty seconds flat* scopes over the coordinated VPs. With a
lexical rule like (5.63) the adjunct semantics is combined with the meaning of the verb
in the lexicon. It is easy to get an analysis for (5.69) where the adjunct scopes over the
last conjunct: This is the normal VP modification with the structure in (5.70).

(5.70)   John came in, found a chair, sat down, and [pulled off his logging boots in
         exactly thirty seconds flat].

But this is not the intended reading. To get the intended reading one could assume that it
is a case of Right Node Raising where the adjunct is extracted, but then the adjunct has
scope over each individual verb, which is not the right reading. Alternatively one could
assume that the conjuncts are coordinated unsaturated sharing their last "complement",
namely the adjunct. But again, this would yield a meaning where the adjunct scopes
over each verb separately. The only way that seems to yield the right reading is to
first build the coordination *came in, found a chair, sat down, and pulled off his logging
boots* and then attach the adjunct in a head adjunct relation. The adjunct then has scope
over the whole coordination.

5.4   Summary

In this chapter an analysis for depictive predicates has been developed that treats de-
pictives as adjuncts. The subject of these adjuncts is coindexed with one element in the
argument structure of the verb that is modified by the depictive predicate. Since the de-
pictive refers to the argument structure and not to valence lists, it can be explained why
depictives can refer to elements that do not appear at the surface. As I have shown,
depictive predicates may refer to subjects, direct objects, and indirect objects. The
reference to indirect objects is more marked than the reference to direct objects and
subjects. This corresponds to the obliqueness hierarchy, the influence of which can
also be observed in other parts of the grammar.

Chapter 6

Resultative Predicates

In this chapter I will discuss resultative predicate constructions.[1] I will show that they have properties similar to the subject and object predicative constructions that have been discussed in chapter 3. I will suggest a lexical rule that licenses for each intransitive verb another lexical entry that takes a secondary predicate as complement and forms a predicate complex. The resultative component in the meaning of resultative predicate constructions is contributed by the lexical rule.

6.1   The Phenomena

Resultative predicates usually describe the result of an event that is expressed by the main verb.

(6.1)   a. Sie streicht die Tür   schwarz.
            she paints   the door black

        b. Er schneidet die Wurst   in   Scheiben.
            he cuts   the sausage into slices

But there are also resultative constructions with certain verbs, where the result is only claimed to be true.

(6.2)   a. Die Beurteilungskriterien seien so festgelegt, daß mit   ihnen der Wald
            the judgement.criteria   be   so set   that with them the woods
            „gesundgelogen" werde.[2]
             healthy.lied   get

            'The judgement criteria had been formulated in such a way that they made the woods appear healthy.'

        b. „Diese Partei ist von der Presse krankgeschrieben worden. Sie ist
             this   party is by the press ill.written   got   she is
            gesund."[3]
            well

            'The press gave this party a sickly image. But it is in the best of health.'

---

[1]In traditional grammar these constructions are called *factitive*.
[2]taz, 12.08.1994, p. 7
[3]taz, 10.31.1988, p. 5

    c. sein Trick ist eher, Details des   Holocaust anzuzweifeln, gezielt klein
       his   trick is rather details of.the holocaust at.to.doubt   aimed small
       zu reden und so den Massenmord zum   Verschwinden zu bringen.[4]
       to talk   and so the mass-murder to.the disappearance to bring
       'What his trick is, is to question details about the holocaust, to pointedly
       make them appear insignificant, and hence to make the mass-murder dis-
       appear.'

The resultative predicate can be expressed by an adjective (6.1a) or a PP (6.1b).
According to Maienborn (1994) constructions with a directional PP like (6.3) have to
be analyzed differently from resultative constructions:

(6.3)   a. Der FC   St. Pauli fegt   Bayer Uerdingen mit 3:0 vom
         the soccer.team St. Pauli sweeps Bayer Uerdingen with 3:0 from.the
         Platz.
         place
         'The FC St. Pauli sweeps Bayer Uerdingen from its place with a 3:0
         score.'

       b. Herbert Wehner konnte die Leute an die Wand schweigen.
         Herbert Wehner could   the people to the wall   silence
         'Herbert Wehner could terrorize people by remaining silent.'

       c. Der Bankräuber konnte sich über die Grenze retten.
         the bank.robber could self over the border save
         'The bank robber could escape over the border.'

Directional PPs do not appear in copula constructions, i.e., in primary predication, like
adjectives and locative PPs do. In Maienborn's analysis, non-local verbs in (6.3) are
reinterpreted as movement verbs. I assume the syntax of this construction to be similar
to the one of resultative constructions that will be discussed in this chapter.
    Nominal predicates are restricted in English and impossible in German:

(6.4)   a.   He sprayed his new car a brilliant shade of green.[5]

       b.   * Er sprühte sein Auto einen schönen leuchtenden Grünton.

6.1.1   Non-Selected Accusatives

The examples in (6.5) and (6.6) show intransitive verbs in resultative constructions:[6]

(6.5)   a. Die Jogger liefen den Rasen platt. $\not\rightarrow$ Die Jogger liefen den Rasen.
         the joggers run   the lawn flat   the joggers run   the lawn

       b. Es regnete die Stühle naß. $\not\rightarrow$ Es regnete die Stühle.
         it rained the chairs wet   it rained the chairs

(6.6)   a. Stunden später sind meine Füße plattgelaufen, [...][7]
         hours   later are my   feet flat.run
         'Hours later my feet are sore from walking, [...]'

---

[4]taz, 04.12.2000, p. 3
[5](Rothstein, 1985, p. 81)
[6]The examples in (6.5) and (6.7) are taken from (Wunderlich, 1995).
[7]taz, 01.02.1999, p. 9

b. Das Unternehmen hatte sich schon   zu Apartheid-Zeiten mit   dem Bau
the company   had self already to apartheid.times   with the build
von „Matchbox-Häusern" hervorgetan – viele wurden in Kapstadt
of   matchbox.houses   distinguished many got   in Cape Town
vor   einigen Wochen schlichtweg plattgeblasen, als ein heftiger Sturm
before few   weeks   simply   flat-blown   as a hefty   storm
die Gegend heimsuchte.[8,9]
the area   home.looked

'The company had already made its name as an expert matchbox house
builder in apartheid times, many of these were simply blown away during
a heavy storm that struck the area a few weeks ago.'

The verb does not assign a semantic role to the accusative NP in these sentences. The accusative is the logical subject of the resultative predicate.

The examples in (6.7) and (6.8) are examples of resultative constructions with optionally transitive verbs. The examples show that the accusative NP in such constructions is not necessarily the object that is selected by the main verb.

(6.7) Die Gäste tranken den Weinkeller leer. $\not\to$ Die Gäste tranken den
the guests drank   the wine.cellar empty   the guests drank   the
Weinkeller.
wine.cellar

(6.8) a. Heute verzichten die Hooligans vor   und beim   Fußballspiel auf
today abstain   the hooligans before and during.the football.game on
Alkohol und trinken erst nach dem Spiel ganze Kneipen leer.[10]
alcohol and drink   first after the game whole pubs   empty

'Nowadays the hooligans abstain from drinking before and during football
games and only drink the pubs dry after the game.'

b. Erinnern   Sie sich an A Fish Called Wanda, wo   genußvoll ein
remember you self at A Fish Called Wanda where gleefully a
Hündchen   nach dem anderen plattgefahren wurde?[11]
little.doggy after the   other   flat.driven   got

'Do you remember when in A Fish Called Wanda one little doggy after
another was gleefully run over?'

c. Ihre Artillerie hatte von   den umliegenden Bergen   die Stadt
their artillery had from the surrounding mountains the town
sturmreif geschossen.[12]
storm.ripe shot

'From the surrounding mountains their artillery held the town under gunfire until it was ready to be attacked.'

The pubs in (6.8a) are not the object of *drink* and neither are the dogs an object of *drive* in (6.8b). The verb *schießen* in (6.8c) cannot be used with a town as direct object.

---

[9]taz, 08.09.1994, p. 3

[9]Note that examples like (6.6b) and (6.5b) show that the subject of a verb in a resultative construction may be inanimate or even a weather *es*.

[10]Mannheimer Morgen, 16.07.1998, Politik; Kanther sagt Hooligans den Kampf an

[11]taz-Bremen, 03.03.1990, p. 27

[12]taz, 07.15.1995, p. 11

If one refers to a process like the one in (6.8c) without expressing a result, the verb *beschießen* has to be used.

As was noted by Oppenrieder (1991, p. 112), the object of the main verb cannot be realized in addition to the accusative that is licensed by the resultative predicate.

(6.9)   * Die Gäste tranken den Wein den Weinkeller leer.
            the guests drank   the wine the wine.cellar empty

6.1.2   The Interpretation of the Accusative and Fake Reflexives

When the event that is described by the base verb affects the referent that is expressed by the subject of the base verb, a reflexive pronoun can be used to indicate the coreference. Simpson (1983, p. 145) called these reflexive pronouns fake reflexives. As the data to be discussed below will show, in German these reflexives are normal pronouns that in many cases can be replaced by non-reflexives.

The examples in (6.10) are resultative constructions with an intransitive verb. The reflexive pronoun in (6.10a) is not an argument of the base verb. It is the NP the resultative predicate predicates over, and it is coindexed with the subject of the base verb.

(6.10)   a. Er läuft   sich müde.
              he walks self tired

          b. Überfordert war Alba aber auch mit der Bewachung des   großartigen
              overtaxed   was Alba but also with the guarding   of.the wonderful
              Spielemachers Tyus Edney, der   Bogojevic und Rödl müde lief und mit
              game-maker   Tyus Edney who Bogojevic and Rödl tired ran und mit
              16 Punkten, 7 Assists und 4 Rebounds glänzte.[13]
              16 points,   7 assists and 4 rebounds shone

              'But it was also too much for Alba to guard the great player Tyus Edney;
              neither Bogojevic nor Rödl could keep up with him, and he achieved the
              outstanding result of 16 points, 7 assists and 4 rebounds.'

The sentence in (6.10b) is possible since the running of one player causes the other players to run too, and their own running makes them tired. Following the same pattern, resultatives are possible with a lot of verbs without reflexivisation.

(6.11)   a. Er arbeitete sich müde.
              he worked   self tired

          b. Er arbeitete ihn müde.
              he worked   him tired

If a working process is organized in a way that one person depends on the output of another person, the latter's fast work can result in more work for the first person and the first person can get tired by this.

In some constructions such a reflexivization is obligatory due to the semantics of the involved elements.

(6.12)   daß sich ein Mensch in Haft   zu Tode hungere[14]
           that self a   person in prison to death starves

---

[13]taz, 01.08.2000, p. 22
[14]Mannheimer Morgen, 04.10.1989, Politik; Suche nach Lösung beim RAF-Hungerstreik

A context where the starving of one person causes another one to die is hardly imaginable.

Following Wunderlich (1995, p. 460; 1997a, p. 123), I assume that the grammar should assign sentences like (6.13) an underspecified semantics the actual instantiation of which is determined by the context. So, (6.13) can mean that he drove a car and ruined the very same car by bad driving.

(6.13) Er fuhr   das Auto kaputt.
         he drove the car   broken

         'He drove the car to a wreck'

But it can also mean that he rode a bicycle and crashed into a car. (6.14) shows a real example illustrating the possibility of this reading:

(6.14) Die Gutachter hatten außerdem   festgestellt: Armando O. war mit
         the experts   had   apart.from.that established: Armando O. was with
         mindestens 91km/h auf das Auto aufgefahren und hatte seinen LKW auch
         at.least   91km/hr on the car   on-driven   and had   his   truck also
         nicht gebremst, bevor er den Kleinbus regelrecht plattgefahren hatte.[15]
         not   braked   before he the minibus   actually   flat-driven   had.

         'The experts had also established: Armando O. had crashed into the car
         at a speed of at least 91km/hr and had still not applied the brakes before
         completely crushing the minibus.'

The driver of the truck (*LKW*) didn't brake, continued to drive, and finally flattened the minibus. In the reading one gets for (6.14) the verb *fahren* does not assign a semantic role to *Kleinbus*. A raising analysis is appropriate here.

In analogy to the perception verb examples that were discussed in chapter 3.1.7.4, I assume that (6.13) is analyzed as a raising construction even when the car is actually the object of drive. So, in contrast to Simpson (1983), who assumes a raising and a control analysis for resultative constructions, I follow Oppenrieder (1991, p. 116) and Wunderlich (1995), who assume one unified analysis for both kinds of resultative constructions, namely a raising analysis.

To sum up one can say that the judgment of resultative constructions is dependent on the utterance context. If the context does not allow for the reconstruction of a connection between an object of the base verb and the subject of the resultative predicate, the resultative construction is bad (Kaufmann, 1995, p. 218)

(6.15) a. § Er ißt das Theater leer.
                he eats the theater empty

         b. § Er ißt seinen Pullover schmutzig.
                he eats his   pullover dirty

(6.15a) is semantically odd since eating and theater usually are not related. The reading that his eating noisily or something similar caused the other visitors to leave is not easily available. For the same reasons (6.8a) cannot mean that the behavior of the hooligans caused the other people in the pub to go home. It means that the alcohol is used up.

Oppenrieder (1991, p. 116) treats resultative constructions in German as derived from intransitive verbs or from intransitive versions of verbs with more complements.

---

[15]taz-Bremen, 05.25.1993, p. 24

Wunderlich (1995) also assumes such an analysis and supports his claim by providing examples that show that German behaves differently from English and that such an analysis is indeed justified for German. The English data will be discussed in the following sections.

6.1.3   Resultatives with Transitive Verbs

Carrier and Randall (1992) discussed a broad variety of phenomena and showed that resultatives from intransitive and transitive verbs behave differently. The verbs in (6.16) obligatorily select an object.

(6.16)   a.   The bears frightened *(the hikers).

　　　　 b.   The baby shattered *(the porringer).

　　　　 c.   The magician hypnotized *(the volunteers).

They can appear in resultative constructions like (6.17), but they cannot appear in resultative constructions like (6.18).

(6.17)   a.   The bears frightened the hikers speechless.

　　　　 b.   The baby shattered the porringer into pieces.

　　　　 c.   The magician hypnotized the volunteers into a trance.

(6.18)   a.   * The bears frightened the campground empty.

　　　　 b.   * The baby shattered the oatmeal into portions.

　　　　 c.   * The magician hypnotized the auditorium quiet.

Carrier and Randall explain this by the fact that the selectional restrictions of the main verbs are violated. The verbs cannot be used in sentences like (6.19).

(6.19)   a.   * The bears frightened the campground.

　　　　 b.   * The baby shattered the oatmeal.

　　　　 c.   * The magician hypnotized the auditorium.

But now consider German:[16]

(6.20)   a.   * Die Bären erschreckten die Wanderer sprachlos.
　　　　　　　the bears frightened   the hikers   speechless

　　　　 b.   * Sie beruhigte das Kind still   / zum Schlafen.
　　　　　　　she calmed   the child down to   sleep

Inherently reflexive verbs cannot appear in resultative constructions, since they do not have intransitive versions.[17,18]

---

[16]The examples in (6.20) are from Wunderlich (1995, p. 460).

[17]See also (Oppenrieder, 1991, p. 133). That (i) is out cannot be explained by the fact that *sich verschlucken* is an inherently reflexive verb, since (i.a) could be derived from (i.b).

(i)   a.   * Karl verschluckt sich krank.
　　　　　Karl swallows   self ill

　　　　　Intended: 'Karl chokes himself ill.'

　　　 b.   Karl verschluckt den Kirschkern.
　　　　　Karl swallows   the cherry.stone

　　(i.a) is out, since *verschlucken* is a transitive verb that cannot appear without its object.

[18]In sentences like (i) the adjectival phrase is a depictive.

Draft of January 12, 2001. Comments Welcome!

(6.21) * Karl erholt sich ausgeruht / gesund.
Karl relaxes self rested   healthy

Intended: 'As a result of relaxing Karl gets rested / healthy.'

The resultative constructions are not possible at all. This is explained by Oppenrieder and Wunderlich's assumption that only intransitive verbs can be used in resultative constructions.

6.1.4   The Middle Construction

Another test that was applied by Carrier and Randall was the middle construction. According to them transitive base verbs allow for middles (6.22), intransitives do not (6.23).[19]

(6.22)   a.   NP water the new seedlings flat.

b.   New seedlings water flat (easily).

c.   NP won't scrub my socks clean.

d.   My socks won't scrub clean (easily).

e.   NP iron permanent press napkins flat.

f.   Permanent press napkins iron flat (easily).

(6.23)   a.   NP run competition shoes threadbare.

b.   * Competition shoes run threadbare (easily).

c.   NP talk Phys Ed majors into a stupor.

d.   * Phys Ed majors talk into a stupor (easily).

e.   NP walk delicate feet to pieces.

f.   * Delicate feet walk to pieces (easily).

Goldberg (1995, p. 185) examines the middle construction more thoroughly. She argues that the middle construction requires the unexpressed agent to be volitional and that middles are excluded for resultative constructions with a fake object since these resultative constructions are often used to express a negative outcome. With an appropriate context midles are fine:

(6.24)   a. He drove fifty tires bald.

b. Go buy some cheap tires for that scene, those inexpensive tires drive bald really quickly.

Wunderlich (1995, p. 455; 1997a, p. 118) gives the following German examples:

(i) Karin Clement, 57, freute   sich schier zu Tränen gerührt über eine Bemerkung ihres
Karin Clement 57 was.pleased self sheer to tears   moved about a   remark   of.her
Ehemanns [. . .] (Spiegel, 19/2000, p. 280)
husband

Sentences like (ii.a) are possible, but they are idiomatic as (ii.b) shows.

(ii)   a.   Er freute sich dumm und dusselig über das Buch.

b.   * Er freute sich dumm (über das Buch).

[19]See also (Wilder, 1991, p. 228) for such a claim.

(6.25)   a.   Der Weinkeller wurde leer   getrunken / trinkt sich schnell leer.
              the wine.cellar was   empty drunk   drinks self fast   empty

         b.   Der Rasen wurde platt gelaufen / läuft sich leicht platt.
              the lawn was   flat run   runs self easily flat

         c.   Die Stühle wurden naß geregnet / regnen leicht naß.
              the chairs were   wet rained   rain   easily wet

6.1.5   Adjectival Passives

The next thing Carrier and Randall examined was adjectival passives. They are impossible with resultative constructions with intransitive verbs (6.26), but they are possible with transitive verbs (6.27).

(6.26)   a.   * the danced-thin soles
         b.   * the run-threadbare shoes
         c.   * the crowed-awake children
         d.   * the talked unconscious audience

(6.27)   a.   the stomped-flat grapes
         b.   the spun-dry sheets
         c.   the scrubbed-clean socks

The sentences in (6.28) show examples where the modified noun does not fill a semantic role of the base verb of the resultative construction.[20]

(6.28)   a.   Der Volant um   ihren Hals wirkte nicht so steif wie sonst   und
              the collar around her   neck seemed not   so stiff as   otherwise and
              mit durch   nichts   zu rechtfertigendem Schmunzeln sah er an
              with through nothing to justify   grinning   saw he on
              ihrem Hinterkopf eine *plattgelegene Stelle* in ihrem Haar, das sie
              her   back-head   a   flat-lain   place in her   hair   that she
              größtenteils vergeblich darüber gekämmt hatte.[21]
              mostly   in.vain   it.over   combed   had

              'The collar around her neck did not seem to be as stiff as it usually was, and with an unjustifiable grin he observed that there was a flat patch of hair at the back of her head that she had attempted to cover up, without much success, by combing other hair over it.'

         b.   Kerstin Specht steckt voller schrecklicher Geschichten – von
              Kerstin Specht sticks full.of terrible   stories   from
              plattgefahrenen Hühnern und abgetrennten Fingern und von   der
              flat-driven   chickens and severed   fingers and from the
              großen Einsamkeit der   Kreatur im   Welttheater.[22]
              big   loneliness   of.the creature in.the world.theatre

              'Kerstin Specht is full of stories about run-over chickens and severed fingers and of the great loneliness of the creature in the world theatre.'

---

[20]Winkler (1997, p. 421) suggests in a footnote that such examples seem to be possible in German. She provides a slightly marked example with a fake reflexive resultative construction. The sentences in (6.28) are not marked.

[21]taz bremen, 01.03.1994, p. 24, tageszeitungs-Roman, part V

[22]taz, 01.09.1991, p. 17

    c. Er ernährt sich   von *plattgefahrenen Tieren* („Highway-Pizza"),
       he feeds   himself from flat-driven   animals („Highway-Pizza"),
       haust   in den Sümpfen und taucht nur auf, um das reine Chaos zu
       houses in the marshes and dives only up, to the pure chaos to
       verbreiten.[23]
       spread.

       'His diet consists of run-over animals („Highway-Pizza"), he lives in the
       marshes and only surfaces to wreak pure havoc.'

    d. Die Folge: *plattgefahrene Reifen*, Nothalt.[24]
       the result: flat-driven   tires   emergency.stop

       'The result: flat tires, emergency stop.'

    Note that the fact that the adjective and the base verb are spelled as one word is just an orthographic convention. In cases where the resultative predicate is a PP, the PP and the adjectival participle are spelled separately.

(6.29)   a. Undercover-Verkehrsberuhigung dieser Art kommt gänzlich ohne
       undercover.traffic.calming   of.this kind comes entirely without
       die verhaßten Tempo-30-Schilder aus und hat zudem,   qua Auslese
       the hated   speed-30-signs   out and has in.addition qua selection
       der   dabei   *zu Schrott gefahrenen* Wagen und der *psychiatriereif*
       of.the thereby to junk   driven   cars   and the psychiatry.ripe
       gequälten Fahrer, eine spürbare Reduzierung des   Autoverkehrs zur
       tortured   drivers, a   tangible reduction   of.the car.traffic   to
       Folge.[25]
       result

       'Undercover traffic sedation methods of this kind can do without the hated 30 km/hr signs entirely. They also have the plus that, by virtue of selection, the cars that are trashed and the drivers that have been driven to the brink of insanity in the process cause a tangible traffic reduction.'

    b. Und den Brechtschen Prolog   verbannt er an den Schluß, um ihn
       and the Brecht   prologue banishes he at the end   to him
       mit dem *zu Tode zitierten* Epilog   zu koppeln.[26]
       with the to death quoted   epilogue to join

       'And he banishes Brecht's prologue to the end where it can join the over-quoted epilogue.'

In (6.29a) we have a longer adjectival resultative predicate in addition, and this is also spelled separately.

6.1.6 Nominalizations

The last phenomenon that was examined by Carrier and Randall is result nominals. Result nominals are possible with transitive verbs (6.30), but impossible with intransitive verbs (6.31).[27]

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[23]taz, 11.01.1997, p. 14

[24]Mannheimer Morgen,?.06.1991, Lokales; sind es oft die kleinen Freuden des ...

[25]taz, berlin, 03.31.1993, p. 17

[26]Mannheimer Morgen, 06.19.1995, Feuilleton; Dreistes Bubenstück

[27]See also (Wilder, 1991, p. 229).

(6.30) a. The watering of the tulips flat is a criminal offense in Holland.

        b. The slicing of cheese into thin wedges is the current rage.

        c. The painting of fire engines the color of schoolbuses is strictly pro-
            hibited by state law.

        d. The Surgeon General warns against the cooking of food black.

(6.31) a. * The drinking of oneself sick is a commonplace in one's freshman
              year.

        b. * The talking of your confident silly is a bad idea.

        c. * What Christmas shopping means to me is the walking of my feet to
              pieces.

        d. * The jogging craze has resulted in the running of a lot of pairs of shoes
              threadbare.

The German example in (6.32) shows that nominalizations are possible even in cases
where the object of the resultative construction is not a subcategorized argument of the
base verb.

(6.32) Die EU will   zwar wegen   der   Leerfischung der   Nordsee die
        the EU wants   because.of the   empty.fishing of.the North.Sea the
        Speisefischflotten um 40 Prozent reduzieren, [...]²⁸
        edible.fish.fleets by 40 percent reduce

        'Although the EU wants to reduce the fleets fishing for edible fish by 40 %
        because of over-fishing in the North Sea, ...'

(6.32) is the nominalization of the resultative construction in (6.33a).

(6.33) a. Sie fischen die Nordsee   leer.
            they fish   the North.Sea empty

        b. * Sie fischen die Nordsee.
            they fish   the North.Sea

(6.33b) shows that the NP *die Nordsee* is not an argument of *fischen*.

6.1.7   Transitivization

If one assumes that resultatives are derived from intransitive forms, the constructions
in (6.34) cannot be derived by this process, since *machen* cannot be used without an
object.

(6.34) a. Der Alkohol machte ihn   müde.
            the alcohol   made   him   tired

        b. Er machte die Tür   auf.
            he made   the door open

            'He opened the door.'

        c. * Er machte.
            he made

---

[28]taz, 06.20.1996, p. 6
[28](Helbig and Buscha, 1970, p. 543)

　　　　d.　* Der Alkohol machte (ihn).
　　　　　　the alcohol made him

Instead, one has to assume a lexical entry for *machen* that has the same form as the resultative constructions discussed above and that is listed in the lexicon.[29] This version of *machen* selects a subject, an object, and a predicate that predicates over the object.[30] Since *machen* is a support verb with very little meaning, this special treatment of the verb is justified.

　　In what follows I will discuss some apparent counter examples to the claim that resultatives are derived from intransitive forms.

　　At first glance the caused-motion example in (6.35) looks like a counter example, since the verb comes together with two NPs and a directional PP.

(6.35)　Karl wäscht sich　　die Seife　　aus den Augen.
　　　　Karl washes self-DAT the soap-ACC out the eyes

　　　　'Karl washes the soap out of his eyes.'

Winkler (1997, p. 348), discussing a similar example, assumes that *sich waschen* as in (6.36a) takes the additional argument *die Seife*.

(6.36)　a.　Karl wäscht sich.
　　　　　　Karl washes self-ACC

　　　　　　'Karl washes.'

　　　　b.　Karl wäscht ihm　　die Seife　　aus den Augen.
　　　　　　Karl washes him-DAT the soap-ACC out the eyes

　　　　　　'Karl washes the soap out of his eyes.'

　　　　c.　Karl wäscht die Seife　　aus den Augen.
　　　　　　Karl washes the soap-ACC out the eyes

　　　　　　'Karl washes the soap out of the eyes.'

But the *sich* in (6.35) is not a direct complement of *waschen*. At first glance (6.35) may seem related to (6.36a), and the phrase *die Seife aus den Augen* to be the subject + predicate of the resultative construction. But that the *sich* is actually a dative is shown by (6.36b). (6.35) is related to (6.36c) and the *sich* is a possessive dative which is related to the body part NP *den Augen*.[31,32] The example in (6.37) has a structure that is parallel to (6.35), but it is a lexicalized form.

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[29]Note that I do not claim that all combinations of *machen* and a predicate should be treated in this compositional way.

　(i)　Es seien aber auch Briefe mit　Morddrohungen wie „Man sollte Dich so schnell wie möglich
　　　it be　　but also letters with murder.threats　like one ought you so fast　　as　possible
　　　kaltmachen" eingegangen. (taz, 07.22.1994, p. 4)
　　　cold.make　　in.gone

　　　'But letters containing death threats like "Someone ought to do away with you as quickly as possible" were also received.'

　In (i) we have a particle verb with an idiosyncratic meaning.

[30]See also Dowty (1979, p. 223) for a similar suggestion regarding *make*.

[31]See (Engel, 1977, p. 168–169) on the possessive dative.

[32]Note that these datives are tricky. They can appear as nominatives in dative passive constructions:

　(i)　Er bekam die Seife aus den Augen gewaschen.
　　　he got　　the soap out the eyes　washed

　　　'He got the soap washed out of his eyes.'

(6.37)   Sie reden sich   die Köpfe   heiß.
         they talk   self-DAT the heads-ACC hot

         'Their conversation becomes increasingly heated.'

The plural and the reflexive is obligatory. The sentence in (6.38a) is a stative passive
that corresponds to (6.38b).

(6.38)   a.   Leer   gebrannt ist die Stätte.[33]
              empty burnt   is the place

              'The place is completely burnt-out.'

         b.   Man/Jemand brannte die Stätte leer.
              someone   burnt   the place out

         c.   Er hat mit   der Zigarette ein Loch in das Tischtuch gebrannt.[34]
              he has with the cigarette a   hole in the tablecloth burnt

              'He burnt a hole in the tablecloth with a cigarette.'

         d.   Er hat gebrannt.
              he has burnt

              'He burnt.'

It has to be assumed that (6.38d) is the basis for the resultative formation in (6.38a–
c). This seems strange, since the meaning of *brennen* in (6.38d) is different from the
meaning in (6.38a) and (6.38c). The intransitive form of the verb *brennen* that specifies
an action is blocked by the theme verb reading. Nevertheless, there are examples for
the intransitive use of the agent verb *brennen*:[35]

(6.39)   a.   Die Horden zogen sengend und brennend durch   die Gegend.
              the hoards pulled singeing and burning   through the area

              'The hoards marched through the region with fire and sword.'

         b.   Nur weil   ich Knecht war, bin ich ausgezogen   zu morden und
              only because I   servant was, am I   PART(out).moved to murder and
              zu brennen.[36]
              to burn

              'I only went out to murder and to burn because I was a servant.'

The discussion in this section showed that sentences that appear to be counter examples
to the transitivization analysis at first can be explained without problems.

6.1.8   Passive

Although the semantic properties of the accusative are primarily determined by the
resultative predicate, the accusative nevertheless behaves like an object of the matrix
verb: As Wunderlich (1995, p. 455) noted, the accusative changes into a nominative in

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This suggests that the dative is introduced as a complement of the resultative predicate *aus den Augen
waschen* which then can undergo dative passive. If one assumes passive to be a lexical process, it follows
that dative extension and resultative predicate formation have to be lexical processes too.

[33] Schiller, *Die Glocke*

[34] (Kempcke, 1984, p. 204)

[35] The sentences in (6.39) are from the *Wörterbuch der deutschen Gegenwartssprache* (Klappenbach and
Steinitz, 1977).

[36] (Brecht, Gedichte, 261)

passive and middle constructions. The passive and middle versions of (6.7) and (6.5) were shown in (6.25) and are repeated as (6.40) for convenience.[37]

(6.40) a. Der Weinkeller wurde leer   getrunken / trinkt sich schnell leer.
          the wine.cellar was   empty drunk   drinks self fast   empty

b. Der Rasen wurde platt gelaufen / läuft sich leicht platt.
   the lawn   was   flat run   runs self easily flat

c. Die Stühle wurden naß geregnet / regnen leicht naß.
   the chairs were   wet rained   rain   easily wet

The example in (6.41) is a state passive that corresponds to an active sentence that is similar to (6.8c).

(6.41) Am 27. September war Kabul sturmreif geschossen.[38]
       at   27. september was Kabul storm.ripe shot

'On 27 September Kabul had been under fire long enough to be ready for attack.'

Passive involves arguments of the verb. These can either be raised from an embedded predicate, as in the case of the remote passive (see Chapter 4.2.1.1.2), or they can be real arguments of the verb. The data in (6.40) – (6.41) suggests that the accusative in the active sentence is a complement of the resultative construction that can be promoted to subject and then get nominative.

6.1.9 Ergative Verbs

In German, resultatives with ergative verbs are only possible with PP as resultative predicate (Kaufmann, 1995, p. 146).[39]

(6.42) a. Die Butter schmilzt zu einer Pfütze / * flüssig.
          the butter melts   to a   puddle   runny

b. Sein Gesicht erstarrt zu einer Maske / * hart.
   his face   freezes to a   mask   hard

c. Die Vase zerfällt   in Stücke / * kaputt.
   the vase apart.falls in pieces   broken

d. Die Milch friert   zu einem Block / * fest.
   the milk   freezes to a   block   solid

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[37]See also (Helbig and Buscha, 1970, p. 543), Simpson (1983, p. 144) (Oppenrieder, 1991, p. 114) on passivization of resultative constructions.

[38]taz, 11.06.1996, p. 18

[39]The example in (i) is a strange exception:

(i) Auch das Präsidium muß sich unverzüglich gesundaltern! (taz, 12.02.1991, p. 13)
    also   the presidium must self un-delayed   healthy.age

'The presidium too must get healthy by aging.'

Firstly the resultative predicate is an adjective and secondly a reflexive is added. This construction is probably derived from the optionally transitive verb *altern*:

(ii) Wir haben das Metall künstlich gealtert.
     we have   the metal artificially aged

'We aged the metal artificially.'

As Kaufmann (1995, p. 144) notes, it is not possible that the resultative predicate predicates over an NP that is different from the one selected by the base verb.

(6.43) a.   * Der Teppich schmilzt naß.
             the carpet   melts   wet
             Intended: 'The melting (of the snow on the shoes) makes the carpet get wet.'

        b.   * Mein Zimmer wächst zu einem dunklen Loch.
             my   room   grows to a   dark   hole
             Intended: 'The growing (of the plants) turns my room into a dark hole.'

The sentences (6.43) cannot have the meaning in the glosses. The resultative predicate always predicates over the argument of the base verb.

Kaufmann (1995, p. 146) claims that the causative variant of ergative verbs does not allow for adjectival resultative predicates. This claim is wrong, as the examples in (6.44) show.

(6.44) a.   Das klingt, als wolle   man die Kulturnation gesundschrumpfen.[40]
             that sounds as wanted.to one the culture.nation healthy.shrink

             'That sounds as though the culture nation is to be shrunk to health.'

        b.   Bibliotheken sollten kleiner werden und sich
             libraries   should smaller get   and themselves
             gesundschrumpfen, überfüllte Hörsäle   müßten sich   wieder
             healthy.shrink   over-filled auditoriums must   themselves again
             leeren, und das Studium sollte   nach amerikanischem Modell
             empty and the studies   should after American   model
             verkürzt werden.[41]
             shortened get

             'Libraries should get smaller and shrink to a healthy size, over-crowded auditoriums should get less cramped, and the time taken to get a degree should be shortened in accordance with the American model.'

The intransitive version of *schrumpfen* is ergative, but the transitive version, where a causer is the subject, is not. In the sentence in (6.44a) the causer is different from the affected entity, in (6.44b) with the refelexive, causer and affected entity are identical due to the use of the reflexive pronoun.

Note though that the resultative constructions in (6.44) seem not to be the product of a transitivization process, since the sentences in (6.45) cannot be understood as an intransitive version of the causative form.

(6.45) a.   Man schrumpft.
             one shrinks

        b.   Bibliotheken schrumpfen.
             libraries   shrink

I leave it open whether this is due to a strong preference of the non-agentive reading as in the case of *brennen* (see the discussion of (6.38) on page 196), or whether a special process for cases like (6.44) has to be assumed.

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[40]taz, hamburg, 12.31.1998, p. 25
[41]taz, hamburg, 01.09.1998, p. 22

6.1.10   Permutation in the *Mittelfeld*

The accusative can be permuted with the subject of the base verb:

(6.46)   a.   weil   die Gäste ihn leer   trinken.
              because the guests him empty drink

        b.   weil   ihn die Gäste leer   trinken.
              because him the guests empty drink

        c.   weil   die Jogger ihn platt laufen.
              because the joggers him flat   run

        d.   weil   ihn die Jogger platt laufen.
              because him the joggers flat   run

This is parallel to the serialization in subject and object predicate constructions, which were discussed in chapter 3.1.9.2. The possibility to permute the NPs can be explained if one assumes that the NPs in the *Mittelfeld* are dependents of the same head.

6.1.11   Intraposition

Resultative predicates are usually positioned next to the verb. In sentences with both depictive and resultative predicates, the depictive precedes the resultative:

(6.47)   Gustav hat das Fleich roh klein / * klein roh geschnitten.[42]
         Gustav has the meat   raw small   small raw cut

         'Gustav chopped the raw meat into little pieces.'

If it is assumed that base verb and resultative predicate form a complex that selects an accusative the properties of which are restricted mainly by the resultative predicate, it can be explained why a depictive predicate can refer to a nominal expression that is not in the valence representation of the main verb.

(6.48)   Susanne ißt   den Teller angewärmt leer.[43]
         Susanne eats the plate up.warmed empty

         'Susanne eats everything on the warmed-up plate.'

The assumption that resultative predicates are part of the predicate complex is also supported by the fact that usually no material is allowed to intervene between the base verb in final position and the resultative predicate.[44]

(6.49)   a.   Ich wollte die Zuchetti in Scheiben schneiden.

        b.   * Ich wollte in Scheiben die Zuchetti schneiden.

(6.50)   * Gustav hat die Tasse leer   mit großen Schlucken getrunken.[45]
            Gustav has the cup   empty with big   gulps   drunk

         Intended: 'He drained the cup with big gulps.'

Neeleman (1994, p. 85) gives an example with an resultative predicate separated from the base verb for Dutch. This example transfers to German easily.

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[42](Oppenrieder, 1991, p. 126)
[43](Oppenrieder, 1991, p. 126)
[44]The examples in (6.49) are from (Lötscher, 1985, p. 216).
[45](Oppenrieder, 1991, p. 126)

(6.51)   a. daß so   grün selbst Jan die Tür   nicht streicht.
              that that green even   Jan the door not   paints

              'that not even Jan would paint the door that green.'

          b. daß Jan so   grün selbst die Tür   nicht streicht.
              that Jan that green even   the door no   paints

Lüdeling (1998, p. 56) provides the following example where the resultative predicate also appears in the *Mittelfeld*.

(6.52)   Ich möchte, daß der Prinz die Zwiebeln in feine Würfel für die Suppe und
          I   want   that the prince the onions   in fine   cubes for the soup   and
          in Ringe für den Salat schneidet.
          in rings for the salad cuts

          'I want the prince to cut the onions into small cubes for the soup and into rings for the salad.'

In those examples we have an intraposition into the *Mittelfeld* that is due to focus movement (Neelemann, Lüdeling). As was discussed in chapter 3.1.4, the same kind of focus split can be observed with adjectives in copula constructions.

6.1.12   Extraposition

Extraposition of subcategorized predicates in copula constructions and in subject and object predicate constructions is impossible or marked in German (see also chapter 3.1.4.3 and 3.1.9.3).[46]

(6.53)   a.   Ich bin   im   Urlaub gewesen.
                I   have in.the holiday been

                'I've been on holiday.'

          b. * Ich bin   gewesen im   Urlaub.
                I   have been   in.the holiday

          c.   Ich habe ihn für einen Lügner gehalten.
                I   have him for a   liar   regarded

                'I regarded him a liar.'

          d. * Ich habe ihn gehalten für einen Lügner.
                I   have him regarded for a   liar

---

[46]Hoeksema (1991a, p. 697) gives Dutch examples that correspond to (i):

(i)   a.   daß Petra gegen   Abtreibung ist.
             that Petra against abortion   is

             'that Petra is against abortion.'

       b. * daß Petra ist gegen Abtreibung.
             that Petra is against abortion

       c.   daß Ada Bea nicht auf die Tanzfläche kriegt.
             that Ada Bea not   on the dance-floor gets

             'that Ada does not get Bea on the dance-floor.'

       d. * daß Ada Bea nicht kriegt auf die Tanzfläche.
             that Ada Bea not   gets   on the dance-floor

The same is true for resultative predicates.

(6.54) a. Er hat die Mohrrübe klein geschnitten.
            he has the carrot   small cut

        'He cut the carrot small.'

        b. * Er hat die Mohrrübe geschnitten klein.
            he has the carrot   cut   small

        c. Er hat die Mohrrübe in Streifen geschnitten.
            he has the carrot   in strips cut

        'He cut the carrot into strips.'

        d. * Er hat die Mohrrübe geschnitten in Streifen.
            he has the carrot   cut   in strips

The non-extraposability is not a property of predicative constructions in general, since sentences with extraposed depictive predicates are much better than those in (6.53) and (6.54):

(6.55) Ja, ich habe ihn getroffen in seinem neuen Anzug.
        yes I   have him met   in his   new   suit

        'Yes, I met him in his new suit.'

For the extraposition of NPs, a contrast can be observed between complement and adjunct NPs. Adjunct extrapositions are less marked. The same explanation can be applied to (6.53)–(6.54) and (6.55). Depictive predicates are adjuncts and resultative predicates are complements.

6.1.13 Fronting

One finds another similarity with other complex predicates looking at the examples in (6.56).[47]

(6.56) a. ?? Hämmern wollen wir den Stab flach (nicht walzen).
            hammer   want   we the rod flat not   roll

        'We want to hammer the rod flat, not roll it.'

        b. In Scheiben schneiden wollte ich die Zuchetti.

        c. * Die Zuchetti schneiden wollte ich in Scheiben.

        d. ?? Schneiden müssen Sie das Fleisch klein!
            cut   must   you the meat   small

        'You have to cut the meat into small pieces!'

        e. * Das Fleisch schneiden müssen Sie klein!
            the meat   cut   must   you small

        f. Schneiden müssen Sie das Fleisch roh!
            cut   must   you the meat   raw

        'You have to cut the meat raw!'

As the examples in (3.25c), (3.65), and (3.128) showed, the fronting of material that embeds other parts of the predicate complex is impossible if those parts remain in the

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[47]The example in (6.56a) is from (Uszkoreit, 1987, p. 105), the exmaples in (6.56b–c) are from Lötscher (1985, p. 216), those in (6.56d–f) are from Oppenrieder (1991, p. 127).

Mittelfeld. The unacceptability of (6.56a) can be explained along the same lines. For the depictive in (6.56d) on the other hand, we do not have a tight relation to the verb. No predicate complex is formed. *roh* can remain in the *Mittelfeld* like a normal adverb.

Finally, (6.57) and (6.58) show that both the accusative and the result predicate may be fronted independently.

(6.57) a. Das Fleisch müssen Sie klein schneiden.
            the meat   must   you small cut

            'You have to cut the meat small.'

        b. Den ganzen Weinkeller haben sie   leer   getrunken.
            the whole wine.cellar have   they empty drunk

            'They drank everything that was in the wine cellar.'

(6.58) a. In Scheiben müssen Sie das Fleisch schneiden.
            in slices   must   you the meat   cut

        b. Ganz leer   hat er den Teller gegessen.
            totally empty has he the plate   eaten

            'He ate everything that was on the plate.'

6.1.14   Iteration

Resultatives differ from depictive predicates in that there is at most one resultative predicate per base verb (Simpson 1983, p. 152; Rothstein 1985, p. 19).

(6.59) a. * Er wusch   die Sachen sauber weiß.
              he washed the clothes clean   white

              Intended: 'He washed the clothes clean until they were white.'

        b. * Er trank die Kneipe leer   bankrott.
              he drank the pub   empty bankrupt

              Intended: 'He drank everything in the pub and because of this it went bankrupt.'

This is just natural if the formation of the resultative construction is seen as a transitivization process: Once a verb is transitivized it cannot be transitivized again.

In addition to such syntactic reasons that prevent iteration, there are, of course, semantic reasons that make iteration of resultative predicates impossible. Winkler (1997, Chapter 6.2.1) suggests that resultative predicates delimit a non-delimited event. An event may be delimited only once and therefore iteration is excluded.

6.2   The Analysis

Oppenrieder (1991, Chapter 1.5.3.7.4) and Wunderlich (1995; 1997a) analyze resultative constructions with non-ergative verbs in German as transitivizations of intransitive verbs. Following these approaches I assume a lexical rule that has an intransitive verb as input and produces a lexical entry for a verb that contains the subject of the embedded predicate on its subcat list. The rule is shown in (6.60).[48]

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[48]The specification of the argument structure is omitted in (6.60) and (6.69). The argument structures are the concatenations of the SUBJ and the SUBCAT value. To have the newly introduced arguments on the ARG-ST list is important for explaining reflexivization with so-called fake reflexives and the possibility of depictives to refer to this argument. See (6.48) for an example, and chapter 5.2 for the analysis.

Lexical Rule for Resultatives with Non-Ergative Verbs:

$$
\begin{bmatrix}
\text{SYNSEM|LOC} \begin{bmatrix} \text{CAT} \begin{bmatrix} \text{HEAD} \begin{bmatrix} \text{SUBJ} \ \langle \text{NP}[str] \rangle \\ \text{ACC} \ \langle \rangle \\ verb \end{bmatrix} \\ \text{SUBCAT} \ \langle \rangle \\ \text{VCOMP} \ \langle \rangle \\ \text{CONT} \ \boxed{1} \end{bmatrix} \end{bmatrix} \\
stem
\end{bmatrix} \rightarrow
$$

$$
\begin{bmatrix}
\text{SYNSEM|LOC} \begin{bmatrix} \text{CAT} \begin{bmatrix} \text{HEAD|ACC} \ \boxed{2} \\ \text{SUBCAT} \ \boxed{2} \\ \text{VCOMP} \ \left\langle \text{LOC} \begin{bmatrix} \text{CAT} \begin{bmatrix} \text{HEAD} \begin{bmatrix} \text{PRD} \ + \\ \text{SUBJ} \ \boxed{2} \ \langle \text{NP}_{ref} \rangle \\ adj\text{-}or\text{-}prep \end{bmatrix} \\ \text{SUBCAT} \ \langle \rangle \\ \text{VCOMP} \ \langle \rangle \\ \text{CONT} \ \boxed{3} \end{bmatrix} \end{bmatrix} \right\rangle \end{bmatrix} \\ \text{CONT} \begin{bmatrix} \text{ARG1} \ \boxed{1} \\ \text{ARG2} \begin{bmatrix} \text{ARG1} \ \boxed{3} \\ become \end{bmatrix} \\ cause \end{bmatrix} \end{bmatrix} \\
stem
\end{bmatrix}
$$

(6.60)

In lexical rules only information that changes is written down. So for instance, the specification of the path SYNSEM|LOC|CAT|HEAD in the input structure is taken over to the output structure. An intransitive verb is the input for this rule. The output is a verb that selects a predicate via its valence feature VCOMP. The subject of this predicate ($\boxed{2}$) is identical to the object of the matrix verb. The subject of the embedded predicate has to be referential since it is the nature of these resultative constructions that an entity is affected by the action expressed by the matrix verb. The resultative meaning of the whole construction is represented under CONT in the output of the rule. Following Dowty (1979, p. 99) I assume that *cause* is an abstract logical operator that relates the two events.

For the example in (6.33a)—repeated here as (6.61)—, the lexical rule is applied to the intransitive verb *fischen* (6.62), and the valence information for a predicate and an object that is raised from the subject of the predicate is added. The result is shown in (6.63).

(6.61) Sie fischen den Teich   leer.
        they fish   the pond-ACC empty

fisch- ('fish' intransitive, stem / non-finite form):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \langle\ \text{NP}[\textit{str}]_{\boxed{1}}\ \rangle \end{bmatrix} \\
\text{SUBCAT} & \langle\rangle \\
\text{VCOMP} & \langle\rangle
\end{bmatrix} \\
\text{CONT} & \begin{bmatrix}
\text{AGENT} & \boxed{1} \\
\text{THEME} & \boxed{\ } \\
\textit{fischen}
\end{bmatrix} \\
\textit{loc}
\end{bmatrix}
\tag{6.62}
$$

fisch- ('fish' as is used in 'fish empty', stem / non-finite form):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \langle\ \text{NP}[\textit{str}]_{\boxed{1}}\ \rangle \end{bmatrix} \\
\text{SUBCAT} & \boxed{2} \\
\text{VCOMP} & \left\langle \begin{bmatrix} \text{LOC} & \begin{bmatrix} \text{CAT} & \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \text{PRD} & + \\ \text{SUBJ} & \boxed{2}\ \langle\ \text{NP}_{\textit{ref}}\ \rangle \\ \textit{adj-or-prep} \end{bmatrix} \\ \text{SUBCAT} & \langle\rangle \\ \text{VCOMP} & \langle\rangle \end{bmatrix} \\ \text{CONT} & \boxed{3} \end{bmatrix} \end{bmatrix} \right\rangle
\end{bmatrix} \\
\text{CONT} & \begin{bmatrix}
\text{ARG1} & \begin{bmatrix} \text{AGENT} & \boxed{1} \\ \text{THEME} & \boxed{\ } \\ \textit{fischen} \end{bmatrix} \\
\text{ARG2} & \begin{bmatrix} \text{ARG1} & \boxed{3} \\ \textit{become} \end{bmatrix} \\
\textit{cause}
\end{bmatrix} \\
\textit{loc}
\end{bmatrix}
\tag{6.63}
$$

The subject insertion lexical rule (SILR) is applied to the stem entry in (6.63) and the output of the SILR (6.64) is used in the analysis of (6.61).

fischen ('fish' as is used in 'fish empty' finite form):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \langle\rangle \end{bmatrix} \\
\text{SUBCAT} & \left\langle \text{NP}[\textit{str}]_{\boxed{1}} \right\rangle \oplus \boxed{2} \\
\text{VCOMP} & \left\langle \begin{bmatrix}
\text{LOC} & \begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix}
\text{PRD} & + \\
\text{SUBJ} & \boxed{2} \left\langle \text{NP}_{\textit{ref}} \right\rangle \\
\textit{adj-or-prep}
\end{bmatrix} \\
\text{SUBCAT} & \langle\rangle \\
\text{VCOMP} & \langle\rangle
\end{bmatrix} \\
\text{CONT} & \boxed{3}
\end{bmatrix}
\end{bmatrix} \right\rangle
\end{bmatrix} \\
\text{CONT} & \begin{bmatrix}
\text{ARG1} & \begin{bmatrix}
\text{AGENT} & \boxed{1} \\
\text{THEME} & \boxed{} \\
\textit{fischen}
\end{bmatrix} \\
\text{ARG2} & \begin{bmatrix}
\text{ARG1} & \boxed{3} \\
\textit{become}
\end{bmatrix} \\
\textit{cause}
\end{bmatrix} \\
\textit{loc}
\end{bmatrix}
\tag{6.64}
$$
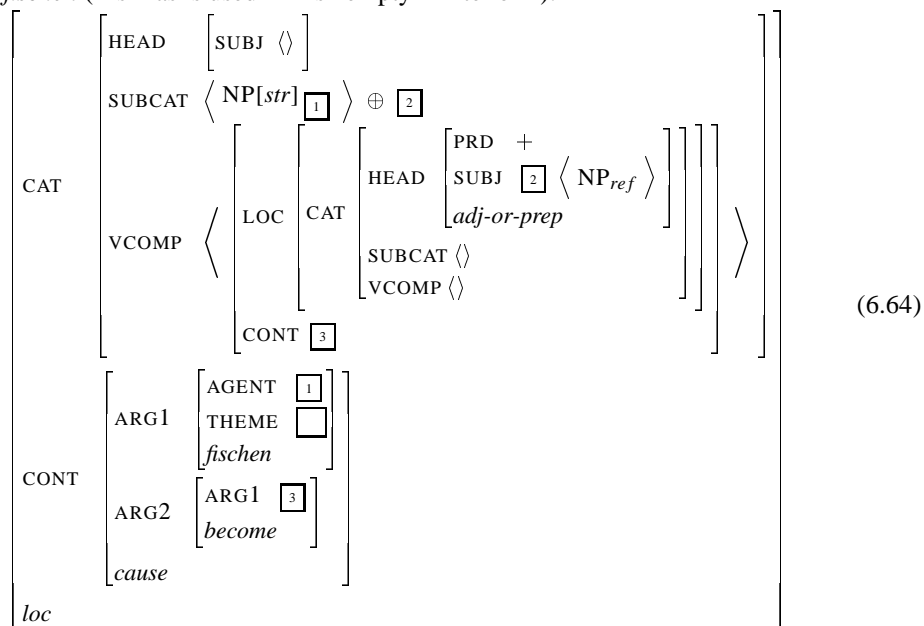
The predicate that is selected via VCOMP gets saturated by *leer*.

leer ('empty'):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix}
\text{SUBJ} & \left\langle \text{NP}[\textit{str}]_{\boxed{1}} \right\rangle \\
\text{PRD} & + \\
\textit{adj}
\end{bmatrix} \\
\text{SUBCAT} & \langle\rangle \\
\text{VCOMP} & \langle\rangle
\end{bmatrix} \\
\text{CONT} & \begin{bmatrix}
\text{THEME} & \boxed{1} \\
\textit{empty}
\end{bmatrix} \\
\textit{loc}
\end{bmatrix}
\tag{6.65}
$$
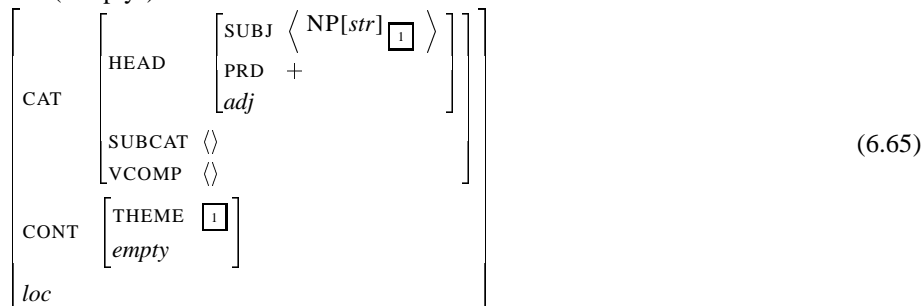
The combination of (6.64) and (6.65) yields (6.66).

leer fischen ('fish empty' finite form):
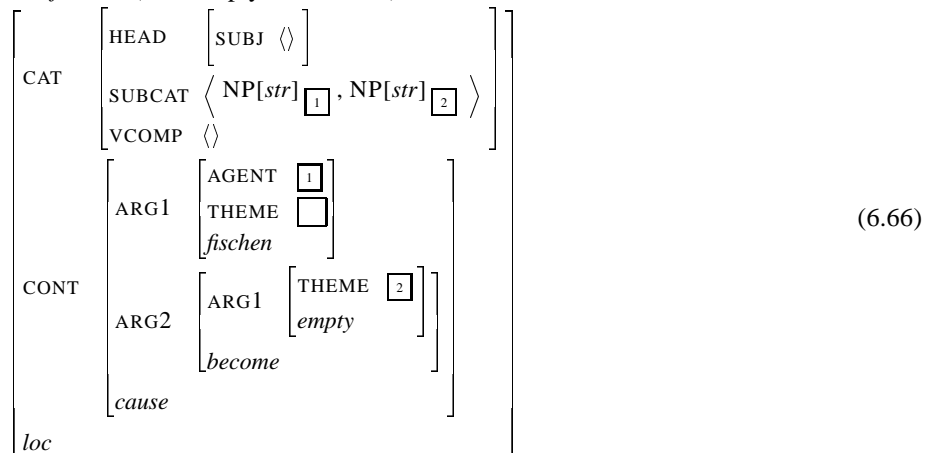
$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \text{SUBJ} & \langle\rangle \end{bmatrix} \\ \text{SUBCAT} & \langle\, \text{NP}[str]_{\boxed{1}},\, \text{NP}[str]_{\boxed{2}} \,\rangle \\ \text{VCOMP} & \langle\rangle \end{bmatrix} \\[4ex]
\text{CONT} & \begin{bmatrix} \text{ARG1} & \begin{bmatrix} \text{AGENT} & \boxed{1} \\ \text{THEME} & \boxed{} \\ fischen \end{bmatrix} \\[3ex] \text{ARG2} & \begin{bmatrix} \text{ARG1} & \begin{bmatrix} \text{THEME} & \boxed{2} \\ empty \end{bmatrix} \\ become \end{bmatrix} \\[3ex] cause \end{bmatrix} \\[2ex]
loc
\end{bmatrix}
\tag{6.66}
$$

Since both NPs are dependents of the same head, their permutability is predicted.

(6.67) a. weil   niemand   den Teich   leer   fischt.
            because nobody-NOM the pond-ACC empty fishes

            'because nobody fishes the pond empty.'

        b. weil   den Teich   niemand   leer   fischt.
            because the pond-ACC nobody-NOM empty fishes

            'because nobody fishes the pond empty.'

The first NP gets nominative in active sentences like (6.67) and the second one accusative. In passive constructions the subject (the first NP) is suppressed and the second one is promoted to subject. Since it is the first NP it gets nominative in (6.68).

(6.68) Der Teich   wurde leer   gefischt.
        the pond-NOM was   empty fished

        'The pond was fished empty.'

The iteration of resultative predicates is not possible, since the rule in (6.60) cannot be applied to its own output. The input sign has to have an empty list as SUBCAT and as VCOMP value.

(6.69) is the lexical rule that is needed for resultative constructions with ergative verbs.

Lexical Rule for Resultatives with Ergative Verbs:

$$
\begin{bmatrix}
\text{SYNSEM}|\text{LOC} & \begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix}
\text{SUBJ} & \langle\ \boxed{1}\ \text{NP}[str]_{ref}\ \rangle \\
\text{ACC} & \langle\ \boxed{1}\ \rangle \\
verb
\end{bmatrix} \\
\text{SUBCAT} & \langle\rangle \\
\text{VCOMP} & \langle\rangle
\end{bmatrix} \\
\text{CONT} & \boxed{2}
\end{bmatrix} \\
stem
\end{bmatrix} \rightarrow
$$

$$
\begin{bmatrix}
\text{SYNSEM}|\text{LOC} \\
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{VCOMP} & \left\langle\ \begin{bmatrix}
\text{LOC} & \begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix}
\text{PRD} & + \\
\text{SUBJ} & \langle\ \boxed{1}\ \rangle \\
prep
\end{bmatrix} \\
\text{SUBCAT} & \langle\rangle \\
\text{VCOMP} & \langle\rangle
\end{bmatrix} \\
\text{CONT} & \boxed{3}
\end{bmatrix}
\end{bmatrix}\ \right\rangle
\end{bmatrix} \\
\text{CONT} & \begin{bmatrix}
\text{ARG1} & \boxed{2} \\
\text{ARG2} & \begin{bmatrix}
\text{ARG1} & \boxed{3} \\
become
\end{bmatrix} \\
cause
\end{bmatrix}
\end{bmatrix} \\
stem
\end{bmatrix}
$$

(6.69)
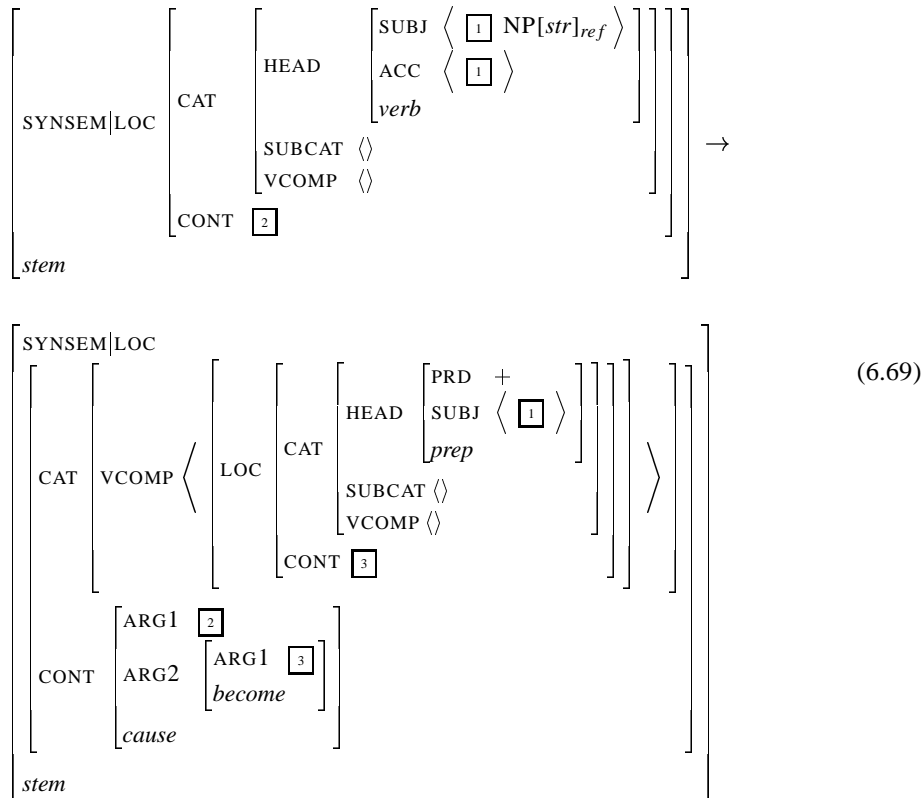
As was shown in the data section, the resultative predicate always predicates over the subject of the ergative verb. The subject of ergative verbs has object properties and is therefore identical to the element in ACC. The head features and the SUBCAT value of the input sign are not changed in the output. By convention the values on the left-hand side and the values on the right-hand side of a lexical rule are identical unless specified differently. The lexical rule cannot apply to its own output, since the output has one element in VCOMP and the input requires VCOMP to be empty. Therefore the iteration of resultative predicates with ergative verbs is also predicted to be impossible.

The rules in (6.60) and (6.69) produce lexical entries that are very similar to the lexical entry for subject predicatives like *aussehen* and object predicatives like *finden*, respectively. Compare the entries on pages 103 and 285. The only difference is that the embedding of predicates with an expletive subject or subjectless predicates is not allowed in resultative constructions for semantic reasons.

The output of the rules for resultative constructions can be input to passivization and adjective formation lexical rules and therefore examples like those in (6.28)—some of them are repeated here in a shorter form as (6.70)—can be analyzed.

(6.70)   a.   eine plattgelegene Stelle in ihrem Haar
             a   flat-lain   place in her   hair
             'a flat patch of hair'

         b.   von   plattgefahrenen Tieren
             from flat-driven   animals

'by run-over animals'

c. plattgefahrene Reifen
   flat-driven   tires
   'flat tires'

There is an interesting difference between resultative constructions and object predicative constructions: Wilder (1991, p. 227) noticed that object predicatives cannot appear in middle constructions in English.

(6.71)   a.   * German children make happy easily.

         b.   * That boy considers handsome easily.

         c.   * That girl believes to be intelligent easily.

The same is true for German:

(6.72)   a.   # Deutsche Kinder machen sich leicht glücklich.

         b.   # Dieser Junge hält sich leicht für hübsch.

         c.   # Dieses Mädchen hält sich leicht für intelligent.

As was discussed in chapter 3.1.9.5, object predicative constructions can be passivized, and so can resultative constructions. As I have shown in section 6.1.4, resultative constructions can appear in middle constructions even if the accusative does not get a role from the matrix verb. What is the difference between resultatives and object predicatives? The latter requires the embedded predicate to have a subject, but it restricts neither its form nor its referentiality. The lexical entries for resultative constructions that are licensed by the rule (6.60) embed a predicate that has a referential NP as subject. If the process that licenses middle constructions is made sensitive to whether the object of a verb is instantiated or not, the differences between resultative constructions and object predicative constructions are explained.

As expected, the fronting data is similar to the data discussed above. The examples in (6.56a–b) on page 201—repeated here as (6.73)—are ruled out for the same reasons as the frontings of parts of the predicate complex in (3.25c), (3.65), and (3.128).

(6.73)   a.   ?? Schneiden müssen Sie das Fleisch klein![49]
              cut   must   you the meat   small

         b.   * Das Fleisch schneiden müssen Sie klein!
              the meat   cut   must   you small

6.3   Summary

In this chapter I developed an analysis for resultative constructions that treats the resultative predicate as a complement of a complex predicate. The complex predicate is formed in the lexicon by a lexical rule that accounts both for the resultative semantics of the resulting complex predicate and for the valence change. The rules that I suggested above do not combine two adjacent elements. Rather, they license for every input entry another lexical item that has the potential to combine with another predicate. This predicate may be modified or may be extracted or intraposed into the *Mittelfeld*. The matrix verb may appear in clause initial position separated from the embedded resultative predicate. The resultative PP or AP is a complement of the V and they are

---

[49](Oppenrieder, 1991, p. 127)

realized similarly to other predicative constructions in copula constructions and subject and object predicatives. The difference between those predicative constructions and resultative constructions is that the lexical entries for the former are listed in the lexicon while those for the latter are licensed by a lexical rule. What these constructions have in common is that the subject of the embedded predicate may be permuted with other dependents of the matrix predicate. Like in object predicative constructions, the subject of the embedded predicate is realized as accusative in active sentences and as nominative in passive sentences. This is explained by the assumption of structural case for subjects in German and a case principle that interacts with valence changing operations like passive.

The fact that this complex predicate formation for resultative predicates is done in the lexicon explains why certain resultative constructions got lexicalized and drifted away in meaning.

Chapter 7

Particle Verbs

Building on the analyses developed so far, I will now show how particle verbs can be integrated into the general picture. I will show that the syntactic properties of particle verbs resemble the properties of other constructions we have seen so far and I will argue that particle verbs should be analyzed as part of the predicate complex and that the base verb is the head of the construction. I will provide lexical entries for non-transparent particle verbs and lexical rules that license lexical entries for productive particle verb combinations.

This chapter is more complex than previous chapters since a large part of it is devoted to morphology. In the morphology sections I will discuss both inflection and derivation and suggest a lexical rule-based analysis.

7.1   The Phenomenon

In German there is a class of verbs that can appear discontinuously both in morphology (7.1) and syntax (7.2). The part that appears to the left of the main verb in verb final position and that is stranded when the finite verb is in initial position is traditionally called a separable prefix (*abtrennbares Präfix*). Since prefixes are by definition not separable, most researchersuse the term (verbal) particle nowadays.[1]

> (7.1) a. Der Fährmann hat Karl übergesetzt.
> the ferryman has Karl across.taken
>
> 'The ferryman has taken Karl across.'
>
> b. Der Fährmann versucht, Karl überzusetzen.
> the ferryman tries   Karl across.to.take
>
> 'The ferryman tries to take Karl across.'

In (7.1) the particle and the verb are separated by the *ge-* prefix for the participle and by the infinitive marker *zu*.

> (7.2) a. Setzt der Fährmann Karl über?
> takes the ferryman Karl across
>
> 'Does the ferryman take Karl across?'

---

[1]Other terms are *Verbzusatz*. Stiebels (1996, p. 10) uses this term to refer to both particles and prefixes. Fourquet (1974) uses the term particle both for prefixes and for particles that can be separated from their verb. Lüdeling (1998) uses the term preverb in a sense that also includes ordinary adverbs.
In what follows I stick to the terminology introduced above.

    b. Der Fährmann setzt Karl über.
        the ferryman takes Karl across

    c. daß der Fährmann Karl übersetzt.
        that the ferryman Karl across.takes

In (7.2a–b), where the verb is in initial position, the particle is stranded. It is serialized to the right of non-extraposed complements and adjuncts and constitutes the right sentence bracket.

    Many particles correspond to adjectives (7.3a), adverbs (7.3b), nouns (7.3c), prepositions (7.3d), or verbs (7.3e).

(7.3)   a. Er ließ die Sümpfe trockenlegen.
          he let   the marshes dry.lay

          'He had the marshes drained.'

      b. Er lief weg.
          he ran away

      c. Er fuhr   Rad.
          he went.by bike

          'He went by bike.'

      d. Er färbte den Mantel um.
          He dyed   the coat   PART

          'He dyed the coat a different color.'

      e. Er ist sitzengeblieben.
          he is sit.stayed

          'He has/had to repeat a year (in school).'

There are particles like *dar* (*darlegen* 'to explain', 'to expound'), *inne* (*innehalten*, 'to stop', 'to pause') and *acht* (*achtgeben*, 'to take care', 'to watch out') that do not fall in one of the mentioned categories. Furthermore, there are verbs that do not appear without a particle like *abstatten* ('to visit') in *einen Besuch abstatten* and *anstrengen* ('to make an effort', 'to try hard') in *sich anstrengen*. Particle verbs can contain a verb that is derived from an adjective or a noun (*aufheitern* ('to brighten-up', 'to clear up', 'to cheer up'), *aufhellen* ('to get/make brighter'), *einölen* ('to rub with oil'), *eindellen* ('to make a bump in s.t.'), *ankreuzen* ('to mark with an 'x''), *anprangern* ('to denounce')).[2]

7.1.1   What are Particle Verbs?

In many cases it is not obvious whether certain verbs should be treated as particle verbs or whether they are regular combinations of verbs and adverbs or verbs and nouns. Many researchers, including me (see (Müller, 1999a, Chapter 19)) got confused by orthographic conventions, but in some respect the German orthography rules are rather arbitrary. See also page 193 for different spellings of resultative predicates. So in some cases verbs and dependent parts are written as one word (7.4d) and in others they are spelled as two words (7.4c).

(7.4)   a. Ich fahre Bus.
          I   go.by bus

---

[2](Stiebels and Wunderlich, 1992, p. 20)

b. Ich fahre Rad.
   I   ride   bike

c. Ich bin Bus gefahren.
   I   am bus went.by

   'I went by bus / rode a bus.'

d. Ich bin radgefahren.
   I   am bike.ride

   'I rode a bike.'

Since *radfahren* and *Bus fahren* have the same properties, they should be treated in the same way. In the remainder of this section I will try to find criteria for what has to be counted as a particle verb.

7.1.1.1   Stress

In particle verb combinations, the particle gets the word accent. The particle can get the main accent of the whole predicate or sentence or in case a complement is present, it can get secondary stress.

(7.5) a. daß Hans ábfährt.
           that Hans leaves

       b. daß Hans mir fólgendes   mìtteilte.
           that Hans me the.following PART (with).shared

           'that Hans told me the following.'

Separable verbs behave like compounds in this respect. In homonymous prefix verb combinations the stress is on the main verb.

(7.6) a. weil er die Oma   úmfuhr.
           since he the grandmother PART (down).runs

           'since he ran the grandmother over.'

       b. weil er die Oma   umfúhr.
           since he the grandmother PREFIX(around).drove

           'since he drove around the grandmother.'

7.1.1.2   Fronting

One criterion that is sometimes used for the definition of the notion particle verb is the frontability of the particle (Zifonun, 1999, p. 212). However, as the data that will be presented in section 7.1.2 show, various kinds of particles can be fronted under certain conditions.

7.1.1.3   Referentiality

Zeller (1999, Chapter 3.2.2) looks at data like the sentences in (7.7) and observes a difference in the referentiality of the prepositional particle and the pronominal adverb.

(7.7) a. Peter will   einen Kreis herausschneiden.
           Peter wants a   circle out.cut

           'Peter wants to cut out a circle.'

  b. Peter will   einen Kreis ausschneiden.
      Peter wants a   circle out.cut

      'Peter wants to cut out a circle.'

  c. Hier strömt   Gas heraus.
      here streams gas out

      'There's a gas leak here.'

  d. Hier strömt   Gas aus.
      here streams gas out

      'There's a gas leak here.'

Verbs that occur with a particle that corresponds to a pronominal adverb that starts with an *h*, he calls *h*-verbs. Following McIntyre (To Appear) he formulates the generalization that the particles of *h*-verbs like the ones in (7.7) are always referential and specific and the prepositional particles do not refer and are not specific. Zeller and McIntyre use referentiality as a criterion for being a particle verb: particles of particle verbs do not refer. Zifonun (1999, p. 223) also observes that what she calls preposition based adverbs can be replaced by PPs in a regular way. Zifonun's preposition based adverbs are not restricted to *h*-elements, but also include pronominal adverbs with *da* (*there*) like (*darin* ('there.in'), *daraus* ('there.out'), *davor* ('there.before')). Verbs like *hereinkommen* ('to come in'), *hereingehen* ('to go in'), *hereinschauen* ('to look in'), *hereinblinzeln* ('to peak in') she calls "particle verbs in a broader sense". "True particle verbs" are verbs where a change of meaning has taken place.

  (7.8) a. Er hat ihn (den Mann) hereingelegt.   (in a normal context:
             he has him (the man)   here.in.laid   true particle verb)

             'He took him for a ride.'

         b. Er hat ihn (den Anzug) hereingelegt.   ("particle verb
             he has him (the suit)   here.in.laid   in a broader sense")

             'He put it in.'

7.1.1.4 Depictives and Resultatives vs. Lexicalized Forms

Other problems with orthographic conventions are posed by sentences like (7.9).

  (7.9) a. weil   er ihn totschlägt.
             because he him dead.beats

             'because he beats him to death'

         b. weil   er ihn halb tot   schlägt.
             because he him half dead beats

             'because he beats him almost to death'

Words like *totschlagen* ('to beat to death') and *totarbeiten* ('to work to death') were written as one word (Duden, 1951). However, it is not reasonable to treat the verbs in (7.9) as particle verbs. They are normal resultative constructions that can be derived in a regular way (Oppenrieder, 1991, Chapter 1.5.3.7.4).

  Other verbs were probably taken to be resultative constructions because of their spelling (see for instance (Rosengren, 1995, p. 95)).

 (7.10) Der Arzt   schreibt Peter krank.
         the doctor writes   Peter ill

         'The doctor gives Peter a medical certificate.'

Draft of January 12, 2001. Comments Welcome!

The sentence has a resultative reading, where the writing of the doctor causes Peter to get ill. The reading may be plausible in a context where the prescriptions of the doctor are so expensive that Peter gets ill because he is worried about the bills for the pills. But the normal use of *krank schreiben* is given in the translation. This reading does not imply that the one that has the certificate is ill, since firstly malingerers can also get the certificate and secondly one can already have recovered but still have the certificate, i.e., be *krank geschrieben*. Because of the non-transparent meaning, I assume that the version of *krank schreiben* in (7.10) is a particle verb.

For the same reason, I assume that *kaputtgehen* ('to get broken') is a particle verb and not a resultative construction with reference to the subject as is assumed by Rosengren (1995, p. 106).

> (7.11)   Die Vase geht   kaputt.
>   the vase walks/goes broken
>
>   'The vase breaks.'

The broken state of the vase is not caused by walking. In (7.12a) the idiomatic reading is obvious.[3]

> (7.12)   a. Peter hat krank gefeiert.
>   Peter has sick celebrated
>
>   Idiomatic: 'Peter played hooky.'
>   Depictive: 'Peter celebrated ill.'
>
>   b. Peter hat seine Nachbarn krank gefeiert.
>   Peter has his   neighbors sick   celebrated
>
>   'Peter's parties made his neighbors ill.'

(7.12a) has two readings. Firstly, there is the idiomatic reading where Peter pretends to be ill and then there is the depictive reading where Peter is ill while partying. In (7.12b) *krank* is used in a resultative construction. The difference between the idiomatic reading of (7.12a) and the depictive or resultative construction is that the adjective is not a predicate in the idiomatic reading (Zeller, 1999, p. 97).

7.1.1.5   The Syntactic Activeness of Particles

Another possibility for differentiating between particles and elements of the categories they are related to is to examine their syntactic properties. Many particles have lost their combinatorial potential or do not take part in usual inflectional alternations. These phenomena will now be studied in more detail.

7.1.1.5.1   Adjectives: Comparatives and Superlatives

Zeller notes that the form of adjectives in particle verb combinations is fixed.

> (7.13)   a.   Peter sieht fern.
>   Peter sees remote
>
>   'Peter watches TV'
>
>   b. * Peter sieht ferner.
>   Peter sees remote.more

They cannot appear in the comparative or superlative.

---

[3]The examples in (7.12) were taken from (Zeller, 1999, p. 97).

7.1.1.5.2   Nouns: Modification and Passivization

As Uszkoreit (1987, p. 103) observed, in examples like (7.4), it is impossible to modify the particle *Bus* with an adjective.

(7.14)   * Er ist höchst   selten   frühen Bus gefahren.[4]
             he is extremely seldom early   bus rode

             Intended: 'He very rarely rode with an early bus.'

A further difference was noted by Booij (1990, p. 49) for Dutch. The negation element *nicht* can be combined with a determiner *ein(ig)-* to form *kein*. Bech (1955, p. 76–78) called this combination cohesion (*Kohäsion*). Usually the combination of the particle with *kein* is not possible. If one combines *Bus fahren* with *keinen* one gets a referential reading of the NP.

(7.15)   a. Er ist keinen Bus gefahren.
               he is not.a   bus rode

               'He did not ride a bus (but a bike).'

          b. Er ist nicht Bus gefahren.
               he is not   bus rode

               'He did not ride a bus (but a bike) / he did not go by bus, but by train.'

The reading of *busfahren* where someone else rides the bus and he is the passenger is not available in (7.15a). For verbs like *Probe fahren* the combination with *kein* is not possible.

(7.16)   Er fuhr   das Auto * keine Probe / nicht Probe.
          he drove the car   not.a probe not   PART

          'He did not do a test drive with the car.'

This test can also be used to decide whether mass nouns and bare plurals should be treated as particles or not. So in addition to the difference in referentiality that can be observed (see section 7.1.1.3), the ability to combine with a (negated) determiner without changing the meaning, except as far as negation is concerned, is a further criterion that can be used to determine whether noun verb combinations are particle verb combinations: If a (negated) determiner is impossible, the combination is a particle verb construction.

   Apart from this, a grammar that assumes that particles are not in the object position predicts the facts in the example (7.17b) by Kroch and Santorini (1991, p. 295).[5]

(7.17)   a. Sie   spielten   oft Karten.
               they-PL played-PL often cards-PL

               'They often played cards.'

          b. Es   wurde oft   Karten   gespielt.
               it-EXPL was-SG often cards-PL played

               'There was frequent card playing.'

The noun *Karten* does not take part in the object-to-subject-raising process that takes place in passive constructions. If it did, the verb *wurde* would have to agree with the subject *Karten* in number, which is not the case.

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[4](Uszkoreit, 1987, p. 103)
[5]See also (Kathol 1995, p. 248; Kathol 1998, p. 232).

Note that *Karten spielen* behaves differently from idiomatic expressions like *Leviten lesen* as those can be passivized.[6]

(7.18) a. Er las dem Burschen die Leviten.
    he read-SG the scoundrel the Leviticus-PL

    'He read this scoundrel the riot act.'

  b. Dem Burschen wurden die Leviten gelesen.
    the scoundrel were-PL the Leviticus-PL read

    'This scoundrel was read the riot act.'

In (7.18b) the accusative object *die Leviten* is raised to subject. The finite verb shows plural agreement.

7.1.1.5.3 Verbs: Passive, Double Infinitives, Scope

The exceptional behavior of the sentences in (7.19) that was noted by Reis (1973) and Höhle (1978, p. 170) can be explained along the same lines.

(7.19) a. Der Hammer wurde fallen gelassen.
    the hammer was fall let

    'The hammer was dropped.'

  b. Die beiden wurden warten gelassen.
    the both were wait let

    'The two of them were left to wait.'

  c. Karl wurde einfach stehen gelassen.
    Karl was just stand let

    'Karl was just left standing there (on his own).'

  d. Das Licht wurde brennen gelassen.
    the light was burn let

    'The light was left on.'

  e. Die Leiche wurde dort liegen gelassen.
    the corpse was there lie let

    'The corpse was left (lying) there.'

Usually AcI verbs cannot be passivized.

(7.20) a. * Karl wurde beten gelassen.
    Karl was pray let

    Intended: 'Karl was allowed to pray.'

  b. * Karl wurde eintreten gelassen.
    Karl was enter let

    Intended: 'Karl was allowed to come in.'

  c. * Karl wurde den Hund streicheln gelassen.
    Karl was the dog stroke let

    Intended: 'Karl was allowed to stroke the dog.'

  d. * Der Hund wurde streicheln gelassen.
    the dog was stroke let

    Intended: 'The dog was allowed to be stroked.'

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[6]See (Reis, 1985, p. 153) on similar data with the *kriegen* passive.

This contrast can be explained if one analyzes the verbs in (7.19) as complex verbs, as Reis (1973, p. 524) already noted.[7] Höhle notes further that the verbs that allow passivization while embedded under *lassen* do not obligatorily occur in double infinitive constructions, i.e., with a so-called *Ersatzinfinitiv*.[8]

(7.21)   a.   Sie   haben den Hammer fallen gelassen.
              they have   the hammer fall   let
              'They dropped the hammer.'

         b.   Sie   haben die beiden warten gelassen.
              they have   the both   wait   let
              'They let the two of them wait.'

         c.   Sie   haben Karl einfach stehen gelassen.
              they have   Karl just   stand let
              'They just left Karl standing there (on his own).'

         d.   Sie   haben die Kinder   schlafen gelassen.
              they have   the children sleep   let
              'They let the children sleep.'

         e.   Sie   haben das Licht brennen gelassen.
              they have   the light burn   let
              'They left the light on.'

         f.   Sie   haben die Leiche dort   liegen gelassen.
              they have   the corpse there lie   let
              'They left the corpse (lying) there.'

In perfect constructions a participle is usually embedded under *haben* ('have'), but when modals and AcI verbs are embedded under *haben* they obligatorily appear in the infinitive form.

(7.22)   a.   Sie   haben Karl beten (*ge)lassen.
              they have   Karl pray let

         b.   Sie   haben Karl eintreten (*ge)lassen.
              they have   Karl enter   let

         c.   Sie   haben Karl den Hund streicheln (*ge)lassen.
              they have   Karl the dog   stroke   let

         d.   Sie   haben den Hund streicheln (*ge)lassen.
              they have   the dog   stroke   let

There is some uncertainty about the use of the *Ersatzinfinitiv*. The Duden admits both forms of *fallenlassen* for verbs with the transferred reading. I do not find all of the examples in (7.21) totally acceptable. However, the sentences in (7.23), which have the transferred reading, are fine.

(7.23)   a.   Anna Skljaretskaja vom Vagrius Verlag erklärte am Freitag, sie habe das
              Projekt wegen der Lage auf dem Balkan fallengelassen.[9]

              'Anna Skljaretskaja of the Vagrius publishing house declared on Friday
              that she has dropped the project because of the situation in the Balkan.'

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[7]But see (Reis, 1976a, p. 68).

[8]I changed the pronoun *wir* ('we') that was used in Höhle's examples to *sie* ('they').

[9]taz, 29.03.1999, p. 28.

Draft of January 12, 2001. Comments Welcome!

      b. Bereits Ende 1998 hatte die Behörde in der gleichen Angelegenheit
           already end   1998 had   the authority in the same   matter
           ein Bußgeldverfahren fallen   gelassen.[10]
           a   fining.system   dropped let.
           'The authority had dropped a fining system in the same matter as early
           as 1998.'

The same uncertainty can be observed with some other particle verbs that have a base
verb for which an *Ersatzinfinitiv* exists.[11]

  (7.24)   Dafür   hat man aber auch fünfmal   ranmüssen.[12]
             there.for has one but   too   five.times PART.must
             'Five sessions were necessary for that.'

Although I prefer *rangemußt* in (7.24), the sentence is not totally out.

    If the verbs in (7.19) and (7.23) together with *lassen* are analyzed as particle + verb
combinations this difference is also explained.

    Further evidence for this view is that the adverbs in (7.25) have scope over the
complex verb instead of *fallen* only.

  (7.25)   Der Hammer wurde schnell / oft   fallen gelassen.
             the hammer was   fast   / often fall   let
             'The hammer was dropped fast/often.'

This is completely analogous to the cases where the verbs are written together.

  (7.26)   Karl hat Maria nicht sitzenlassen.
             Karl has Maria not   sit.let
             'Karl didn't leave Maria.'

If one tries to impose the narrow scope reading on a sentence like (7.26) the verb gets
its literal meaning. So we are faced with the same situation as with *Bus fahren* vs.
radfahren. The orthographic rules do not conform to the syntactic facts.

7.1.2 Fronting

Particles can be fronted, although this is often denied. There are different claims about
frontability that will be explored in the following.

7.1.2.1 Simple Fronting

7.1.2.1.1 What Can be Fronted?

Bierwisch (1963, p. 103) claims that particles like *ab* ('off'), *an* ('to'), *auf* ('on'), *aus*
('out'), *ein* ('in'), *über* ('over'), *unter* ('under') are not frontable. But as the examples

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[10]taz, 27.01.2000, p. 18

[11]Note that there is just one option for *ranlassen*.

    (i)   Sie hat ihn nicht rangelassen /* ranlassen.
           she has him not   at.it.let
           'She didn't let him touch her/him/it. or She didn't let him get at her/him/it.'

[12]taz, 26.04.1993, p. 17

in this section show, there are instances of particle fronting for many of these particles. The frontability is not a property of the particle but rather a property of the particle verb.

Haider (1990b, p. 96; 1993, p. 280; 1997a, p. 35–36; 1997b, p. 86–87, p. 93)[13], Fanselow (1993, p. 68)[14], Neeleman and Weermann (1993, p. 473), Kiss (1994, p. 100), Haider, Olsen and Vikner (1995a, p. 17), Kathol (1996), Olsen (1997b, p. 307; 1997c, p. 21), and Eisenberg (1999, p. 306) deny the frontability of particles. These authors do not mention any exceptions and some of them take the non-frontability claim as evidence to rule out certain sentence structures for German.

Zifonun (1999, p. 227) uses the non-frontability as a defining property of particle verbs. She explicitly excludes cases like (7.27) from the class of 'true' particle verbs, since these verbs are entirely compositional and the particle also appears as pronominal adverb.

(7.27)   Herein kommen wir schon,   aber wie heraus.
         there.in come   we anyway but   how there.out
         'We will get in, but how to get out.'

However, on page 223 she states that all particle verbs that have a preposition other than *mit* as particle are 'true' particle verbs. As the data below will demonstrate, even particles that have the form of prepositions can be fronted. Non-frontability of the particle therefore cannot be a necessary condition for being a particle verb.

Engel (1977, p. 213; 1994, p. 192) claims that only particles that correspond to copula particles like those in (7.28) can be fronted.[15]

(7.28)   a. Das Licht ist an.
             the light is on

         b. Die Tür ist zu.
             the door is closed

(7.29)   a. An sollst du   das Licht machen.
             on shall you the light make

             'You shall switch on the light.'

         b. Zu   sollst du die Tür machen.
             close shall you the door make

             'You shall close the door.'

Grewendorf (1990, p. 106) claims that only those particles which assign a theta role can be fronted.[16] Stiebels and Wunderlich (1992, p. 3) give the following examples and claim that fronting is only possible if the particle occurs together with resultatives or directionals.[17]

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[13]The sentence (7.66c) contains a particle together with an argument of the verb in fronted position. This sentence was taken from the main text of a paper by Haider.

[14]On page 51 he discusses examples that are parallel to (7.34a) without realizing that *feststehen* is a particle verb.

[15]However, on page 219 of the 1977 edition, he writes the sentence (7.34c) which is an example where a particle that corresponds to an adverb is fronted.

[16]Sentence (7.74e), which he discusses on page 90, contradicts his claim.

[17]I find sentence (7.30a) rather strange. The reason for this is that it is a part of the meaning of the verb *zuschlagen* that the door is closed afterwards. So there is no way to leave the door open while slamming it.

Note furthermore that while (7.30b) can be uttered to establish a contrast, (7.30a) cannot. The verb *auf-*

(7.30) a. (Ganz)   zu   hat sie die Tür geschlagen.
            completely shut has she the door hit

           'She slammed the door completely shut.'

        b. (Weit) hinaus ist der Ball geworfen worden.
            far   out   is the ball thrown   got

           'The ball was thrown far out.'

Similarly, Webelhuth and Ackerman (1999) developed an LFG analysis that is supposed to explain what kind of particles can be fronted. They claim that only particles that have a resultative meaning can be fronted.

There are some authors, however, who realize that the fronting of particles is possible in a variety of cases that do not fall under those described above (Reis 1976a, p. 68; Lötscher 1985, p. 211; Hoeksema 1991b; Bennis 1991; Hoberg 1997; Lüdeling 1997).

Since it is so often claimed that particles are non-frontable, an extensive discussion of data will be provided in the remainder of this subsection.

(7.31) contains particles in fronted position that are related to nouns.

(7.31) a. *Rad*   würde Karl gerne   *fahren.*
            bicycle would Karl with.pleasure ride

           'Karl would like to ride a bicycle.'

        b. *Bus* würde Karl gerne   *fahren.*
            bus would Karl with.pleasure ride

           'Karl would like to go by bus / to ride a bus.'

        c. *Schlange stehen* bereits Hans Jürgen Syberberg, der noch 1990 von der Entscheidungskraft der SS-Leute an der Rampe von Auschwitz schwärmte, und Botho Strauss, der singende Brandenburger Bock, der das Höhere Faseln ebenso beherrscht.[18]

           'Hans Jürgen Syberberg, who was still raving about the SS men's decisiveness at the ramp of Auschwitz in 1990 and Botho Strauss, the singing Brandenburg stud who is also well-versed in stilted gibberish, are already queuing up.'

        d. „Liebe Freundinnen   und Freunde,   meine Damen und Herren",
             dear   female.friends and male.friends my   ladies   and gentlemen

            redet   er sein Publikum an, das ihm respektvoll applaudiert. *Feuer*
            speaks he his audience at that him respectfully applauds   fire

            jedoch *fängt* offenbar keiner.[19]
            however catches clearly   nobody

---

schlagen which could be used to express this contrast is usually not used for the opening of doors. It can be applied to books though. If one uses (i) this would imply some beating.

   (i) Er hat die Tür aufgeschlagen.
        he has the door open.beaten

        'He rammed the door open.'

Stiebels (1996, p. 160–161) notes a difference in frontability with different base verbs. Particle frontings in particle verb constructions where the base verb is a support verb like *machen* are better, since the verb is semantically almost empty.

[18]Wiglaf Droste, taz, 27.02.1998, p. 20

According to the orthographic rules *Schlange stehen* is spelled discontinuously. Like *Bus fahren / mit dem Bus fahren*, *Schlange stehen* ('to stand in a queue', 'to queue up') is derived from *in einer Schlange stehen*. I treat *Schlange stehen* as a particle verb. See also (Wunderlich, 1987, p. 98).

[19]Süddeutsche Zeitung, 09.04.1998, p. 3

'"Dear friends, Ladies and Gentlemen", thus he addresses his audience, gaining a round of respectful applause. However, it is clear that nobody is carried away.'

e. Die Volkspartei SPD, von ihrer Geschichte her eigentlich zuständig für die Lage der „Grauen", besteht überwiegend aus Büroangestellten, Lehrern und Akademikern.

> *Schicht*   hat von denen keiner *gearbeitet.*[20]
> PART(shift) has of   those nobody worked

'None of them has worked shifts.'

In (7.32) the particles correspond to verbs.[21]

(7.32)   a. *Verloren geht* dabei   keiner, [...][22]
           lost   gets there.during nobody

'Nobody gets lost during this.'

b. *Verloren gingen* danach   auch die Spiele gegen die
    lost   went   there.after also the games against the
    Humboldt-Realschule   und das Benz-Gymnasium.[23]
    Humboldt.secondary.school and the Benz.high.school

'After that, the games against the Humboldt secondary school and the Benz high school were also lost.'

Since these particle verbs resemble ordinary verbal complexes, it is not really surprising that such examples can be found.

In (7.33) – (7.34) the particles correspond to adverbs.

(7.33)   a. *Weiter*   *macht* er aber doch.[24]
           PART(further) makes he but anyway

'But he carries on anyway.'

b. *Auseinander gehen* die Meinungen über Grundsätzliches   in der
    PART (apart) go   the opinions   about fundamental.(things) in the
    Grüne-Politik, vor   allem aber auch um   die rot-grüne Koalition.[25]
    green politics before all   but also around the red-green coalition

'Opinions differ on fundamental issues in green politics, but above all also on the red-green coalition.'

c. *Zugute kommt* ihm dabei   seine erstaunliche „Fähigkeit im
    to.good comes him there.with his   surprising   ability   in.the
    raschen Erfassen   sozialer, zwischenmenschlicher Situationen",
    swift   comprehension social   between.human   situations

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[20]From an article about sleeping disorders, in which problems of shift-workers are discussed. Spiegel, 48/99, p. 305

[21]Stiebels and Wunderlich (1994, p. 962) list *verlorengehen* ('get lost', 'lose'), *stiftengehen* ('to hop it'), *spazierengehen* ('to go for a walk', 'stroll'), and *flötengehen* ('to go west') as particle verbs. The sentences in (7.32) falsify their claim that only resultative or directional particles can be fronted. See the discussion around (7.30).

[22]Mannheimer Morgen, 01.07.1998, Lokales; Wenn Ruben die Eskimorolle zeigt, [...]

[23]Mannheimer Morgen, 13.03.1998, Lokales; Basketballteam auf Erfolgswelle

[24]taz, 13.07.1999, p. 20

[25]*negra* corpus.

wie ihm Herbert Maisch, sein psychologischer Gutachter　　1984
as　him Herbert Maisch　his　psychological　　expert.witness 1984
im　　Flensburger Prozeß bescheinigte.[26]
in.the Flensburger trial　　certified

'What does speak in his favor is his surprising ability to swiftly com-
prehend social interhuman situations, as certified by his psychological
expert witness Herbert Maisch during the 1984 Flensburger trial.'

(7.34)　a.　*Fest*　　　*steht*　aber auch, daß der Täter　nicht mehr　in der
　　　　　　PART(solid) stands but　also　that the culprit no　longer in the
　　　　　　Nähe　des Tatorts　　　　ist.[27]
　　　　　　vicinity the scene of the crime is.

　　　　　'But it is also certain that the culprit is no longer in the vicinity of the
　　　　　scene of the crime.'

　　　b.　*Fest* scheint auf jeden Fall *zu stehen*, daß ...[28]
　　　　　PART seems on any　case to stand　that

　　　　　'In any case, it seems to be certain that ...'

　　　c.　*Fest* scheint auch *zu stehen*, daß nicht nur der zu verbalisierende Sach-
　　　　　verhalt, sondern auch die Stellungnahme des Sprechers zum Sachverhalt
　　　　　in den jeweiligen Satzpaaren identisch sind.[29]

　　　　　'It also seems to be certain that not only the facts that are to be ver-
　　　　　balized, but also the speaker's opinion on the matter are identical in the
　　　　　respective pairs of sentences.'

The verb *feststehen* is a lexicalized form. The particle can neither be exchanged for
another adjective or adverb (7.35a), nor can it be omitted (7.35b). The particle cannot
predicate over a sentential complement (7.35c).[30]

(7.35)　a.　* Wacklig steht, daß ...
　　　　　　wobbly stands that

　　　b.　* Daß nicht nur der zu verbalisierende Sachverhalt, sondern auch die
　　　　　Stellungnahme des Sprechers zum Sachverhalt in den jeweiligen
　　　　　Satzpaaren identisch sind, steht.

　　　　　Intended: 'That ... stands.'

　　　c.　* Daß nicht nur der zu verbalisierende Sachverhalt, sondern auch die
　　　　　Stellungnahme des Sprechers zum Sachverhalt in den jeweiligen
　　　　　Satzpaaren identisch sind, ist fest.

　　　　　Intended: 'That ... is certain.'

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[26]taz, 20.01.1999, p. 3, Article about Gert Uwe Postel

[27]tv-news, Tagesschau, 21.03.1998

[28]Reis (1976a, p. 68) discusses this sentence in the context of the raising verb *scheinen*, but she explicitly
mentions the fact that a particle is fronted.

[29]In the main text of (Engel, 1977, p. 219).

[30]Note that in certain contexts it is possible to use *stehen* and *fest* separately.

(i)　Daß Peter den Vortrag hält,　steht　/ ist fest.
　　that Peter the talk　　holds stands / is solid

　　'It is certain that Peter will hold the speech.'

These predicates are restricted to a certain context. They cannot be used to derive the semantics of
feststehen in a compositional way.

Since the embedding under raising verbs like *scheinen* is possible, Zeller's assumption (1999, p. 65) that *Fest steht, daß* can be analyzed as a fixed phrase is questionable.

In (7.36) – (7.37) the particle corresponds to pronominal adverbs.

(7.36) *Heraus sprang* ein junger Offizier.[31]
      out   jumped a   young officer
      'A young officer jumped out.'

In (7.36) we have a particle verb in the broader sense.

(7.37) a. Papier ist geduldig, und *raus*   *kommt* sowieso nichts   dabei.[32]
         paper is patient   and PART(out) comes anyway nothing this.at
         'Anyone can write drivel, and it doesn't lead to anything anyway.'

      b. „Wir wollten ein Rennpferd entwickeln, und *heraus kam* ein Kamel."[33]
          we wanted a   racehorse to.develop and out   came a   camel
         'We wanted to develop a racehorse and ended up producing a camel.'

      c. *Raus kam* der „Schwindel" erst gestern: Etwa 20 Demonstranten protes-
         tierten vor dem Tor der niederbayrischen Kaserne gegen die Arrestie-
         rung.[34]

         'The fraud was only revealed yesterday: about 20 demonstrators
         protested against the arrest in front of the gates of the barracks in north-
         ern Bavaria.'

      d. *Dagegen*   ist *zu halten*, daß die moderne Mathematik eine
         PART (against.this) is to hold   that the modern   mathematics a
         reine Strukturwissenschaft ist, die   nichts mit Quantifikation zu
         pure structure.science   is   which nothing with quantification to
         tun hat.[35]
         do has

         'As an argument against this, it has to be said that modern mathematics
         is a pure structure science which has nothing to do with quantification.'

The adverb in (7.37c) can be used predicatively as in (7.38).

(7.38) Jetzt ist es raus.
      now it is out
      'It is out now.'

This is not the case for the *rauskommen/herauskommen* in (7.37a) and (7.37b). These verbs are used metaphorically. The same is true for *dagegenhalten*. The original mean-ing of *halten* is not present anymore.

The cases in (7.39) are interesting since they are quite frequent.

(7.39) a. *Dazu*   *kommt* der Krawalltourismus.[36]
         PART(there.to) comes the riot.tourism
         'In addition to that there is riot tourism.'

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[31](Uszkoreit, 1987, p. 100)

[32]taz berlin, 28./29.11.1998, p. 25

[33]Spiegel, 50/1999, p. 88

[34]taz, 06.08.1998, p. 9

[35]In the main text of (Heringer, 1973, p. 93).

[36]taz berlin, 08./09.05.1999, p. 25

b. *Hinzu kommen* die in Haider (1992a) formulierten Bedenken gegen die Postulation von AGR-Obj im Deutschen.[37]

'In addition to that there are the doubts against the postulation of an AGR-Obj for German that were formulated in Haider (1992).'

c. *Hinzukommt*, daß Partikel-Verb-Kombinationen durchaus produktiv sind, ...[38]

'In addition to that, particle verbs are productive.'

d. [...], *hinzu kommt* eine reflexive Ellipse: [...][39]

'There is also a reflexive ellipsis.'

e. *Hinzu kommt*, daß zwei Dative aus diesen Klassen in einem Satz nicht zusammen auftreten können, ...[40]

'In addition to that, it is impossible to have two datives from these classes in one sentence.'

At first glance it might appear that *dazukommen* and *hinzukommen* should be treated as 'true' particle verbs since a change in valence and selectional restrictions can be observed. The verb *kommen* as it is used in *Peter kommt.* ('Peter comes.') allows neither for abstract entities as subject, nor for clausal subjects. If *kommen* is used with a clausal complement, a different meaning results that cannot be used together with the pronominal adverb to derive the meaning of utterances like (7.39a) or (7.39c) compositionally.

(7.40) a. ?? Der Krawalltourismus kommt.
the riot.tourism comes

'There will be riot tourism.'

b. * Daß Partikel-Verb-Kombinationen durchaus produktiv sind
that particle verb combinations quite
kommt.
productive are comes

However, there is another variant of *kommen* that obligatorily takes a locative PP.

(7.41) a. Das Bild kommt an die Wand / hinter den Schrank.
the picture comes on the wall behind the cupboard

'The picture is to go on the wall / behind the cupboard.'

b. Zu den Tomaten kommen noch Gurken.
to the tomatoes come still cucumbers

'Cucumbers as well as tomatoes.'

c. Zu diesen Merkwürdigkeiten kommen jene, auf die ich schon
to these oddities come those on which I already
[...] hingewiesen habe.[41]
indicated have

'To these oddities come those that I have already pointed out.'

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[37] In the main text of (Fanselow, 1993, p. 12).

[38] In the main text of (Grewendorf, 1990, p. 116). On page 119 in the same paper there is another *hinzu-kommt* example. Other examples with the same spelling can be found in the main text of (Fourquet, 1974, p. 100).

[39] In the main text of (Zifonun, 1999, p. 220).

[40] In the main text of (Olsen, 1997a, p. 310).

[41] In the main text of (Haider, 1986a, p. 19).

    d. Zu dieser Magenverstimmung aus   frühster Jugend kam, daß sich
       to this   indigestion   out.of earliest youth came that self
       Herr Taziet den ohnehin verdorbenen Magen restlos   verdorben
       Mr. Taziet the anyway rotten   stomach completely rotted
       hatte, als   er, ans   Krankenbett gefesselt, gezwungen gewesen war,
       had   when he to.the invalid.bed tied   forced   been   has
       «wiederholt Kohlstrünke» zu essen, [. . .][42]
       repeatedly cabbage.stalks to eat

       'To this childhood indigestion came that Mr Taziet had upset his already
       upset stomach as he had been forced to eat cabbage stalks repeatedly
       when he was bed-bound.'

So, it is reasonable to assume that the *hinzukommen* examples are instances of the
pattern in (7.41) with the pronominal adverb filling the slot of the PP complement.
Therefore they should not be regarded as 'true' particle verbs.

    In (7.42) the particles are related to adjectives.

(7.42)   a. Der Mann, den die argentinische Spezialeinheit Sonnabend in einem
       Luxushotel festnahm, ist Thomas Drach, mutmaßlicher Kopf jener
       Bande, die vor zwei Jahren den Hamburger Sozialwissenschaftler aus
       seinem Haus entführte und 33 Tage gefangenhielt. *Frei kam* Reemtsma
       erst nach Zahlung von 30 Millionen Mark.[43]

       'The man who was arrested by the Argentinean Special Branch on Sat-
       urday is Thomas Drach, the presumed leader of the gang that kidnapped
       the Hamburg social scientist at his home keeping him prisoner for 33
       days. Reemtsma was only released after 30 Million DM had been paid.'

    b. *Verlustig geht* ihnen damit   auch die Kontrolle über Geldmenge,
       lost   goes them that.with also the control   over money.amount
       Inflation und Zinsen.[44,45]
       inflation and interest

       'With that they also lose control over the sums of money, inflation and
       interest.'

    c. „Wir werden alles tun, um den Amateursport in Mannheim zu erhalten",
       versprach Adler-Geschäftsführer Harold Herrmann gestern. Ganz *klar*
       stellte er aber auch, „daß wir keine Altlasten übernehmen".[46]

       "'We will do everything we can to keep amateur sports going in
       Mannheim", Adler manager Harold Herrmann promised yesterday. But
       he also made it clear "that we will not pay any out standing debts".'

In (7.42a) an adjective is combined with *kommen* ('to come'). There are also similar
constructions with *kommen* with PPs like *zu Tode* ('to death') / *in Not* ('in need') /
in Schwierigkeiten ('in difficulties') / *ins Schwimmen* ('in swimming' = 'to lose ones

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[42]Jochen Schmidt, *Triumphgemüse*, Verlag C. H. Beck oHG, München, 2000, p. 77

[43]taz, 31.03.1998, p. 1

[44]taz, 23.09.1998, p. 8

[45]Dictionaries like the *Handwörterbuch der deutschen Gegenwartssprache* (Kempcke, 1984) and Wahrig
(1966) list *verlustig* as an adjective that takes a genitive complement. In (7.42b) a dative appears instead
of the subject (*ihnen*) and the genitive is realized as the subject of *verlustig gehen*. *verlustig gehen* in
(7.42b) reminds one of the use of *verloren gehen*. See example (7.32a).

[46]Mannheimer Morgen, 15.07.1998, Sport; MERC ist noch nicht vom Eis

grip') *kommen* or *unter den Hammer kommen* ('to come under the hammer' = 'to be auctioned off') / *unter die Haube kommen* ('to come under the bonnet' = 'to get married') but these patterns are not productive anymore. Many of the PP + *kommen* combinations have an idiomatic reading.

In (7.43a–b) the particle *los* is fronted. In general, this particle marks the beginning of an event (*losfahren* ('start to drive'), *losrennen* ('start to run'), *losschreien* ('start to shout')).[47] In (7.43a–b) the verb with *los* is a lexicalized form. The core meaning of *gehen* is not present anymore.

(7.43)   a. *Los   ging* es schon   in dieser Woche.[48]
            PART went it already in this   week

            'It already started this week.'

        b. *Los ging* das 1985, da haben wir uns unseren Proberaum bei Stefan
            Schüler in der Liebigstraße im Friedrichshain ausgebaut und haben angefangen zu proben.[49]

            'It started in 1985, , we built our rehearsal room in Stefan Schüler's
            house in Lieblingsstraße in Friedrichshain and started to practice.'

        c. Ob er seine Strafe dort absitzen muß, war gestern ebenso unklar wie die
            Frage, ob er die gesamten elf Monate weggeschlossen wird. *Vor hat* er
            das jedenfalls.[50]

            'Whether he has to serve his sentence there was as unclear yesterday
            as the question whether he will be locked up for the complete eleven
            months. But he does plan this.'

        d. *Entgegen kam* der EuGH den Streitkräften, indem er der Regierung die
            Entscheidung überlässt, welche Verwendungsbereiche sie von dem Gleichbehandlungsgebot ausnehmen wollen.[51]

            'The European Court of Justice accommodated the troops by leaving it
            to the government to decide which areas to exclude from the equal treatment ruling.'

        e. *Entgegen kamen* sich Koalition und Opposition in der Frage um die
            Verkehrsberuhigung der Titusstraße.[52]

            'Coalition and opposition accommodated each other in the question of
            traffic reduction in Titus street.'

        f. *Auf   fällt*, daß ...[53]
            PART falls that

            'It is noticed that ...'

All examples in (7.43) have in common that the particle cannot be used in a predicative construction with the copula *sein*, and therefore they cannot be predicates of whatever kind was claimed to be possible in the *Vorfeld*.

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[47]Cf. (Engel, 1988, p. 440).

[48]taz, 10.11.1995, p. 4

[49]Toster in an Interview in Ronald Galenza and Heinz Havemeister (eds). *Wir wollen immer artig sein ... Punk, New Wave, HipHop, Independent-Szene in der DDR 1980–1990*, Berlin: Schwarzkopf & Schwarzkopf Verlag, 1999, p. 309

[50]taz, 15.07.1999, p. 19, about Dieter Kunzelmann, who was hiding from the police for more than a year and came back on his birthday to go to prison.

[51]taz, 12.01.2000, p. 1

[52]*negra* corpus.

[53](Duden, 1991, p. 62)

It is also sometimes claimed that fronting is impossible if the particle verb is transitive. The examples (7.37d), (7.43c), and (7.43d) show that this is not the case for German.

The examples in (7.44) are from novels and those in (7.45) from poems.

(7.44) a. – da warf es endlich das Gestell mit dem Spielzeug um: und das Glockenspiel läutete Ostern ein, *auf schrie* die Ziehharmonika, die Trompete mag wem was geblasen haben, alles gab gleichzeitig Ton an, ...[54]

'Then at last the toy-stand was thrown to the ground. The glockenspiel caused a mighty hullabaloo, the accordion shrieked, the trumpet blew itself, everything set the tone simultaneously.'

b. Es klopfte, *eintrat*   der Studienrat.[55]
   it   knocked in.stepped the teacher

'There was a knock on the door. The teacher came in.'

The particle *auf* in (7.44a) marks the sudden begin of an event. The *ein* in (7.44b) is related to the preposition *in* (Olsen, 1997b, p. 307).

Other meanings of *auf* can be seen in (7.45). In (7.45a–b,d) the *auf* stands for an event that is directed upwards. The *auftauchen* in (7.45d) is used metaphorically. The *auf* in (7.45c) again stands for the beginning of an event.

(7.45) a. Aufsteigt der Strahl ...[56]
   up.rises   the jet

'The jet rises.'

b. Aufblickt der Löwe, der   im   Schlaf gelegen ...[57]
   up.looks the lion   who in.the sleep   lay

'The lion who has been sleeping looks up.'

c. Aufglüht   der Komet ...[58]
   PART.glows the comet

'The comet lights up.'

d. Auftaucht ein Bild   aus   längst vergangener Zeit ...[59]
   up.dives   a   picture from long   past   time

'A picture from times long past appears.'

e. Auf tat sich das Licht: so trennte   Scheu sich Finsternis von ihm,
   open did itself the light: so separated shy   itself darkness   from him
   ...[60]

'The light unfolded itself: So darkness parted shyly from him.'

f. Auf blühen Papierwiesen // Leuchtend und grün, // Da stehen drei Kühe // Und singen kühn:[61]

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[54] Günter Grass, *Die Blechtrommel*, Deutscher Taschenbuchverlag, 1993, p. 272

[55] Walser, *Ohne einander*, p. 51. Quoted from (Hoberg, 1997, p. 1621).

[56] Conrad Ferdinand Meyer. *Der römische Brunnen*. Cf. (Haftka, 1981, p. 721).

[57] Mosen. *Ahasver*. The examples (7.45b) – (7.45d) were found with the help of (Dühmert, 1969).

[58] Zettel. *Komet*

[59] M. R. Stern

[60] Goethe. *Wiederfinden*. Berliner Ausgabe, Volume 3, p. 109, Berlin: Aufbau-Verlag, 1960.

[61] Jakob van Hoddis. *Andante*, In Karl Otto Conrady (Ed), *Das große deutsche Gedichtbuch*. München: Artemis & Winkler Verlag, 3rd edition, 1994, p. 444

g. Einer fragte, siehst Du was. // Durch sagte ich seh ich.[62]

7.1.2.1.2 Why Are These Frontings Possible?

The frontability seems to depend on the semantic content of the particle and the content of the verb. The more content a particle has, the better the fronting is. As was discussed above, most researchers agree about the cases where a particle that can also appear in copula constructions is fronted.

One can observe that even particles that cannot appear as predicates in copula constructions can be fronted if they are contrasted (Haftka, 1981, p. 720–721). Hoeksema (1991b) and Bennis (1991) discuss the fronting of particles in Dutch. Their examples have been translated into German by Lüdeling (1997, p. 231):

(7.46) Auf geht die Sonne im Osten, aber unter geht sie im
PART (up) goes the sun in.the east but PART (down) goes she in.the
Westen.
west

'The sun rises in the east, but sets in the west.'

A similar example has been provided by Hoberg (1997, p. 1622):

(7.47) Auf geht die Sonne heute um 6.36 Uhr (, unter um 17.50 Uhr).
'The sun will rise at 6:36 am today and set at 5:50 pm.'

Examples like (7.48a) are rather odd, but if a contrast is established, like in (7.48b), the sentence is okay.

(7.48) a. ?* Um färbt Karl den Stoff.
PART dyes Karl the cloth

Intended: 'Karl is dyeing the cloth a different color.'

b. Nicht um färbt Karl den Stoff sondern ein.
not PART dyes Karl the cloth but PART(in)

'Karl is not dyeing the cloth a different color. He is dyeing it for the first time.'

Uszkoreit (1987, p. 101) claims that the fronting of semantically non-autonomous particles is blocked even if it establishes a semantic contrast. He tries to prove this claim with the following sentence.

(7.49) * Teil kann er immer nehmen, mit dem Abnehmen sieht's schon
PART can he always take with the weight.loosing looks.it already
schwieriger aus.
more.difficult PART

Intended: 'He can take part, but it is more difficult for him to loose weight.'

However, the reason for this ungrammaticality is that the meaning of the verbs in (7.49) is totally unrelated. Imagine a context where an actor has to gain 10 kilos to have the

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[62]Steffen Mensching. *Erinnerung an eine Milchglasscheibe*, In Karl Otto Conrady (Ed), *Das große deutsche Gedichtbuch*. München: Artemis & Winkler Verlag, 3rd edition, 1994, p. 925
Thanks to Barbara Schmidt, who found this example.

right shape for a particular role in a movie. In a conversation one speaker claims that he has read that the actor has to lose 10 kilos to get the role. Then the reply in (7.50) would be possible.

(7.50)   Nein, nicht ab   muß er nehmen sondern zu.
        no   not   PART must he take   but   PART
        'He has to gain weight, not lose it.'

So the generalization seems to be that the fronting of semantically non-autonomous particles is possible if a contrast is established between two particle verbs that have the same verb but different particles which add information to the core meaning of the verb. The verb *färben* ('dye') has a meaning that is related to the meaning of *umfärben*. This is not the case for *einfallen* ('remember'). The meaning of *fallen* is *fall*. This is the reason for the ungrammaticality of (7.51).

(7.51)   * Nicht auf ist mir die Tatsache gefallen sondern ein.
          not   on is me the fact   fallen   but   PART
          Intended: 'I did not notice the fact, I remembered it.'

That *an* of *anfangen* can hardly be fronted is due to the non-compositionality of *anfangen*.[63]

(7.52)   a.   Es fängt zu regnen an.
            it   starts to rain   PART
            'It is starting to rain.'
      b.   * An   fing   es zu regnen.
            PART started it to rain

Since *anfangen* is non-transparent, it is impossible to establish a contrast between particles or base verbs.

Examples like (7.43), (7.44), and (7.45) are not very frequent. They cannot be explained as contrastive readings. Hoberg (1997, p. 1621) assumes that the particles are fronted to allow nominal constituents to occupy the rightmost position in a clause, which is sometimes desired for reasons of information structuring. The fact that frontings like (7.44b) are unacceptable if the particle verb is non-finite is explained by her assumption, since in (7.53) the NP is not positioned at the rightmost position.

(7.53)   * Ein war der Studienrat getreten.
          in   was the teacher   stepped
          Intended: 'The teacher had entered.'

However, this explanation cannot account for fronting of particles in sentences where the particle verb takes a sentential complement. As sentential complements can be extraposed easily, an expletive positional *es* as in (7.54) could be used to fill the *Vorfeld*.

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[63] I caught myself saying (i).

(i)   An   haben wir damit   gefangen, daß …
     PART have   we there.with started   that

The sentence was uttered to explain to someone who entered the room why the people in the room were talking about a strange topic. I asked the two people involved in the conversation for judgements of (i). Both considered (i) normal. The information structuring in (i) is different from that in (7.52a). The subject in (7.52a) is an expletive pronoun, whereas the subject in (i) is a referential pronoun. In (7.52a) the *Vorfeld* is filled with a semantically empty element. Since a positional *es* as in (7.54) can hardly be used in sentences that contain referential pronouns (see (Erdmann, 1886, § 94)), the fronting in (i) is the only way not to front the subject or the pronominal adverb.

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(7.54) Es wurden ihm beide Hände weggerissen, als er – zufällig oder absichtlich – eine seiner Höllenmaschinen bei seiner Festnahme zündete.[64]

'At his arrest both his hands were torn off by one of his time bombs—which he set off either accidentally or on purpose.'

When using this expletive, (7.34a) would be reformulated as:[65]

(7.55) Es   steht aber auch fest, daß der Täter nicht mehr in der Nähe   des
        it$_{expl}$ stands but also PART that the culprit no   longer in the vicinity the
        Tatorts   ist.
        scene of the crime is.

'But it is also certain that the culprit is no longer in the vicinity of the scene of the crime.'

Zeller (1999, p. 64) explains the contrasts in (7.56) via focus assignment.[66]

(7.56) a. ?* Ab   ist Nixon 1974 getreten.
            PART is Nixon 1974 stepped

            Intended: 'Nixon resigned in 1974.'

        b. ? Ab   trat   Nixon 1974.
            PART stepped Nixon 1974

        c. Abgetreten   ist Nixon 1974.
            PART.stepped is Nixon 1974

(7.56b) could be continued with *und er starb 1994* ('and he died in 1994'), which would establish a contrast between the whole verb *abtreten* ('to resign') and *sterben* ('to die'). Since this focus on the whole verb cannot be established in (7.56a) as easily as in (7.56b), where the two elements of the verb are adjacent, (7.56a) is marginal and (7.56c) is preferred. In the perfect construction in (7.56c), the complete verb is fronted and one continuous element can be focused.

That frontings are possible when the *Vorfeld* is occupied by constituents that do not contribute compositionally to the meaning of the sentence is demonstrated by the sentences in (7.57) – (7.58), where a part of an idiom is positioned in the *Vorfeld*.[67,68]

(7.57) a. Die Leviten   werden wir dem Burschen lesen.
            the Leviticus will   we the   scoundrel read

            'We will read the scoundrel the riot act.'

        b. Eine Abfuhr werden wir dem Aufwiegler erteilen.
            a   removal will   we the   instigator   give

            'We'll tell the rabble-rouser to shove off.'

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[64]taz, 06.10.1997, p. 12

[65]It is unclear whether the *es* in (7.55) is a positional *es* or an antecedent of *it*-extraposition. Antecedents of *it*-extraposition are not expletive. But the actual distinction of both possibilities is not relevant for the rest of the argument.

[66]See also Uszkoreit (1987, p. 100) for the observation that many particle frontings are better when the verb is in second position, i.e., adjacent to the particle.

[67]The examples in (7.57) are from (Uszkoreit, 1987, p. 107).

[68]Note that the PPs and NPs in (7.57) – (7.58) can neither be pronominalized nor can a contrast be established. These conditions for fronting that were formulated by Lötscher (1985, p. 211, p. 221) are therefore not necessary conditions. More complicated examples of idiom fronting were already discussed in chapter 2.8.3.1. See (2.62) on page 39.

(7.58) a. Unter den Tisch fällt, dass diese Kritiker weniger die Interessen der
            under the table falls that those critics less   the interests of.the
            Autofahrer, sondern viel mehr die   der   Wirtschaft vertreten.[69]
            car.drivers but   much more those of.the industry   look.after

            'It is not mentioned that these critics do not represent the interests of
            motorists, but rather those of the economy.'

        b. Ein schlechtes Licht wirft die Bilanz auf den Osten der   Stadt: …[70]
            a   bad   light throws the balance on the east   of.the city

            'The balance showed the east of the city in a bad light.'

        c. Wohin immer Carter in den Vereinigten Staten reist – überall lauern
            Polizeibeamte. Sie wollen seine Papiere sehen, führen ihn unter faden-
            scheidigen Gründen zur Wache.

            Zur   Strecke bringen ihn New Jerseys Behörden vier Monate nach
            to.the distance bring   him New Jersey's authorities four months after
            dem Bar-Überfall:[71]
            the   bar.hold-up

            'Policemen lurk everywhere Carter goes in the U.S. They want to see
            his papers, and use any excuse, no matter how lame, to take him to the
            police station. He is finally hunted down by New Jersey's authorities
            four months after the bar hold-up.'

        d. *Leisere Töne schlug* der SPD-Politiker Strieder *an*,   dessen
            quieter tones hit   the SPD   politician Strieder PART (at)
            Partei auf allen Seiten in   der Verantwortung steht.[72]
            whose party on   all   sides in the   responsibility stands

            'The SPD politician Strieder, whose party is responsible on all fronts,
            chose a more modest approach.'

        e. Am ersten autofreien Tag in ganz Europa wollen sich am kommenden
            Freitga über 820 Städte beteiligen, 68 davon aus Deutschland. *Aus der
            Reihe tanzt* Berlin: Hier soll stattdessen am 24. September zwischen 10
            und 19 Uhr der autofreie Sonntag stattfinden.[73]

The examples in (7.57)–(7.58) could be instances of the pattern in (7.56b). While
Zeller's assumptions explain most of the data that was discussed above, the sentences
(7.31e), (7.34c), and (7.37d)—repeated here as (7.59)—remain unexplained.

(7.59) a. Auto kann er nur selten fahren.[74]
            car   can he only seldom drive

            'He can drive only seldom.'

        b. *Schicht*   hat von denen keiner *gearbeitet*.[75]
            PART(shift) has of   those nobody worked

            'None of them has worked shifts.'

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[69] taz, 06.01.2000, p. 3

[70] taz berlin, 05.02.2000, p. 24

[71] Spiegel, 9/2000, p. 250

[72] taz, berlin, 09.07.2000, p. 19

[73] taz berlin, 16./17.09.2000, p. 24 (ap)

[74] (Uszkoreit, 1987, p. 101)

[75] Spiegel, 48/99, p. 305

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c. *Fest* scheint auch *zu stehen*, daß nicht nur der zu verbalisierende Sach-
verhalt, sondern auch die Stellungnahme des Sprechers zum Sachverhalt
in den jeweiligen Satzpaaren identisch sind.[76]

'It seems to be certain that ...'

d. *Dagegen*   ist *zu halten*, daß die moderne Mathematik eine reine
this.against is to hold   that the modern mathematics a   pure
Strukturwissenschaft ist, die   nichts mit Quantifikation zu tun
structure.science   is which nothing with quantification to do
hat.[77]
has

'As an argument against this, it has to be said that modern mathematics
is a pure structure science which has nothing to do with quantification.'

Of course (i) in footnote 63 on page 230 is also problematic. These sentences show
that the adjacency of particle and verb is not a necessary condition for fronting. In
(7.59b) the particle verb is embedded under the perfect auxiliary *haben* ('have'), in
(7.59c) it is embedded under *scheinen* ('seem'), and in (7.59d) it is embedded under
the modal *sein* ('be'). In (7.59b) it is clear that the contribution of the noun is focused.
The verbs in (7.59c) and (7.59d) embed both clausal complements. Again, information
structuring is the reason for such frontings, but instead of the insertion of a positional
es, the particle is fronted.

The analogous examples with idioms are shown in (7.60).

(7.60)   a. *Den Vogel* aber hat die Münchner Messegesellschaft *abgeschossen*
the bird but has the Munich   trade.fair.company PART(off).shot
[...][78,79]

...

'But the Munich trade fair company was by far the best.'

b. *Den Vogel* dürfte die Chicagoer Firma   USG Interiors *abgeschossen*
the bird may the Chicago   company USG Interiors PART(off).shot
haben.[80]
have

'The Chicago company USG Interiors was probably the best.'

c. *Eine Rolle* habe auch *gespielt*, dass er erstmals verletzungsfrei in die
a   role had also played   that he first.time injury.free   in the
Saison gegangen war.[81]
season went   was

'It was also significant that he began the season without any injuries for
the first time.'

The verbs of the idioms in (7.60) are embedded under perfect auxiliaries. The verb in
initial position is a prefect auxiliary (7.60a) or a modal (7.60b). So, as with the particle
verb frontings in (7.59), there is no adjacency between heads and complements that

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[76]In the main text of (Engel, 1977, p. 219).

[77]In the main text of (Heringer, 1973, p. 93).

[78]Mannheimer Morgen, 26.08.1989, Wirtschaft; Tick-Tack-Tec

[79]Nunberg, Sag and Wasow (1994, p. 512) give a similar example that they quoted from a manuscript of
Ackerman and Webelhuth.

[80]Mannheimer Morgen, 31.05.1989, Weltwissen; Raucher in den USA auf dem Weg ins ...

[81]taz, 28.08.1999, p. 18

are combined non-transparently. For more data and the discussion of similar claims in connection with multiple frontings see page 41.

7.1.2.2 Complex Fronting

It is usually assumed that German is a verb second language. This means that the position before the finite verb (the *Vorfeld*) can be occupied by exactly one constituent. In the following I will discuss cases of particle fronting where the *Vorfeld* seems to be occupied by two constituents. There are six possible relations between the particle or the verb and the other fronted constituent:

- the second fronted constituent is a modifier of the particle

- the second fronted constituent is a complement of the particle

- the second fronted constituent is a modifier of the base verb (for productive particle verb combinations)

- the second fronted constituent is a complement of the base verb (for productive particle verb combinations)

- the second fronted constituent is a modifier of the particle verb (for non-productive particle verb combinations)

- the second fronted constituent is a complement of the particle verb (for non-productive particle verb combinations)

These possibilities will be examined in the following sections.

7.1.2.2.1 Fronting of Complements and Particles

As von Stechow and Sternefeld (1988) noted, particles can sometimes even be fronted together with arguments of the verb.

(7.61) Die Tür   *auf* hat er *gemacht*.[82]
        the door-ACC open has he made.

        'He opened the door.'

This sentence can be a reply to the question *Was hat er gemacht?* ('What did he do?'). (7.61) is an instance of the causative *machen* that can appear with different predicates (cf. *müde machen* ('make tired')).

(7.62)   Der Alkohol machte ihn müde.
         the alcohol made   him tired

Both *auf* and *müde* can be used in copula constructions with *sein* ('be').

(7.63)   a. Die Tür ist auf.
              the door is open

          b. Er ist müde.
              he is   tired

---

[82](von Stechow and Sternefeld, 1988, p. 476)

The *machen* + predicate construction is an instance of a general pattern where the subject of a predicate is realized as an object of the matrix verb. These constructions have been discussed in chapter 3.1.9 and an analysis was provided in chapter 3.2.8. The fronting in (7.61) is a fronting of a predicate together with its subject. Such constructions have been discussed extensively in the literature of partial verb phrase fronting. Similar examples with adjectival and verbal predicates are shown in (7.64) and (7.65), respectively.

(7.64)   a.   [Viel   los] war nicht.[83]
             much-NOM loose was not

             'There wasn't much happening.'

       b.   [Das Maß   an Exotik voll] macht Wladimir Semago,
             the measure-ACC of exotic full makes Wladimir Semago-NOM
             Kandidat einer linken Splittergruppe namens „Geistiges Erbe",
             candidate of.a left   splinter.group named   Spiritual Heritage
             der noch bis vor   kurzem Mitglied der   kommunistischen
             who still until before short   member of.the communist
             Partei und Besitzer eines Spielkasinos war.[84]
             party and owner   of.a play.casino   was

             'More than enough of the exotic is provided by the candidate for a left-wing splinter group called "Spiritual Heritage", Wladimir Semago, who until recently was a member of the communist party and owner of a casino.'

(7.65)   a.   Viel   passieren kann ihnen   nicht.[85]
             much-NOM happen   can   them-DAT not

             'Not much can happen to them.'

       b.   ? Den Sänger   jodeln läßt der König.[86]
             the   singer-ACC yodel lets the king-NOM

             'The king lets the singer yodel.'

       c.   Die Hände   gezittert haben ihm   diesmal nicht.[87]
             the hands-NOM shaked have him-DAT this.time not

             'This time his hands were not shaking.'

Frontings of predicates together with their subject are not very frequent and often judged marginal.

    This discussion showed that the example in (7.61) should not be accepted as an instance of the case where a particle is fronted together with a complement. However, the examples in (7.66) are true non-transparent particle verbs:

(7.66)   a. Mit der Schwarzmalerei *einher gehe* die sinkende Sterbe- und Geburtenfreudigkeit.[88]

          'This pessimism goes hand in hand with a reduction in the desire to die or reproduce.'

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[83]Max Goldt, *Die Kugeln in unseren Köpfen.* München: Wilhelm Heine Verlag. 1997, p. 200

[84]taz, 14.12.1999, p. 13

[85]News Magazine, Tagesthemen, 23.11.1995

[86](Oppenrieder, 1991, p. 57)

[87](Höhle, 1997, p. 114)

[88]Spiegel, 49/1997, p. 254

b. Damit *einher geht* die Betonung der grundsätzlich gradienten Natur aller sprachlichen Erscheinungen – gegen die übliche Annahme (auch) kategorischer grammatischer Regeln – und, damit zusammenhängend, die Lockerung bzw. Aufhebung der o. a. Rahmendistinktionen.[89]

'This comes hand-in-hand with the stress on the fundamentally gradient nature of all linguistic phenomena—against the usual acceptance of (sometimes) categorical grammatical rules—and connected to that, the loosening or even abolition of the basic distinctions.'

c. Damit *einher geht* eine Reduktion der Satzstruktur des
there.with PART goes a   reduction of.the sentence.structure of.the
Komplements.[90]
complement

'This goes hand in hand with a reduction of the sentence structure of the complement.'

d. Damit *zusammen hängt* auch, daß bestimmte Konstituenten leichter voranstellbar sind.

'The fact that certain constituents can more easily be placed before others is also connected to this.'

e. Damit *zusammen hängt* auch ein großer Abstand zu den Nationalsozialisten, die, kaum an die Macht gekommen, die politischen Freunde des Vaters verhaften:[91]

'This is related to a considerable difference from the National Socialists, who, hardly having come to power, have (the) father's political friends arrested.'

Wahrig (1966) lists *einher* as an adverb with a meaning similar to *daher*, *heran*, and *umher*. This adverb can appear together with verbs of motion like *brausen* ('rush'), *fahren* ('drive'), and *gehen* ('go'). But the examples in (7.66a–c) are clearly not of this kind. In (7.66a–c) a lexicalized non-transparent form of *einhergehen* is used. A reviewer suggested that the examples in (7.66) might be instances of adverbial phrases, but note that all examples given above are either ungrammatical or have a totally different meaning without the material before the finite verb.

(7.67) a. Eine Reduktion der Satzstruktur   des Komplements geht.
a   reduction of.the sentence.structure the complement   goes

'A reduction of the sentence structure of the complement is okay / possible.'

b. * Daß bestimmte Konstituenten leichter   voranstellbar sind hängt.
that certain   constituents   more.easy frontable   are hangs

Literal: 'That certain constituents can more easily be placed before others is hanging.'

Of course one could claim that *gehen* behaves like *wohnen* ('live'), which obligatorily selects an adjunct or—following Bierwisch and also Kaufmann (1995, p. 119)—a predicative complement:

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[89]In the main text of Reis, Marga. 1986. Die Stellung der Verbargumente im Deutschen. Stilübungen zum Grammatik:Pragmatik-Verhältnis. In *Proceedings des 5. Lunder Symposiums „Sprache und Pragmatik"*, *12.–16. Mai 1986*, p. 5.

[90]In the main text of (Haider, 1986b, p. 82).

[91]*negra* corpus.

(7.68) a.   Karl wohnt in Berlin / dort / gut.
             Karl lives   in Berlin   there   well

        b.   * Karl wohnt.
             Karl lives

But there is no variation of different adverbial phrases possible. The only option to explain that *gehen* in (7.66) has to appear with *einher* is to analyze it in the way idioms are analyzed.[92] The head has to subcategorize for some material that contains a certain lexeme.

(7.69) jemandem einen (großen) Bären aufbinden
        somebody a   great   bear   PART (on).tie
        'to tell somebody a tall tale'

In (7.69) *aufbinden* subcategorizes for an object that may be modified. This is accounted for by subcategorizing for something that contains *Bär* instead of subcategorizing a phrase with the phonological form *einen Bären* directly. However, if one follows this approach for (7.66), it remains mysterious why (7.70b) is marked.

(7.70) a.   Damals   gingen dorthin viele Schüler.
             at.that.time went   there   many pupils

             'Many pupils went there at that time.'

        b. ?? Damit   gingen einher viele Verschlechterungen.
             this.with went   PART   many worsenings

             'This went hand in hand with many worsenings.'

        c.   weil damit keine Verschlechterungen einhergingen.

        d. ?* weil damit einher keine Verschlechterungen gingen.

The *einher* is not serialized like other adverbs. Adverbs can be placed between objects and subjects, which is not the case for particles like *einher*. They have to be placed in the right sentence bracket. (7.70b) therefore is an instance of NP-extraposition, which is marked in German.[93] See also section 7.1.3 for linearization data with particles that are homophonous to elements of other syntactic categories. In (7.66) the particles are fronted together with prepositional elements of different complexity. The question that remains to be answered is whether the elements that appear in the *Vorfeld* together with the particle are adjuncts/complements of the verb or whether they are dependent on the particle only. Olsen (1999a,b) suggests that in examples like (7.71a) the fronted sequence is a constituent.

(7.71) a. Durch   den Park durch   fährt   die Bahn.
            through the park through drives the train

            'The train drives through the park.'

        b. Die Bahn fährt   durch.
            the train drives through

            'The train drives through something.'

In these constructions a PP with a preposition of a form that corresponds to the particle provides further information about the element that remains implicit if just the particle verb is used. The PP *durch den Park* is analyzed as an optional dependent of *durch*.

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[92]For an analysis of idioms in HPSG see (Krenn and Erbach, 1994).
[93]See (Müller, 1999a, Chapter 13.1) on NP-extraposition.

The situation with verbs that have a transferred meaning is different: It is hardly possible to omit the PP, as (7.72) shows.

(7.72)   a.   ? Eine Reduktion der   Satzstruktur   des Komplements geht
                 a   reduction of.the sentence.structure the complement   goes
                 einher.
                 PART

                 'A reduction of the sentence structure of the complement happens.'

         b.   * Daß bestimmte Konstituenten leichter   voranstellbar sind hängt
                 that certain   constituents   more.easy frontable   are hangs
                 zusammen.
                 together

                 Literal: 'That certain constituents can more easily be placed before others hangs together.'

         c.   * Auch ein großer Abstand zu den Nationalsozialisten hängt
                 also a   big   distance to the national.socialists   hangs
                 zusammen.
                 together

The only example I could find for *einhergehen* without a PP is (7.73).

(7.73)   Im Gegensatz dazu ist die Inkorporation einer Präpositionalbedeutung mit einhergehender Argumentvererbung für Partikelverben nicht typisch.[94]

         'In contrast to this, the incorporation of a prepositional meaning with coinciding argument inheritance for particle verbs is not typical.'

On the basis of (7.73), it can be argued that *einhergehen* takes a subject and the *mit*-PP modifies either the particle or the complete verb *einhergehen*. For instances of the latter pattern see the examples in (7.74) below.

There are two possible explanations for the ungrammaticality of (7.72b–c). Either one assumes that the PP is a complement of the particle verb, then (7.66d) and (7.66e) are cases of complex fronting, or one has to find a way to ensure that the particle obligatorily selects a PP. I will opt for the second possibility. The obligatoriness of the PP argument will be explained as follows: Adverbs like *zusammen* refer to at least two entities or a mass. Since the *daß* clause neither refers to more than one entity nor to a mass, the adverb has to be further specified and a second entity has to be added.

Concluding this section it can be said that particles may be fronted together with a complement just in case this element depends on the particle. The fronting of complements of idiomatic particle verbs together with the particle is not attested.[95]

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[94]In the main text of (Olsen, 1997c, p. 11).

[95]Zeller (1999, p. 66) discusses the example in (i), which is similar to the one by McIntyre (To Appear, A p. 33).

   (i)   a.   Das Kleid da   hinten sieht besser aus.
                the dress there behind sees better PART (out)

              'The dress over there looks better.'

         b.   ?? [Besser aus]   sieht das Kleid da   hinten.
                  better PART (out) sees the dress there behind

   The example in (i) is a subject predicative construction. The predicate that is embedded under *aussehen* is fronted together with the particle. If examples like (i) are possible, then they are instances of frontings where a complement that does not depend on the particle but on the complete particle + verb combination is fronted together with the particle.

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7.1.2.2.2 Fronting of Adjuncts and Particles

(7.74) shows examples where a particle is fronted together with an adverb. The standard assumption about constituent order in German is that exactly one constituent can appear in front of the verb. If one follows this assumption, the adverb must be analyzed as a modifier of the particle.

(7.74)   a.   Gut *zurecht kommt* derjenige, der das Leben mit all seinen Überraschungen annimmt und dennoch verantwortungsvoll mit sich umgeht.[96]

'Those who accept life with all of its surprises and still behave responsibly towards themselves will cope without any problems.'

   b.   Ich bin alleinstehende Mutter, und so gut   *klar komm* ich nicht.[97]
I   am single   mother and so good clear come I   not

'I am a single mother and I don't cope particularly well.'

   c.   Nicht *einkalkulierte*   er die Lehre   von der Duplizität der
not   PART(in).calculated he the doctrine of   the duplicity   of.the
Ereignisse.[98]
events

'He did not take into account the doctrine of the duplicity of events.'

   d.   vollständig *ein*   *rissen* Bauarbeiter die Küche[99]
fully   PART (in) tore   workers   the kitchen

'The workers tore the kitchen down completely.'

   e.   Nicht *umhin konnte* Peter, auch noch einen Roman über   das Erhabene
not   PART could Peter also still a   novel   about the sublime
zu schreiben.[100]
to write

'Peter couldn't help writing a novel about the sublime as well.'

   f.   Die Zeitschrift ›Focus‹ hat vor einiger Zeit auch die Umweltdaten deutscher Städte miteinander verglichen. Dabei *heraus kam* u. a., daß Halle an der Saale die leiseste Stadt Deutschlands ist.[101]

'Some time ago the magazine Focus also compared the environmental data of German towns. The results included the discovery that Halle an der Saale is Germany's quietest town.'

The examples in (7.74) are frontings of a 'true' particle together with an adjunct, and the examples in (7.75) and (7.76) are examples of frontings of particles in a 'broader sense' together with adjuncts.

(7.75)   a.   Immer noch mit Abstand *vorn*   *liegt* Reiseunternehmer Kuoni.[102]
always still   with distance in.front lies   travel.agent   Kuoni

'The travel agent Kuoni is still in the lead by a wide margin.'

---

[96]Balance, Broschüre aus der TK-Schriftenreihe zur gesundheitsbewußten Lebensführung, Techniker Krankenkasse. 1995.
[97]Radio program, 02.07.2000, I thank Andrew McIntyre for this example.
[98]Becher, Ulrich. *Die ganze Nacht*. Hamburg, 1955. p. 50. Quoted from (Ulvestad, 1975, p. 381)
[99]Found in a newspaper by Felish, quoted from (McIntyre, To Appear, A p. 33).
[100](Grewendorf, 1990, p. 90)
[101]Max Goldt, *Die Kugeln in unseren Köpfen*. München: Wilhelm Heine Verlag. 1997, p. 18
[102](Clément and Thümmel, 1975, p. 126).

b. Den Umschwung im Jahr 1933 stellt Nolte als „Volkserregung" und „Volksbewegung" dar. (…) Nicht *hinzu setzt* Nolte Zeugnisse republiktreuer Sozialdemokraten und Zentrumsleute, die im Januar 1933 von lähmendem Entsetzen befallen (…) waren.[103]

'Nolte described the change in 1933 as "general excitement" and a "people's movement". Nolte does not take into account reports by social democrats and the center party who were dedicated to the republic and who were stricken with horror in January 1933.'

The sentences in (7.30) by Stiebels and Wunderlich are also examples where a particle and an adjunct are fronted. But while in (7.30) the adjunct scopes over the fronted particle, the adjuncts in (7.74)–(7.75) scope over the complete verb. There are two possibilities to analyze examples like those in (7.74)–(7.75): Firstly, one can assume that the complete verb was part of the *Vorfeld* and is scrambled back somehow, or that the verb is scrambled out of the VP before the VP is fornted, or secondly one can assume that the semantics of the complete verb is present in the particle and that the adjunct attaches to the particle.

(7.76)   a. [Gut zurecht _i] kommt_i derjenige.
             well PART   comes   the.one

         b. [Gut zurecht_zurechtkommen] kommt derjenige.

In the GB paradigm it is always argued against the first option (7.76a) and I will not argue for it. The second approach is not without problems either since it does not extend to idioms.

(7.77)   a. Gänzlich unter den Tisch fällt, daß …
             totally   under the table falls that

             'It was totally ignored / it was not mentioned at all that …'

         b. Ganz   auf der Strecke bleiben grundlegende Umbauten, welche ein
             totally on the route   stay   basic   rebuildings which a
             schnelleres Evakuieren sicherstellen sollten, sowie
             faster   evacuation secure   should as.well.as
             Mindestanforderungen an die Sicherheitsausbildung der
             least.requirements   at the security.training   of.the
             Besatzung.[104]
             crew

             'Basic rebuilding measures which would secure faster evacuation and basic requirements for the security training of the crew are totally neglected.'

For idioms like (7.58a), it is implausible to assume that *unter den Tisch* contains the meaning of the complete idiom.

The third of the two options is to assume that the examples in (7.74) are instances of multiple frontings. That such multiple frontings are possible was demonstrated in chapter 2.8.3. The sentence (7.75b) seems to be problematic for this assumption, since *nicht* would be a separately extracted element in the *Vorfeld*. However, Ulvestad (1975) has shown that *nicht* may be placed in the *Vorfeld*. See also (Reis, 1980, p. 72; Hoberg, 1981, p. 161; and Müller, 1999a, p. 348).[105]

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[103]Die Zeit, 19.03.1993, p. 82. Quoted from (Hoberg, 1997, p. 1633)

[104]taz, 28.09.2000, p. 2

[105](i) is an example that is not listed in (Müller, 1999a).

7.1.2.3 The Impossibility of Fronting the Base Verb

A non-finite particle verb cannot be fronted without its particle.[106] This is demonstrated by the sentences in (7.78), which contain particles that are related to different categories.

(7.78) a. * Fahren wird Karl Bus / Rad.
      drive will Karl bus bicycle
      Intended: 'Karl will ride a bus / a bicycle.'

    b. * Stehen werden sie Schlange.
      stand will they queue
      Intended: 'They will queue up.'

    c. * Kommen wird er frei.
      come will he free
      Intended: 'He will get free.'

    d. * Lassen wird er das Buch zurück.
      let will he the book behind
      Intended: 'He will leave the book behind.'

    e. * Kommen wird Karl an.
      come will Karl PART
      Intended: 'Karl will arrive.'

    f. * Schlafen wird Karl ein.
      sleep will Karl PART
      Intended: 'Karl will fall asleep.'

Interestingly, examples with particle verbs in the broader sense seem to be slightly better.

(7.79) a. ?? Gehen wird Karl hinein, nicht rennen.
      go will Karl there.in not run
      'Karl will walk in, not run.'

    b. ? Gehen will Karl in das Haus, nicht rennen.
      go will Karl in the house not run
      'Karl will walk into the house, not run.'

The example in (7.79b), where the pronominal adverb is replaced by a full PP, seems to be better.

  The examples of particle fronting discussed above are parallel to examples where verbs or adjectives with or without dependents are fronted. These have been discussed in chapters 3.1.2.5 and 3.1.4.5, respectively. The ungrammatical examples in (7.78) are parallel to (7.80).

 (i) Nicht aber ist der abtrennbare Teil des Verbs auch stets ein Satzglied.
   not but is the separable part of.the verb also always a sentence.part
   'The separable part of the verb is not always a *Satzglied*.'

 It is a quote from the main text of (von Stechow, 1979, p. 365).
[106]See (Höhle, 1982, p. 101), (Haftka, 1981, p. 721), (Olszok, 1983, p. 127), Lötscher (1985, p. 212), and (Uszkoreit, 1987, p. 104) for similar examples.

(7.80) a. * Müssen wird er ihr ein Märchen erzählen.
            must   will he her a   fairytale tell

            Intended: 'He will have to tell her a fairytale.'

        b. * Sein will   Karl seiner Frau treu.
            be   wants Karl his   wife faithful

            Intended: 'Karl wants to be faithful to his wife.'

        c. * Gefunden hat er ihn klug.
            found   has he ihn smart

            Intended: 'He considered him to be clever.'

        d. ?? Schneiden müssen Sie das Fleisch klein![107]
            cut   must   you the meat   small

            Intended: 'You have to cut the meat into small pieces!'

As has been discussed in chapters 3.1.2.5, 3.1.4.5, 3.1.9.6, and 6.1.13, the generalization about these ungrammatical examples is that if parts of the predicate complex are fronted (alone or with adjuncts or complements), all parts of the predicate complex that are governed by fronted heads have to be fronted together with this head. So in (7.80a), *müssen* governs *erzählen*. If *müssen* is fronted, *erzählen* has to move as well. If particles are analyzed as parts of the predicate complex, the ungrammaticality of the sentences in (7.78) is explained.

7.1.3 Linearization

7.1.3.1 The Right Sentence Bracket and Intraposition into the *Mittelfeld*

Particles behave similarly to verbs and adjectives in respect to serialization. They are located in the right sentence bracket.[108]

(7.81) a. Sie hat den Mann sofort   gesehen, der zur   Tür hereinkam.
            she has the man immediately seen   who to.the door into.came

            'She saw the man who came through the door immediately.'

        b. Sie sah den Mann sofort   an, der zur   Tür hereinkam.
            she saw the man immediately PART who to.the door into.came

            'She looked at the man who came through the door immediately.'

        c. * Sie sah den Mann sofort, der zur Tür hereinkam, an.

(7.81b–c) show that the extraposed relative clause has to be placed to the right of the particle. The position of the particle is the same as the position of the non-finite verb in (7.81a).

    Nominal particles also occupy the right sentence bracket.

(7.82) a. Deshalb fuhr   er das Auto Probe.
            therefore drove he the car   trial

            'That's why he took the car for a test drive.'

        b. ?? Deshalb fuhr   er Probe das Auto.
            therefore drove he trial   the car

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[107](Oppenrieder, 1991, p. 127)

[108]Cf. (Drach, 1937, p. 55)

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As was discussed in connection with (7.70), the example in (7.82b) is a case of NP extraposition, which is marked in German. The argument can be strengthened by examples like (7.83). The control verb *vorschlagen* can appear discontinuously.

(7.83)   a.   Karl schlägt der Frau   vor   zu gehen.
               Karl beats   the woman PART to   go

               'Karl suggests to the woman to go.'

       b.   * Karl schlägt vor, der Frau zu gehen.

If serializations of the particle in adverb positions were possible, orders like those in (7.83b) should also be possible, since they are possible with adverbs, as (7.84) shows.

(7.84)   a.   Karl überredete die Frau   gestern   zu gehen.
             Karl persuaded the woman yesterday to go

             'Karl persuaded the woman to go yesterday.'

       b.   Karl überredete gestern die Frau zu gehen.

But this is not the case. (7.83b) is totally out since it would be an instance of multiple extraposition with an NP and a VP. NP extraposition as such is rather marked, but together with an extraposed infinitive the sentence becomes unacceptable. This suggests that particles occupy the same position as that occupied by non-finite verbs in sentences that do not contain a finite particle verb, like (7.85).

(7.85)   Er hat den Hund geschlagen.
         he has the dog   beaten

         'He beat the dog.'

The particle marks the right sentence boundary. If particle + verb combinations are licensed by the same grammar rule as the auxiliary + verb combination in (7.85), the facts can be explained easily.

     The examples in (7.86) and (7.89) seem to contradict this assumption since particles and verbs are not adjacent parts of the right sentence bracket.

(7.86)   Andrew Halsey ist auf dem Weg von   Kalifornien nach Australien weit ab
         Andrew Halsey is on the   way from California to   Australia far   off

         vom   Kurs   gekommen.[109]
         from.the course come.

         'On the way from California to Australia Andrew Halsey strayed way off course.'

In (7.86) the particle meaning is further specified by a *von*-PP. There are no particle verbs in German that have a *von* as particle. *ab* is used instead (Fourquet, 1974; Stiebels, 1996, p. 86, p. 94). Phrases of the form *weit ab* + *von*-PP can also appear as normal adjuncts as in (7.87).

(7.87)   Weitab vom Zentrum [. . .] eröffnete Alfred Bauer [. . .] am 6. Juni das
         Filmfest im alten Titania-Palast aus den 20er-Jahren.[110]

         'Far from the center Alfred Bauer opened the film festival in the old 20's Titania Palace on 6 June.'

---

[109]taz, 10.04.1999, p. 20
[110]taz berlin, 05.02.2000, p. 25

In (7.87) this phrase specifies the location of *eröffnen*. In (7.86) the *ab* is a part of the particle verb *abkommen*. The sentence without *ab* has a totally different meaning:

(7.88) Er ist auf dem Weg von Kalifornien nach Australien gekommen.
        he is on the way from California to   Australia come.
        'He came on the way from California to Australia.'

This shows that *ab* in (7.86) really is a particle. The particle is further specified by a *von*-PP and therefore the *ab* is not adjacent to *gekommen*. However, the phrase *weit ab vom Kurs* is adjacent to *gekommen*. Sentences like (7.86) are unproblematic for analyses that assume that particle and verb are combined in syntax.

In (7.89) the particles are separated from their verb by a locative PP.

(7.89) Ich weiß, daß die Sonne auf   im   Osten und unter   im
        I   know that the sun   PART(up) in.the east and PART(under) in.the
        Westen geht.[111]
        west   goes
        'I know that the sun rises in the east and sets in the west.'

But as Lüdeling notes, these examples are caused by focus split. That it is possible to intrapose certain parts of the predicate complex was also shown by the examples with adjectives in chapter 3.1.4. The examples in (6.51) – (6.52) in chapter 6.1.11 showed that intraposition of resultative constructions is also possible. So, this is another similarity of these three constructions.

7.1.3.2 Particle Placement in German Dialects

In Dutch, particles can be separated from their main verb:

(7.90) omdat   Carol hem op   kon bellen[112]
        because Carol him PART can call
        'because Carol can call him.'

Grewendorf (1990, p. 99) gives the German example in (7.91).

(7.91) Heut im Traum sah ich sie wieder
        Und von allen Bergen ging solches
        Grüßen zu mir nieder
        Daß ich an   zu weinen fing[113]
        that I   PART to cry   caught
        'I saw her in my dream again today, and the mountains gave me such a welcoming feeling that I started to cry.'

It is tempting to count this example as an intentional breach of the rules, but such orders are attested to be possible in some German dialects. Werner (1994, p. 356) gives the examples in (7.92), which are quoted from Sperschneider and were spoken in the northwest of Sonneberg/Thuringia.

(7.92) a. a … hot aa   ze schimpfm gfanga
           he   has PART to get.angry caught
           'He started to get angry.'

---

[111](Lüdeling, 1998, p. 57)
[112](Koster, 1975, p. 126)
[113]Joseph von Eichendorff, *Erinnerung, Gedichte [Ausgabe 1841]*, Eichendorff-W. Vol. 1, p. 77

    b. die ham … auf   zu arwettn ghört
       they have   PART to work   heard

       'They stopped working.'

    c. ham sa   groud aa   mit assn gfanga
       have they just   PART with eat   caught

       'Did they just start to eat?'

In (7.92) phase verbs appear discontinuously. The embedded verb is in the middle of the matrix verb. Furthermore, Werner (1994) discusses sentences like those in (7.93) where a particle verb is embedded under a modal. The particle verb appears discontinuously to the left and to the right of its head.

(7.93)   a. so ham sich die Leut   oumüßploug[114]
          so have REFL the people PART.must.struggle

          'people had to struggle so much'

       b. Wos da sich ölles aahotmüßhör!
          what the REFL all   PART.has.must.hear

          'All these things he had to listen to!'

       c. wall   e in Brander   vollstn   ümhotwöllstimm
          because he the Brander-ACC completely PART.has.want.to.tune

          'because he wanted to change Brander's mind completely'

He argues that these orderings follow the pattern in (7.94).

(7.94)   a. weil   er in die Stadt / fort geht.
          because he in the town   away goes

          'because he goes to town / away.'

       b. weil   er in die Stadt / fort hat müssen gehen.[115]
          because he in the town   away has must   go

          'because he had to go to town / away.'

Particle verbs historically developed from adverb+verb combinations. The canonical position of adverbs is in front of the verbal complex. Most of these adverbs changed their meaning and the combinations became lexicalized. In the East Franconian/Thuringian dialect the canonical order in respect to modals is preserved.

7.1.4 Iteration of Particles

It is not possible to have more than one particle per base verb (Stiebels and Wunderlich, 1994, p. 925; Neeleman, 1994, p. 271).

(7.95)   a.   weil   Maria lacht.
             because Maria laughs

       b.   weil   Maria loslacht.
             because Maria PART.laughs

             'because Maria starts to laugh'

---

[114](Werner, 1994, p. 349)

[114](Werner, 1994, p. 355)

[115]This is the order of the elements in the verbal complex in Thuringian. For standard German it is *hat gehen müssen*.

    c.   weil   Maria Karl anlacht.
           because Maria Karl PART.laughs

           'because Maria smiles at Karl.'

    d. * weil   Maria Karl anloslacht.
           because Maria Karl PART.PART.laughs

           Intended: 'because Maria starts to smile at Karl.'

Stiebels and Wunderlich (1994, p. 926) analyze sentences like (7.96a) as back-formations. Zifonun (1999, p. 218) explains the partial acceptability of (7.96a) by the similarity to a construction with a prefix like *vórbestellen* and *áuserwählen*.

(7.96)   a.   ? daß er diesen Aufsatz schon mal vórausdruckt.
              that he this   essay   yet   PART(before).PART(out).prints

              'that he prints this essay in advance.'

    b. * Er druckt diesen Aufsatz schon mal vor   aus.
        he prints this   paper   yet   PART PART

With the verb in initial position the similarity is destroyed and the sentence is not accepted. Therefore examples like (7.96) are not counterexamples to the claim that only one particle can be combined with a verb.

7.1.5   Particle Verbs and Heads that Select for Another Predicate

In chapter 6.1 I demonstrated that resultatives cannot be iterated, and the same was shown for particle verbs in the previous section. In what follows I will examine whether subject and object predicative constructions and resultative constructions can be combined with particle verbs.

7.1.5.1   Subject and Object Predicatives

There are particle verbs that embed predicates:

(7.97)   a. Das kam ihm dumm vor.
            this came him silly   PART

           'This seemed silly to him.'

    b. Er sieht gut   aus.
        he looks good PART

        'He looks good.'

(7.98)   Er schätzt   ihn als zuverlässig ein.
        he estimates him as reliable   PART (in)

       'He thinks he is probably reliable.'

(7.97) shows subject predicate constructions and (7.98) is an example of an object predicate construction. The matrix verbs of these predicative constructions cannot be combined with resultatives, nor is the combination with particles in productive particle verb combinations possible.

7.1.5.2 Resultative Predicates

As Keyser and Roeper (1992, p. 97), Neeleman and Weermann (1993), Neeleman (1994, p. 271), Lüdeling (1998, p. 129–130), and others observed, resultative constructions are impossible with particle verbs. Many particle verbs cannot be combined with resultative predicates for semantic reasons, but that one gets tired by reading back and forth in a book is entirely plausible. Nevertheless sentences like (7.99c) are out.[116]

(7.99) a. daß sich Karl müde liest.
            that self Karl tired reads

            'that Karl reads himself tired.'

        b. daß Karl herumliest.
            that Karl PART (around).reads

            Intended: 'that Karl reads aimlessly.'

        c. # daß sich Karl müde herumliest.
            that self Karl tired PART (around).reads

            Intended: 'that Karl gets tired by reading aimlessly.'

Neeleman and Weermann (1993) and Lüdeling (1998, p. 129–130) discuss apparent counterexamples like those in (7.100).

(7.100) a. daß Jan die Tür grün anstreicht.
             that Jan the door green PART (on).paints

             'that Jan paints the door green.'

         b. daß Jan das Zimmer grün ausmalt.
             that Jan the room   green PART (out).paints

             'that Jan paints the room green.'

         c. daß der Prinz das Fleisch kross anbrät.
             that the prince the meat   crisp PART (on).fries

             'that the prince fries the meat crisp.'

In these sentences *grün* and *kross* are not resultative predicates, but rather adverbially used adjectives. Therefore they do not constitute evidence against the claim that particles do not cooccur with resultative predicates.

7.1.6 Deletion

Zeller (1999, p. 57) observed that in coordinated structures the base verb of a particle verb combination, but not the base verb of a prefixed verb can be deleted.

(7.101) a. * weil   Jens übertreibt   und Hans unter~~treibt~~.
             because Jens PREF(over).forces and Hans PREF(under)

             Intended: 'because Jan exaggerates and Hans understates.'

         b. * weil   Max die Franzosen überschätzt   und Jan die
             because Max the French   PREF(over).estimates and Jan the

             Brasilianer unter~~schätzt~~.
             Brazilians PREF(under)

---

[116]There is a marginal reading in which (7.99c) is grammatical, but in this reading *herum* ('around') has a directional meaning similar to *durch* ('through') in *sich durchfragen* ('to ask one's way') or *hoch* ('high') in *hochdienen* ('to work one's way up'), and *müde* ('tired') is a depictive predicate.

Intended: 'because Max overestimates the French and Jan underestimates the Brazilians.'

c. * weil   Martin den Wald durchfährt   und Hans die Stadt
because Martin the forest PREF(through).drives and Hans the city
um~~fährt~~.
PREF(around)

Intended: 'because Martin drives through the forest and Hans around the city.'

(7.102) a. weil   Peter einsteigt   und Hans aus~~steigt~~.
because Peter PART(in).climbs and Hans PART(out)

'because Peter gets in and Hans gets out.'

b. weil   Karl seine Freundin anlacht   und Maria den Lehrer
because Karl his   girl.friend PART.laughs and Maria the teacher
aus~~lacht~~.
PART

'because Karl smiles at his girl friend and Mary laughs at the teacher.'

c. weil   Franz das Bild   aufhängt   und Maria das Poster ab~~hängt~~.
because Franz the picture PART.hangs and Maria the poster PART

'because Franz hangs the picture on the wall and Mary takes the poster down.'

d. weil   Franz Klavier   spielt und Maria Geige   ~~spielt~~.
because Franz PART(piano) plays and Maria PART(violin)

'because Franz plays the piano and Maria plays the violin.

The same deletion process can be observed with parts of the verbal complex (7.103) and with resultative constructions.

(7.103) a. [. . .] wobei das *bei*-Muster bereits stark   lexikalisiert ist und in
while the bei pattern already strong lexicalized is and in
seiner Produktivität erloschen ~~ist~~.[117]
his   productivity gone.out is

'while the bei pattern is already heavily lexicalized and not productive anymore.'

b. daß Peter geschlafen hat und Karl gearbeitet ~~hat~~.
that Peter slept   has and Karl worked   has

'that Peter slept and Karl worked.'

(7.104) weil   Maria ihren Mann   tot   schlug und Peter seinen Hund
because Maria her   husband dead beat   and Peter his   dog
bewußtlos   ~~schlug~~.
unconscious hit

'Because Maria beat her husband to death and Peter beat his dog unconscious.'

This shows one more time that particles behave like parts of the verbal complex and like resultative constructions.

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[117]In the main text of (Olsen, 1997a, p. 325).

7.1.7 Ripuarian and Bavarian

Stiebels and Wunderlich (1994, p. 927) discuss the following data from two German dialects and argue that this data constitutes evidence for a morphological analysis of particle verbs.

(7.105) a. Er ist sein Zimmer am   aufräumen.
            he is his room   at.the PART(up).clearing
            'He is tidying up his room.'

        b. * Er ist am   sein Zimmer aufräumen.
            he is at.the his room   PART(up).clearing

        c. * Er ist sein Zimmer auf   am   räumen.
            he is his room   PART(up) at.the clearing
            'He is tidying up his room.'

(7.106) a. Sie hod-s eam zum   naaf-droong vagessn.
            she has.it him to.the up-carry   forgotten
            'She forgot to carry it up for him.'

        b. * Sie hod-s zum   eam naaf-droong vagessn.
            she has.it to.the him up-carry   forgotten
            'She forgot to carry it up for him.'

        c. * Sie hod-s eam naaf zum   droong vagessn.
            she has.it him up   to.the carry   forgotten
            'She forgot to carry it up for him.'

The examples in (7.105) are from Ripuarian. The ones in (7.106) from Bavarian. *am* and *zum* are amalgamated prepositions. *am* together with the auxiliary *sein* expresses the progressive aspect. The *zum* is equivalent to the *zu* of the infinitive in standard German. Stiebels and Wunderlich note that all NP complements have to appear before *am* and *zum*, respectively. According to Stiebels and Wunderlich, the prepositional elements *am* and *zum* take a nominalized infinitive and have to appear immediately before it. They conclude that the particle is part of the word and therefore can and must appear after *am* or *zum*, respectively. However, when I heard Detmar Meurers speaking, I realized that this is not the complete story.

(7.107) Wir sind die   grade am   komplett Durchbestellen.[118]
         we are them just   at.the completely PART (through).ordering
         'We are ordering all of them now.'

(7.107) was uttered while we were talking about the journal *Groninger Arbeiten zur Germanistischen Linguistik*. In (7.107) an adverb, i.e., syntactic material follows *am*. This means that either the nominalization of syntactic combinations is allowed in this position or—if just *Durchbestellen* or *bestellen* is the nominalization—that syntactic material is allowed after *am*. In any case Stiebels and Wunderlich's argument is weakened.

Furthermore, examples like (7.108) show that nominal material can appear in such constructions.

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[118]Detmar Meurers, Tübingen, 09.03.2000

(7.108)   Er ist ständig   am   Werbung   für sich Machen.[119]
          he is constantly at.the advertisement for self make

          'He is permanently indulging in self-promotion.'

It is not clear to me what the exact restrictions of this construction are, but in the present context they are not important. The examples in (7.107) – (7.108) are sufficient to show that these nominalizations are not relevant for claims about the status of particle verbs. Even if examples like (7.107) – (7.108) did not exist, the examples in (7.105) and (7.106) would be no evidence for particle verb combinations being non-syntactic, as was claimed by Stiebels (1996, p. 44). As I will show in section 7.1.11.2.1, nominalized verbal complexes, predicative constructions, and resultative constructions show the same order as nominalized particle verbs. The verbal complex is nominalized as one unit. The data in (7.105) and (7.106) therefore has to be regarded as additional evidence that particle verb combinations are similar to verbal complexes, predicative constructions, and resultative constructions, i.e., to other constructions that are regarded as syntactic combinations.

7.1.8   Non-Productive Particle Verb Combinations

Many particle verbs have a non-transparent reading. It follows that this has to be represented in the lexicon somehow, but it does not follow that particle verbs are words. The point is that there are also other constructions that have non-regular meanings and that are clearly phrasal and take part in syntactic processes.

(7.109)   a. Man liest   den Regierenden in Bonn die Leviten.
              one reads the governors   in Bonn the Leviticus

              'The rulers in Bonn are read the riot act.'

          b. Am   1. Mai werden den Regierenden in Bonn die Leviten
              at.the 1 May are   the governors   in Bonn the Leviticus
              gelesen.[120]
              read

              'On 1 May the rulers in Bonn will be read the riot act.'

          c. Ein Mann bekommt von seiner Frau die Leviten   gelesen, weil   er
              a   man gets   by his   wife the Leviticus read   because he
              beim Fernsehquiz versagte.[121]
              by.the TV.quiz   failed

              'A man is read the riot act by his wife because he did not do well in the
              TV quiz.'

          d. Gerhard Schröders Doppelgänger mußte sich in Abwesenheit des
              Gerhard Schröder's Doppelganger had.to self in absence   of.the
              Originals die Leviten   lesen lassen.[122]
              original the Leviticus read let

              'Gerhard Schröder's Doppelganger had to have the riot act read to him
              as the original was not there.'

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[119]Uli Krieger, 2000

[120]Mannheimer Morgen, 02.05.1998, Lokales; Kommentar Debattierclub

[121]Mannheimer Morgen, 09.10.1989, Feuilleton; Witzig und skurril, mit Charme und Hintersinn

[122]Mannheimer Morgen, 05.03.1999, Politik; „Derblecken" auf dem Nockherberg

(7.110) a. die Hunderttausende, die wochenlang auf die Straße gegangen sind
the hundred.thousands who weeks.long on the road went are

und einem verrotteten Regime den Garaus gemacht haben[123]
and a rotten regime the stop made have

'The hundred thousands who went on the streets for weeks on end to
put a stop to a decayed regime.'

b. in Heidelberg wird „parasitären Elementen" unter den Professoren
in Heidelberg get parasitic elements under the professors

der Garaus gemacht[124]
the stop made

'In Heidelberg "parasitic elements" among the professors are done
away with'

The examples in (7.109) and (7.110) show that idiomatic expressions can appear in
various forms of passive. (7.109b) is an agentive passive, (7.109c) is a dative passive,
and (7.109d) is a permissive *lassen* passive.

For some of the idioms in (7.109) and (7.110) „compositional" analyses have been
suggested. Fischer and Keil (1996) assume a special interpretation for *Bären* and for
aufbinden, when both constituents stand in a head complement relation as in (7.111).

(7.111) Sie bindet ihm einen (unglaublichen / großen) Bären auf.
she ties him a unbelievable big bear PART (on)

'She tells him a unbelievably tall tale.'

In Fischer and Keil's approach, the NP *einen Bären* introduces a discourse referent
which makes it possible to explain why the adjective *unglaublich* may modify *Bär* and
why a sentence like (7.111) can be continued with (7.112).

(7.112) und er hat ihr die Lügengeschichte geglaubt.
and he has her the tall.tale believed

'and he believed the tall tale.'

The semantics of idioms where no involved phrase can be modified or referred to, like
for instance *Garaus machen*, might be represented at the head.

Particle verbs can be analyzed parallel to idioms: The particle is a syntactic depen-
dent of the base verb. The form of the particle is selected by the base verb and the
semantics that is represented in the base verb corresponds to the meaning of the com-
plete particle verb. But there might be cases that have to be analyzed along the lines
suggested by Fischer and Keil (1996) for the *Bären aufbinden* examples.

7.1.9 Productive Particle Verb Combinations and Argument Structure

There are five patterns of particle verb combinations of the form P + V (Stiebels and
Wunderlich, 1994, p. 930):

- P is a one-place predicate that can function as a verbal modifier,

- P is a one-place predicate that can saturate a predicative argument position of V,

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[123]Bundestagsprotokolle (2. Hj. 1990), Sitzung Nr. 219, Bd. 154, p. 17359–17375, 90.08.08, p. 17364

[124]Mannheimer Morgen, 28.06.1999, Sport; Schrauben allein genügen nicht

- P is a two-place predicate that can saturate an argument position of V, given that the internal argument of P may remain implicit,

- P is a two-place predicate that can undergo functional composition with V so that the internal argument of P becomes the direct object of the complex verb, or

- P is a functor of V.

The first two options are realized by the so-called particle verbs in the broader sense with particles like *zusammen* ('together'), *hinauf* ('up'), or *herein* ('in'). The third option is possible for some prepositions *auf* ('up'), *vor* ('before'), but excluded for others (*für* ('for'), *neben* ('beside', 'next to')).[125]

(7.113) a.   Sie springt auf.
              she jumps up

         b.   Sie setzt den Hut auf.
              she puts the hat on

         c.   * Sie springt neben.
              she jumps beside

         d.   * Sie setzt den Hut neben.
              she puts the hat beside

Option four is not very frequent and rather restricted. The instances of this pattern are listed.

(7.114) a.   Sie malt   die Figur an.
              she paints the statue PART

         b.   Sie gießt den Tee auf.
              she pours the tea up

              'She pours water on the tea.'

         c.   # Sie malt   die Figur auf.
              she paints the statue up

The pattern (7.114b) does not extend to cases like (7.114c). (7.114c) cannot be understood as *She paints the figure*.

   Examples like those in (7.115) basically also follow pattern four; only the semantics is different from that of the preposition.

(7.115) a.   Der Junge grinste.
              the boy   grinned

         b.   * Der Junge grinste den Lehrer.
              the boy   grinned the teacher

         c.   Der Junge grinste den Lehrer an.
              the boy   grinned the teacher PART (at)

              'The boy grinned at the teacher.'

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[125]Particle verbs like *nebenordnen* ('coordinate') and *nebenschalten* ('connect in parallel') do exist, although this is frequently ignored. The argument of *neben* has to be realized, the particle verbs with *neben* are instances of the fourth option.

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The particle expresses that the action denoted by the base verb is directed towards some person or object (Stiebels and Wunderlich, 1994, p. 956). The complement that represents the entity to which the action is directed is introduced by the particle.

An example for the fifth option is *an* in productive cases like *anlesen* ('read partly') and *anschmoren* ('braise something lightly'). The particle functions as an Aktionsart marker contributing the interpretation that the action denoted by the base verb is not fully completed but only carried out to a certain degree. This form of *an* can be combined with transitive verbs only, the arguments of the base verb are inherited.

(7.116) a. Sie las   den Aufsatz an.
             she read the paper   PART

         'She read some of the paper.'

         b. Sie   diskutierten das Problem an.
             they discussed   the problem PART

         'They discussed the problem up to a certain degree.'

Some authors took the change in argument structure in examples like (7.115c) as evidence for a morphological status of particle verbs (see for instance Booij (2000)), but this argumentation should also apply to resultative constructions and one would not want to analyze resultative constructions with PP predicates as morphological objects. See also (McIntyre, To Appear, p. 30) on this point. If one does not allow the change of argument structure in syntax, it follows that particle verb formation, like resultative predicate formation, should be licensed in the lexicon, but it does not follow that the combination of particle and base verb has to happen in the morphology component.

7.1.10   Permutation in the *Mittelfeld*

Arguments that are introduced by the particle can be permuted freely with the arguments of the base verb:

(7.117) a. weil   niemand   ihn   anlacht.
             because nobody-NOM him-ACC PART (at).laughs

         'because nobody smiles at him.'

         b. weil   ihn   niemand   anlacht.
             because him-ACC nobody-NOM PART (at).laughs

This is parallel to the complex constructions with adjectives (Chapter 3.1.4.2), coherent constructions with verbs (Chapters 3.1.5.2, 3.1.6.2, 3.1.7.2, and 3.1.8.2), subject and object predicative constructions (Chapter 3.1.9.2), and resultative constructions (Chapter 6.1.10).

7.1.11   Inflection, Derivation, and the Bracketing Paradox

One general idea about morphology is that it is a separate grammar module. In the following section I will show that some resultative predicates and object predicative constructions take part in morphological processes. This will constitute further evidence for the lexical introduction of the resultative predicates (Chapter 6.2) and the lexical representation of the predicative complements in object predicative constructions (Chapter 3.2.8).

The fact that inflectional affixes always attach to the verbal stem leads to the bracketing paradox, which will be discussed in the next section. In section 7.1.11.2, I will

discuss nominalizations and adjective derivation, which are also problematic because of various bracketing paradoxes. I will suggest a solution to these paradoxes that assumes that inflectional and derivational prefixes and suffixes always attach to a form of a stem that contains the information about possible resultative predicates or particles already, but without containing a phonological realization of the resultative predicate or the particle. With such an approach no rebracketing mechanisms are necessary.

7.1.11.1 Inflection

Both particle and prefix verbs always have the same inflection class as their base verb. This means that the inflectional suffix has to have access to the morphological features of the stem. This is accounted for easily with a structure like the one in figure 7.1a. Bierwisch (1987, p. 163) argues that the meaning of the verb *aufhören* ('end') is not

Figure 7.1: Alternative Structures for *aufhören*

transparent with regard to the combination of *auf* and *hör-*, but combinations of the form *auf-hör-t-est* and *auf-ge-hör-t* are transparent with regard to the combination of the meaning *end* and the conceptual content of the inflectional affixes. He claims that one needs structures like the one in figure 7.1b because of this, and hence he has a structural paradox. Bierwisch (1987, p. 165) and Stiebels (1996, p. 46) suggest rebracketing mechanisms to derive the structure in figure 7.1a from the one in figure 7.1b. However, as I have shown in section 7.1.8, the paradox is not a real one, since the situation with idioms is similar as far as compositionality is concerned.[126] It is not justified that a head that is part of an idiomatic expression is combined with all parts of the idiom before it is inflected. So one can stick to the structure in figure 7.1a; assuming that the semantics of non-transparent particle verbs is constructed parallel to the semantics of idioms.

7.1.11.2 Derivation

Similar bracketing paradoxes seem to arise in derivational morphology. Some derivational affixes are sensitive to the argument structure of the head they combine with and some others are sensitive to the semantics of the heads they combine with, some affixes are sensitive for both kinds of properties. In sections 7.1.11.2.1 and 7.1.11.2.2, I will examine various forms of nominalization and adjective formation.

Many researchers have claimed that constructions that are clearly syntactic cannot take part in morphological processes. So for instance, Neeleman and Weermann (1993, p. 441, p. 471) claim that resultative constructions in Dutch cannot be input to

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[126]Bierwisch gives examples from compounding that suggest that rebracketing may be needed and, of course, there are famous examples of a similar kind from English; but for the cases at hand a rebracketing mechanism is not necessary.

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nominalization. Neeleman and Weerman state that particle verbs are morphologically active while resultatives are not. They capture this proposed difference by assuming that particle verbs are part of morphology while resultative constructions are analyzed in syntax. Zeller (1999, p. 178) claims that productive resultative constructions do not enter derivational processes. He gives examples from *-er*-nominalizations, *-ung*-nominalizations, and *-bar*-derivations. As I will show in the following, many of the nominalizations are also possible with resultative predicate constructions, with object predicative constructions, and with *machen* + predicate constructions.

7.1.11.2.1 Nominalizations

When particle verbs are nominalized, the particle has to appear to the left of the verb.

(7.118) a. das Auffinden   der   Wörter
             the PART.finding of.the words
             'the finding of the words'

         b. das Nachschlagen der   Wörter
             the PART.beating of.the words
             'the looking up of the words'

         c. das Rumgeschreie
             the PART.screaming

This is the order that particle and verb have in verb final sentences.

Particle verbs participate in the following suffix derivations: *-e*, *-er*, *-ling*, *-sel*, *-ung* and the combined derivation *Ge- -e*, as shown in (7.119) (see (Lüdeling, 1998, p. 101)).

(7.119) *-e*:   Abnahme ('removal') ← abnehmen ('to take off, to remove')
                  Vorhersage ('prediction') ← vorhersehen ('to predict')

         -er: Ansager ('announcer') ← ansagen ('to announce')
                  Abnehmer ('buyer, client') ← ('to take off', 'to buy')

         -ling: Ankömmling ('newcomer') ← ankommen ('to arrive')
                  Eindringling ('intruder') ← eindringen ('to enter', 'to intrude')

         -sel: Anhängsel ('appendage') ← anhängen ('to hang on', 'to append')
                  Mitbringsel ('little present') ← mitbringen ('to bring along')

         -ung: Abschreibung ('writing off') ← abschreiben ('to write off')
                  Aufladung ('charge') ← aufladen ('to load', 'to charge')

         Ge- -e: Herumgerede ('constant or repeated talking', 'babble') ←
                  herumreden ('to talk/chat away', 'to babble')

-e, *-ling*, and *-sel* are only weakly productive or not productive at all. In the following, I will concentrate on the productive derivations with *-er*, *-ung*, and *Ge- -e*.

7.1.11.2.1.1 *-ung*-nominalizations

Next to the suffix *-er*, the suffix *-ung* is the most productive suffix in nominalization (Fleischer and Barz, 1995, p. 172). The nouns that are derived with *-ung* are feminine. In comparison to the nominalization of infinitival forms that will be discussed in section 7.1.11.2.1.4, *-ung*-nominalizations allow plural formation and therefore can describe several single events (*Ladungen* ('loads'), *Schwankungen*,('fluctuations')). The

nominalized infinitive can describe one continuum only (Fleischer and Barz, 1995, p. 175).

-ung-nominalizations can be formed with intransitive (7.120) and with transitive verbs (7.121).

(7.120) a. Das Flugzeug landet.
             the plane   lands
             'The plane is landing.'

         b. während der Landung des   Flugzeugs
             during   the landing   of.the plane

(7.121) a. Der Lehrer behandelte dieses Problem ausführlich.
             the teacher dealt.with this   problem detailed
             'The teacher dealt with this problem in detail.'

         b. die ausführliche Behandlung des   Problems durch den Lehrer
             the detailed   treatment of.the problem by   the teacher

The examples in (7.122) are *-ung*-nominalizations with productive particle verb combinations.

(7.122) a. Nach einem Bericht einer Tageszeitung   hatten Anwohner die
             after a   report of.a daily.newspaper had   inhabitants the
             Polizei alarmiert, als sie   die rosarote *Einfärbung* des   Panzers
             police alarmed   as they the pink.red coloring   of.the tank
             bemerkten.[127]
             noticed
             'According to a report from a daily newspaper, the locals had alarmed
             the police when they noticed that the tank had been painted pink-
             panther pink.'

         b. Schwedens Regierung   hat gestern   die bereits begonnene
             Sweden's   government has yesterday the already begun
             Einbetonierung des   „Estonia"-Wracks in der Ostsee   gestoppt.[128]
             in.cementing   of.the Estonia.wreck   in the East.sea stopped
             'Yesterday the Swedish government put a stop to the cementing-in of
             the Estonia wreck that was already underway in the Baltic Sea.'

         c. Daß die männlichen Gäste den Einmarsch der   leicht geschürzten
             that the male   guests the invasion   of.the lightly apron-clad
             Frauen lautstark begleiten   und die Einladung des   Moderators
             women loudly   accompanied and the invitation of.the presenter
             zur *Einölung* der   catchenden   Schwestern Inge
             to.the in.oiling of.the catch-as-catch-can-wrestling sisters   Inge
             und Jeanie freudig annehmen würden, war schließlich klar.[129]
             and Jeanie joyfully accept   would was after.all   clear
             'After all, it was obvious that the male guests would loudly applaud the
             entrance of the lightly-clad women and be more than happy to accept
             the presenter's invitation to rub the catch-as-catch-can-wrestling sisters
             Inge and Jeanie with oil.'

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[127]Mannheimer Morgen, 30.04.1991, Politik; Rosaroter Sowjet-Panzer erhitzt die Gemüter

[128]taz, 20.06.1996, p. 2, DPA

[129]taz, berlin, 02.12.1994, p. 28, Matsch-Kultur in Hellersdorf

d. daß eine *Einsargung*   in Leichenhüllen keine Regelung   ist, die
that a   in.coffin.putting in corpse.covers no   arrangement is   that
auf Aids-Tote anzuwenden sei.[130]
on Aids.dead applicable   is

'that aids victims should not be sealed-up before being put into their coffins.'

e. die spiegelverkehrte *Einrahmung* von zwei Barks-Zeichnungen[131]
the mirror.reversed   framing   of two Barks.drawings

'the reversed framing of two Barks drawings'

f. Wieland hielt der Polizei vor,   durch   die *Einkesselung* eines aus
Wieland held the police before through the surrounding of.a   from
Kreuzberg kommenden Demonstrationszuges   auf der
Kreuzberg coming   demonstration.procession on the
Schönhauser Allee   die   bis dahin friedliche Stimmung angeheizt
Schönhauser Avenue which to there peaceful atmosphere heated
zu haben.[132]
to have

'Wieland accused the police of having provoked demonstrators com-
ing from Kreuzberg by surrounding them on Schönhauser Allee; the
atmosphere had been peaceful up until them.'

g. wo   die „*Einkreisung*" des   Kaiserreiches durch   andere
where the surrounding   of.the Kaiser.Reich through other
europäische Großmächte vor   1914 zur   eigentlichen Ursache
European   big.powers before 1914 to.the actual   cause
des   Ersten Weltkrieges erklärt   wird.[133]
of.the first   world.war   declared gets

'Where the fact that various other major European powers surrounded
the Empire before 1914 is declared to be the actual cause of WW1.'

(7.123) a. Nach Ansicht der   Wissenschaftler wird die Zahl   der
after opinion of.the scientists   gets the number of.the
Lungenkrankheiten durch   die *Einatmung* von Tonerpartikeln in den
lung.illnesses   through the inhalation of   toner.particles in the
nächsten Jahren steigen.[134]
next   years   rise

'According to scientists, the instances of lung disease caused by inhala-
tion of toner particles will rise in coming years.'

b. Bei bewußtseinsgetrübten Personen (Junkies) bestehe die Gefahr
with consciousness.clouded persons   junkies   exists   the danger
der *Einatmung* von Erbrochenem in die Lunge, [. . .][135]
of inhalation of   vomit   in the lung

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[130]taz, hamburg, 04.09.1993, p. 30
[131]taz, hamburg, 16.02.1995, p. 24
[132]taz, berlin, 03.05.1996, p. 21
[133]taz, 02.01.1995, p. 10
[134]taz, 10.09.1996, p. 20, AFP

'People with reduced consciousness (junkies) run the risk of breathing vomit into their lungs.'

c. die in dem Entwurf   vorgesehene *Einmeißelung* von 4,2 Millionen
   the in the   blueprint planned   in.carving   of   4.2 million
   Namen jüdischer NS-Opfer   sei schwer   ausführbar, [. . .][136]
   names of.Jewish NS.victims be difficult to.execute

   'In the blueprint it was planned to carve 4.2 million Jewish NS victims'
   names into the stone, but in practice this is difficult to execute.'

d. Außerdem   ist in diversen Landeshochschulgesetzen die
   apart.from.that is in diverse   regional.university.laws   the
   Zumessung   der   universitären Haushalte inzwischen an die
   apportioning of.the university   economies meanwhile at the
   Einwerbung von Drittmitteln gekoppelt: [. . .][137]
   acquisition   of   third.funds coupled

   'In addition, various regional university laws meanwhile couple the apportioning of university funds to the acquisition of financing from third parties.'

The examples in (7.122) are derivations of the particle verbs *einfärben* ('to dye'), *einbetonieren* ('to cement-in'), *einölen* ('to rub with oil'), *einsargen* ('to put in a coffin'), *einrahmen* ('to frame'), *einkesseln* ('to surround'), *einkreisen* ('to circle') that were derived from the nominal bases *Farbe* ('color'), *Beton* ('cement'), *Öl* ('oil'), *Sarg* ('coffin'), *Rahmen* ('frame'), *Kessel* ('encircled area'), and *Kreis* ('circle'), respectively. This pattern of particle verb formation is productive (Stiebels, 1996, p. 230). The examples in (7.123) show some other *-ung*-nominalizations that are derived from the particle verb combinations *einatmen* ('to breathe in'), *einmeißeln* ('to chisel in'), and *einwerben* ('to advertise in') which also belong to a productive pattern. The particle *ein-* corresponds to the preposition *in* and marks the direction of the action that is expressed by the base verb.

The example in (7.123b) is particularly interesting since it shows that *in*-PPs that may further specify the particle *ein-* in particle verb constructions also can appear in the nominalization.

The data in (7.122) and (7.123) clearly show that Lüdeling's claim (1998, p. 107) that *-ung*-nominalizations are only possibile with listed particle verb combinations is wrong.[138] Lüdeling tries to prove her claim by comparing the nominalizations *Groß/ Kleinschreibung* ('to spell/write a word with a capital/a small letter') with * *Schwarzschreibung* ('to write in black ink').

(7.124)   a.   Der Prinz schreibt das Wort groß / klein.
               the prince writes   the word large small

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[135]taz, bremen, 22.05.1995, p. 21

[136]taz, 07.07.1995, p. 5 AFP

[137]taz, 13.02.1999, p. 16

[138]Lüdeling (1998, p. 88) defines listedness in the following way: A simple or complex linguistic expression is listed, iff all terminal nodes are associated with phonological information.
   This definition means that the lexicon may consist of trees. Such a definition only makes sense for grammar models that assume operations on trees, since without such operations it cannot be explained why parts of a listed expression can be extracted. See chapter 8.3 for a discussion of such problems in Construction Grammar approaches. So instead of referring to the notion of tree, one should define listedness in a more theory neutral way: A complex linguistic expression is listed, iff the phonological form of its parts is specified.

b. Bei der Rechtschreibreform werde ich für konsequente
    at   the orthography.reform will   I   for consequent

    Großschreibung / Kleinschreibung von Nomina stimmen.
    large.writing   small.writing   of nouns   vote

    'In the orthography reform I will vote for the consequent capitaliza-
    tion / writing in lower case of nominals.'

c. § Kleinschreibung ist nötig,   damit mehr auf die Seite paßt.
    small.writing   is necessary COMP more at the page fits

    Intended: 'It is necessary to write small so that more will fit on the
    page.'

(7.125) a. Der Prinz schreibt das Wort schwarz.
             the prince writes   the word black

         b. * Schwarzschreibung
             black.writing

The problem with these examples is that they show nothing about particle verb combi-
nations in *-ung*-nominalizations, since *groß*, *klein*, *schwarz* are normal adverbs and not
particles. Lüdeling examines what she terms preverb verb combinations (PVC), pre-
verbs including adverbs adjacent to the verb. However, the cases with normal adverbs
are not interesting for the present study. The contrast between (7.124) and (7.125)
can be explained by semantic properties of *-ung*-nominalizations: *-ung*-nominaliza-
tions refer to a single event and in order to get more text on a page one would have to
do a several *Kleinschreibungen*. Instead of *Kleinschreibung* the nominalization of the
infinitive *Kleinschreiben* has to be used. The same is true for *Schwarzschreiben*.

(7.126) a. Das Kleinschreiben ist nötig,   damit mehr auf die Seite paßt.
             the small.writing   is necessary COMP more on the page fits

             'It is necessary to write small so that more fits one the page.'

         b. Das Schwarzschreiben ist neuerdings wieder in Mode   gekommen.
             the black.writing   is nowadays again   in fashion come

             'Writing in black is fashionable again.'

Paul (1920, p. 74) notes that many *-ung*-nominalizations are blocked if simpler forms
are available and that they are sometimes blocked by nominalized infinitives. I think
that is the case for examples like (7.126).

The examples in (7.127) are *-ung*-nominalizations of resultative constructions.

(7.127) a. Die EU will   zwar wegen   der *Leerfischung* der   Nordsee die
             the EU wants   because.of the empty.fishing of.the North.Sea the

             Speisefischflotten um 40 Prozent reduzieren, [...][139]
             edible.fish.fleets   by 40 percent reduce

             'Although the EU wants to reduce the fleets fishing for edible fish by
             40 % because of over-fishing in the North Sea, ...'

         b. Von „*Kaputterschließung*" könne nicht die Rede   sein.[140]
             of   broken.development   can   not the speech be

             'Over-development (to the point of destruction) is out of the question.'

---

[139]taz, 20.06.1996, p. 6
[140]taz, 02.09.1987, p. 8

c. Der *Kaputtmilitarisierung* droht   jetzt die *Kaputtindustrialisierung*
the broken.militarization threatens now the broken.industrialization
zu folgen.[141]
to follow

'(Destructive) over-militarization is now likely to be followed by (destructive) over-industrialization.'

d. Gibt es denn Leute, die arbeitslos sind, denen die Ausbeutung stinkt, die tägliche Unterdrückung, Umweltvergiftung und *Kaputtsanierung* der Stadt, die dann kein Recht haben, politisch zu fühlen?[142]

'Are there people who are unemployed, who are sick of exploitation, everyday suppression, environmental contamination and the destructive over-renovation of the town, who then won't have the right to political opinions?'

e. Erforderlich ist ein „Pfad der Vernunft", ein Konzept des „solidarischen Schrumpfens" statt der „*Kaputtsanierung* vieler Standorte".[143]

'What is required is a sensible approach, a reduction plan that everyone can agree to, instead of the destructive over-renovation of many places.'

f. Nachdem durch die *Kaputtschrumpfung* der DDR-Industrie die Erwerbsquote ostdeutscher Frauen auf das Niveau in Westdeutschland rutschte, titelte die ostdeutsche Wochenpost zum Frauentag 1992 mit dem Slogan: Wer sich nicht wehrt, kommt an den Herd.[144]

'After the employment rate of East German women had slipped down to the West German level due to the devastation of the GDR industry, the East German Wochenpost celebrated Women's Day 1992 with the slogan: "You'd better scream, or you'll have to clean" on the front page.'

g. Wenn man Roberts besetzt, handelt man sich   also auch die
when one Roberts occupies handles one oneself so   also the
entsprechende Handlung ein, nämlich die scheinbare
corresponding handling   in   namely the apparent
Gesundschrumpfung des   Stars.[145]
healthy.shrinking   of.the star
'When Roberts is chosen she inevitably brings with her the corresponding plot, namely that the star is, apparently, shrunk back to health.'

h. Der DFB beschließt *Liga-Gesundschrumpfung* und bestraft
the DFB decides   division-healthy-shrinking and punishes
abwegige Schiris mit Entzug   der   Trimmgeräte.[146]
wayward referees with withdrawal of.the exercise.apparatus
'The DFB decides to shrink professional football to health and punishes wayward referees by taking away their training apparatus.'

i. So blieben die AusländerInnen   im   Bewußtsein   der
so stayed   the male.and.female.foreigners in.the consciousness of.the

[141]taz, 19.04.1990, p. 5
[142]Leserbrief, taz berlin, 13.05.1989, p. 40
[143]taz, 08.01.1988 p. 8
[144]taz, 26.10.1995, p. 13
[145]taz, 04.06.2000, p. 14
[146]taz, 27.04.1992, p. 17

deutschen Bevölkerung auch in Thüringen das, was sie gleich nach
German public also in Thuringia that what they soon after
der Wende waren: „Manövriermasse für die
the reunification were: maneuver .mass for
Gesundschrumpfung der ehemals staatlichen
the healthy.shrinking of.the former
Betriebe" (Möller).[147]
state.owned businesses

'So in Thuringia as well as the rest of Germany foreigners remained in
the public consciousness what they had been soon after the reunifica-
tion: Maneuvering mass to shrink the former state-owned businesses to
health.'

j. Neben einer »*Gesundschrumpfung*« von 4.800 Mitarbeitern auf ca.
next.to a healthy.shrinking of 4,800 employees on circa
1.000 stand und steht eine Privatisierung des
1,000 stood and stands the privatization of.the
Lichtquellenbetriebs durch die Treuhand an.[148]
light.source.company through the trust PART

'In addition to measures to shrink the light source company to health
via downsizing from 4,800 employees to 1,000, the trust planned and
still plans privatisation.'

k. Mit dem Vergleichsantrag von PanAm, einer der ältesten und
with the comparison.application of PanAm one.of the oldest and
renommiertesten Fluggesellschaften der USA, ist die
most.renowned flight.companies of.the USA is the
Gesundschrumpfung der amerikanischen Luftfahrtindustrie in eine
healthy.shrinking of.the American air.traffic.industry in a
neue Phase getreten.[149]
new phase stepped

'PanAm, one of the oldest and most renowned flight companies in the
US, has brought about a new phase in the procedure to shrink the Amer-
ican air traffic industry to health.'

Lüdeling (1998, p. 107) observes that *-ung*-nominalizations are not possible with all
resultatives and claims that it is only possible for listed, i.e., nontransparent combina-
tions.[150] This would imply that all the resultative constructions that were input to the
nominalizations in (7.127) have to be listed, a conclusion I am not ready to accept.[151]
On page 107 she argues in a footnote that nouns like *Rotfärbung* and *Blaufärbung* are
not counterexamples to her claim since these are compounds from the result reading of
Färbung ('coloring') and *rot* ('red'). She claims that a process reading is not possible
and provides the example in (7.128).

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[147]taz, 29.05.1991, p. 5

[148]taz, berlin, 12.03.1991, p. 25

[149]taz, 10.01.1991, p. 11

[150]See also (Zeller, 1999, p. 179), who also adopts this view.

[151]In her talk in Leipzig, Anke Lüdeling suggested two causes for listedness: entities can be listed because
of their idiosyncrasy or because of their high frequency. So this means that if the resultative construction
wach küssen ('to kiss awake') is used in some context very frequently, this combination gets lexicalized
and the formation of * *Wachküssung* becomes possible.

(7.128)   * Die Rotfärbung von Dornröschens   Haaren dauerte zwei Stunden.
           the red.coloring of   Sleeping Beauty's hair   took   two hours

           Intended: 'Dyeing Sleeping Beauty's hair red took two hours.'

I think that the oddity of (7.128) is due to the context in which the compound version is indeed preferred. The *-ung*-nominalizations in (7.129) are all derived from resultatives:

(7.129)   a.   Zur *Gelbfärbung* des   Dotters stehen fünfzehn verschiedene
              to.the yellow.dyeing of.the yolk   stand fifteen   different

              Mittel als Futterzusatz bereit.[152]
              agents as feed.addition ready

              'There are fifteen different agents available that can be added to the
              feed to make the yolks more yellow.'

          b.   Zur *Gelbfärbung* von Weingummi und anderen Süßwaren   ist
              to.the yellow.dyeing of   wine.gums   and other   confectionery is

              Tartrazin der am meisten eingesetzte Farbstoff.[153]
              tartrazine the at most   employed   coloring

              'Tartrazine is the coloring that is most often used to make wine gums
              and other sweets yellow.'

          c.   Tomaten waren gestern die bevorzugten Wurfgeschosse von schät-
              zungsweise 350 Studierenden, die vor der CDU-Zentrale am Wall ge-
              gen die geplante Neufassung des Bremischen Hochschulgesetzes de-
              monstrierten (die Tomaten dürften jedoch auch als Antwort auf die Un-
              terschriftenaktion zur doppelten Staatsbürgerschaft gewertet werden).

              Die Polizei nahm die *Rotfärbung*   der   Fassade hin.[154]
              the police took the red.colouring of.the facade PART (there)

              'Tomatoes were the favored missile of approximately 350 students who
              yesterday demonstrated against the planned revision of Bremen's Uni-
              versity law at the Wall in front of the CDU headquarters (however, the
              tomatoes were probably also meant as an answer to the petition cam-
              paign against dual nationality). The police did not intervene while the
              façade was being colored red.'

          d.   Der Großvater hatte das Vermögen der   Familie mit dem
              the grandfather had   the fortune   of.the family with the

              Waid-Handel gemacht, einer einst nur   in Thüringen vorkommenden
              willow.trade made   a   once only in Thuringia occurring

              Pflanze (isatis tinctoria) zur   speziellen *Blaufärbung* von Stoffen.[155]
              plant   (isatis tinctoria) to.the special   blue.dyeing of fabrics

              'The grandfather had made the family's fortune in the willow-trade;
              this plant (isatis tinctoria) used to be found only in Thuringia, and was
              used as a blue fabric dye.'

The fact that * *Rotstreichung* and * *Wachküssung* cannot be derived can probably be explained semantically in a similar way to the explanation that has been provided for * *Schwarzschreibung*.

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[152]taz, 14.08.1995, p. 3
[153]Mannheimer Morgen, 27.05.1988, p. 12
[154]taz, bremen, 22.01.1999, p. 21
[155]taz, hamburg, 15.03.1995, p. 19

The examples in (7.130) are nominalizations of a the causative *machen* + predicate.

(7.130) a. dem zuvor ergangenen Beschluß des Verwaltungsgerichts, der die
the before issued decision of.the administrative.court that the
Entfernung oder anderweitige *Unkenntlichmachung* des
removal or otherwise unrecognizable.making of.the
Wandtransparents für unzulässig erklärt hatte[156]
wall.neon.sign for inadmissible declared had

'The previously issued decision of the administrative court that had declared the removal of the wall-mounted banner or any attempts to make it unrecognizable as inadmissible.'

b. Dieser möchte gerne Parteivize werden, und also geht die Frage
this.one would happily party.vice get and so goes the question
an Angela Merkel, was sie davon hält: „Eine *Deutlichmachung*,
to Angela Merkel what she there.of holds a clear.making
dass er sich einbringen will."[157]
that he self involve wants

'He would like to become the party's vice president, so the question to Angela Merkel is: what does she think of it: "A demonstration that he wants to get involved."'

c. Hat sich die Bundesregierung doch davor gedrückt,
has self the bundes.government though there.from pressed
ausdrücklich auf die *Geltendmachung* von Schadensersatzansprüchen
explicitly on the valid.making of compensation.entitlements
wegen der Vertreibung der Sudetendeutschen zu verzichten.[158]
because the expulsion of.the Sudeten.Germans to do.without

'The German government actually avoided explicitly reclining that the entitilement to compensation for the expulsion of the Sudeneten Germans should come into effect.'

d. Die *Geltendmachung* des gesetzlichen Mindesturlaubs verstoße
the valid.making of.the lawful least.holiday contravene
nicht gegen den Grundsatz von Treu und Glauben, heißt es in der
not against the principle of faith and belief calls it in the
Urteilsbegründung.[159]
opinion

'The opinion states that putting in force a minimum holiday law does not contravene the principle of good faith.'

Other *-ung*-derivations from *machen* + predicate that I found in the COSMAS corpus are: *Bewußtmachung* ('to make s.b. aware of s.t.'), *Breitmachung* ('to spread (oneself) out'), *Dienstbarmachung* ('to make s.o. servile'), *Freimachung* ('to put a stamp on s.t.', 'to free s.o. or s.t.'), *Fruchtbarmachung* ('to make fertile'), *Glaubhaftmachung* ('to make believable'), *Gleichmachung* ('to make equal'), *Haltbarmachung* ('to conserve'), *Irremachung* ('to drive insane'), *Kenntlichmachung* ('to make recognizable'), *Konsequentmachung* ('to make consequent'), *Lächerlichmachung* ('to

[156]taz, berlin, 21.06.1997, p. 26, *Landowsky ohne Brett vorm Kopf*
[157]Quoted from Angela Merkel, taz, 03.20.2000 p. 6
[158]taz, 11.12.1996, p. 1
[159]taz, 11.07.1998, p. 6

ridicule'), *Nutzbarmachung* ('to make useful/usable'), *Öffentlichmachung* ('to make publicly known), *Plausibelmachung* ('to make plausible'), *Rückgängigmachung* ('to reverse'), *Schiffbarmachung* ('to make navigable'), *Schmackhaftmachung* ('to make s.t. tempting), *Seßhaftmachung* ('to make s.o. sedentary'), *Sichtbarmachung* ('to make visible'), *Störfreimachung* ('to free from interference'), *Unfruchtbarmachung* ('to sterilize'), *Unkenntlichmachung* ('to deface' / 'to make unrecognizable'), *Unschädlichmachung* ('to make harmless'), *Urbarmachung* ('to clear land so that it can be cultivated'), *Verächtlichmachung* ('to cause belittle s.t. / s.o.'), *Verständlichmachung* ('to make comprehensible'), *Wehrhaftmachung* ('to make s.o. or s.t. be able to defend itself'), *Wiederbewohnbarmachung* ('to make s.t. inhabitable again'), *Wiedernutzbarmachung* ('to make reusable'), and *Wiedersichtbarmachung* ('to make visible again'). *Bekanntmachung* ('to make known'), *Mobilmachung* ('to mobilize'), and *Wiedergutmachung* ('to make amends') are lexicalized forms.

Fleischer and Barz (1995, p. 105) note that adjectives that are prefixed with *erz-*, *miß-*, *un-*, and *ur-* are not active as first part in nominal compounds. According to them, forms like *Unkenntlichmachung* ('to make unrecognizable' / 'to deface') are derivations of verbal phrases. The *wieder- -machung* examples are interesting since they confirm this claim: They are instances of phrases in *-ung*-derivations.

(7.131) a. Zweite Priorität hat die *Wiedernutzbarmachung* der
             second priority has the again.useful.making   of.the
             Wertstoffe.[160]
             reusable.materials
             'Recycling the reusable materials is a second priority.'

         b. Für die *Wiedernutzbarmachung* brachliegender Industrieflächen
             for the again.useful.making   fallow   industry.areas
             stehen 500 Millionen Mark aus   dem Sonderprogramm für die
             stand 500 million   DM from the special.program   for the
             Montanregion sowie   Mittel aus   dem Strukturhilfegesetz
             Montan.region as.well.as funds from the structure.assistance.law
             (10 Jahre lang jeweils   2,45 Milliarden Mark) zur Verfügung.[161]
             (10 years long each.time 2.45 billion   DM) to disposal
             'The special program for the Montan region provides 500 million DM
             for the redevelopment of industrial wasteland, in addition to funds from
             the building aid law (2.45 billion DM every year for ten years).'

         c. In erster Linie steckt in der mit Hilfe der   Digitaltechnik
             in first   line sticks in the with help of.the digital.technology
             vorgenommenen *Wiedersichtbarmachung* früherer Bauten   jedoch
             carried.out   revisible.making   earlier buildings however
             viel wissenschaftliche Arbeit.[162]
             much scientific   work
             'Primarily a lot of scientific research is behind the digital reconstruction
             of former edifices.'

         d. so sieht die SPD das Dresden der   Zukunft: – Unverzichtbarkeit
             so sees the SPD the Dresden of.the future   unavoidability

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[160]Mannheimer Morgen, 10.04.1991, Regionales; Gemeinsam über den Abfallberg?

[161]Mannheimer Morgen, 29.03.1989, Politik; Mit drei Modellen gegen die Altlasten

[162]Mannheimer Morgen, 02.06.1998, Lokales; Wiedersichtbarmachung der Klosterstadt

> der   historischen Stadtsilhoutte   – keinerlei Bebauung   der
> of.the historical   town.silhouette   no   development of.the
> Elb-Flußlandschaft im   Stadtgebiet – *Wiedersichtbarmachung*
> Elbe-river.landscape in.the town.area   revisible.making
> der   ursprünglichen Einbettung der   Stadt in die natürliche
> of.the original   imbedding of.the town in the natural
> Umgebung   – Sicherung, Aufbau und Pflege unserer
> environment   securing,   build-up and upkeep of.our
> kulturhistorischen Bausubstanz   und der historischen
> cultural.historical building.substance and the historical
> Wohnviertel.[163]
> living.areas
>
> 'This is how the SPD sees the Dresden of the future: – the histori-
> cal town silhouette will be essential, no development on the inner-city
> Elbe-bank region, the original harmony of the town within its natural
> environment will be recreated – safeguarding, restoration and upkeep
> of our cultural and historical architecture and residential areas.'

Fleischer and Barz (1995, p. 105) provide other phrasal *-ung*-derivation: *Farbgebung* ('to give s.t. color'), *Grundsteinlegung* ('to lay the foundation stone'), *Indienststellung* ('to hire'), *Zugrundelegung* ('to make s.t. the basis of s.t.'). *Selbstzurschaustellung* ('to behave like an exhibitionist') is a more complex example. Paul (1919, p. 215) uses the word *Nebeneinanderstellung* ('to compare', 'place side by side') in the main text. Paul (1920, p. 132) notes that such nominalizations cannot be analyzed as compounds of adjective and noun since nouns like * *Gebung*, * *Legung*, and * *Stellung* do not appear in isolation.

With the assumption that *-ung*-nominalization can apply to phrases, examples like (5.32)—repeated here as (7.132)—can also be explained.

(7.132) a. Sie   sind ein Hinweis   darauf, daß das Öl erhitzt und nicht kalt
              they are   an indication that.on that the oil heated and not   cold
              gepreßt wurde.[164]
              pressed got
              'They indicate that the oil was heated and not cold-pressed.'

         b. Denn die schonende *Kaltpressung* ist nur   für Speiseöle von
              for   the gentle   cold-pressing is only for edible.oils of
              Bedeutung.[165]
              meaning
              'For the gentle cold-pressing method is only for edible oils of signifi-
              cance .'

(7.132b) is a nominalization of a verb with a depictive predicate.

This section hence concludes that listedness cannot be the criterion for the possi-bility of *-ung*-nominalizations.

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[163] Wendekorpus, SPD. Dresden aktuell. Sozialdemokratische Wahlzeitung; Dresden; Mai 1990, p. 3, „Heit-erkeit & Leichtigkeit"
[164] taz berlin, 19.11.1994, p. 43
[165] taz berlin, 19.11.1994, p. 43

7.1.11.2.1.2   *-er*-Nominalizations

-er-nominalizations are very productive. The nouns derived by *-er* are masculine. They refer to a person who performs the action that is described by the verb or to an instrument that is used to perform the action (Paul, 1920, p. 60). Those nouns that refer to persons can be divided into three groups: persons who act professionally (*Dreher* ('lathe operator'), *Gießer* ('caster'), *Lehrer* ('teacher')), persons who act habitually (*Denker* ('thinker'), *Herumtreiber* ('vagabond', 'good-for-nothing'), *Raucher* ('smoker')), and persons who act occasionally (*Finder* ('finder'), *Gewinner* ('winner'), *Leser* ('reader'), *Verlierer* ('loser')) (Fleischer and Barz, 1995, Chapter 2.3.2.4). For further meanings of *-er*-nominalizations see also (Fleischer and Barz, 1995, Chapter 2.3.2.4).

The examples in (7.133) are *-er* nominalizations of the causative *machen* + predicate, those in (7.134) are *-er* nominalizations of resultative constructions, and those in (7.136) are *-er* nominalizations of verbs together with a depictive predicate.

(7.133) a. Solche Fundamentalisten waren auch die *Kaputtmacher* der „Weimarer Republik".[166]

'It was fundamentalists like this that were responsible for the decline of the Weimarer Republik.'

b. Der ambitionierte Klub aus dem Westend wurde vom Frontläufer zum *Kaputtmacher* des dänischen Klub-Fußballs.[167]

'The ambitious Westendclub degenerated from being a winner to becoming the destroyer of Danish club football.'

c. Fast, denn verziehen wird ihm das Lied „Wir" nicht, worin er 1968 den langhaarigen *Kaputtmachern* eine hochkochende Volksseele anbrutzelte, die zum NPD-Parteitag das Maggi in der Suppe war.[168]

'Almost, for he will never be forgiven for his song "Wir" (us); which sparked off an explosive national soul in the long-haired hooligans in 1968, and that, in turn, provided the icing for the NPD's (German nationalist party) party conference cake.'

d. Ein *Kaputtmacher* der   Vernunft ist [...] die Angst.[169]
a   breaker   of.the reason   is   the fear

'Fear consumes reason.'

e. Schlesinger schafft im   Seehafen Rostock als *Festmacher*.[170]
Schlesinger works in.the sea.harbor Rostock as moorer

'Schlesinger works in the moorage at Rostock harbor.'

f. Wer preist   das Wunder der   rostigen Kräne, die Anmut der
who praises the wonder of.the rusty   cranes the beauty of.the
Kähne und die Melancholie der   doppelt genähten *Festmacherseile*
barges and the melancholy of.the double sewn   mooring.ropes
für unterbodig und seitenwandig motorisierte Hafenschlepper?[171]
for under.floor and side-wall   motorized   harbor.tuggers

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[166]Leserbrief, taz, 09.10.1993, p. 18
[167]taz, 29.08.1992, p. 27
[168]taz, 01.06.1989, p. 21
[169]Die Zeit, 10.10.1986, p. 88
[170]taz, 16.08.1997, p. 12
[171]taz, bremen, 29.09.1995

'Who extols the wonder of the rusty cranes, the grace of the barges and the melancholy of the double-sewn mooring ropes for harbor tug boats that are motorized underneath and at the side?'

g. Weil   wir glaubten, der Nagel täte   es auch, weil   wir – ja
because we thought   the nail   would.do it too   because we   yes
– weil   wir frevelten und nicht zu ihm griffen. Zu ihm – dem
  because we frivolled and not   to him reached to him   the
großen Festmacher, dem Fischerdübel.[172]
great   tight.maker the Fischer.rawlplug

'because we thought the nail would be good enough, because we, yes, because we were frivolous and did not use it. It, the great attachment implement, the Fischer rawlplug.'

h. Leuten, die sich, kaum an der Macht, auf einen ihre Karrieren
people who self hardly at the power on a   their career
stützenden Krieg stürzen, und die jeden,   der ihnen dafür   nicht
propping   war   throw   and the everyone who them there.for not
claquiert, zum   idolenten Lumpen erklären, zu einem
applaud to.the   rogue   declares to a
Auschwitz-erst-möglich-Macher, zum   Kumpanen von Milošević,
auschwitz.first.possible.maker   to.the companen of   Milošević
soll   man das nicht vergessen.[173]
should one that not   forget

'People who, hardly having come into power, pounce on a career-enhancing war, declaring anyone who declines to applaud them for it to be a rogue, someone the likes of which made Auschwitz possible and a mate of Milošević, shouldn't be forgiven.'

The examples (7.133e) and (7.133f) show the meaning that was also discussed by Lüdeling (1998, p. 103): A *Festmacher* in a habour is somebody whose jobs it is to moor boats or a rope with which boats are moored. (7.133g) shows that *Festmacher* also can be used in other contexts, for instance referring to a rawlplug.

(7.134) a. Der *Totschläger* war Soldat[174]
the dead.beater was soldier

'The killer was a soldier.'

b. Man werde nicht zulassen, dass sich „ein Haufen von Totschlägern"
one would not allow   that self a heap of   killers
in aller Ruhe selbst feiert,   heißt es in einer Erklärung des
in all   peace self   celebrates calls it in a   declaration of.the
Büros für antimilitaristische Maßnahmen mit dem Titel „Soldaten
office for anti-militaristic   measures   with the title   soldiers
sind Kampfhunde!"[175]
are fighting.dogs

'It will not be allowed that a hoard of killers can be left in peace to indulge in a round of self adoration, according to a declaration from

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[172]Fritz Eckenga, taz, 11.06.1999, p. 20
[173]Wiglaf Droste, taz, 10.03.2000, p. 20
[174]taz, bremen, 24.05.1996, p. 24
[175]taz, 13.07.2000, p. 20

the office for anti-militaristic measures entitled "Soldiers are Fighting Dogs"' '

c. Dabei   attakierten sie   in wechselnder Beteiligung unter anderem
   there.at attacked   they in changing   participation under others
   den Gastwirt mit   einem sogenannten *Totschläger* und einer Flasche
   the landlord with a   so-called   cudgel   and a   bottle
   Rotwein.[176]
   red.wine

   'During this they took it in turns to attack, amongst others, the landlord, with a so-called killer (cudgel) and a bottle of red wine.'

d. mit   [. . .] dem *SFB-Gesundbeter*   Winfried Göpfert[177,178]
   with   the   SFB.healthy.prayer Winfried Göpfert

   'with Winfried Göpfert, the SFB's (Sender Freies Berlin, radio station) faith-healer'

As *Festmacher*, *Totschläger* may refer to a person who beats other people to death (7.134a) and (7.134b) or to an instrument that can be used for beating other people to death (7.134c).

The data above shows that Zeller's claim (1999, p. 178) that *-er*-nominalizations of resultatives are impossible is wrong. That nominalizations with resultatives are possible is not really surprising if we look at examples like *Klamotten-am-Vortag-Rausleger* ('person who puts their clothes out on the day before'), *Alle-die-mich-kennen-Grüßer* ('person who says "hello to everyone I know" on the radio/TV'), *Aspirin-vor-dem-Schlafengehen-Einnehmer* ('person who takes an Asprin before going to bed'). These nominalizations clearly take phrases as input. This shows that the 'No Phrase Constraint' does not hold for *-er*-nominalizations. The words *Vorabend-Einchecker* ('person who checks-in the night before'), *Sauna-Untensitzer* ('person who sits at the bottom in the sauna'), *Beckenrand-Schwimmer* ('person who swims at the edge of the swimming pool') are also derived from phrases. The prepositions and determiners *am* ('at.the'), *in der* ('in the'), and *am* ('at.the') have been omitted, respectively. These words were taken from an article in the Spiegel (14/2000) dealing with swearwords. The article describes a game of a radio station where swearwords are collected. The initial pattern for these swearwords is said to have been provided by Harald Schmidt (a German late night talker), who used the word *Warmduscher* ('person who takes warm showers') during the soccer championship in 1998. Note that most of the examlpes I gave above are from the eighties or the early nineties. A phrasal *-er*-nominalization that is also dated earlier is (7.135).

(7.135)   Du bist ein richtiger auf-Parties-Einschlafer![179]
          you are a   real   at.parties.asleep.faller

          'You're a right at-parties-asleep-faller.'

This example by Kaufmann (1995, p. 166) also shows how *-er*-nominalizations like *Einschläfer* that are bad in isolation can be made acceptable. These nouns are used to refer to a certain discourse referent in a situation. Since *to fall asleep* is not a property

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[176]Skins verurteilt, taz, hamburg 21.07.1999, p. 22

[177]taz, 25.08.1989, p. 20

[178]Note, that this sentence falsifies Hoeksema's claim (1991a, p. 705) that it is impossible to have both a predicate and an NP argument in a nominalization.

[179](Kaufmann, 1995, p. 166)

that discriminates between people, the noun as such is strange. The same is true for *Aufsteher* ('up-getter', 'riser') without an appropriate context. Lüdeling (1998, p. 104) provides a context where the property of getting up discriminates between people and therefore can be used without further specification: The situation is a hospital where a certain group of patients is allowed to get up during the day while the others have to stay in bed. In this situation it is possible to refer to a member of the first group as *Aufsteher* ('person who gets up') and to a member of the second group as *Liegenbleiber* ('person who does not get up').

Since *-er*-nominalization can take phrasal input it comes with no surprise that depictive predicates can be part of nominalizations.

(7.136) a. Das Angebot für *Nacktbader* ist bescheiden:[180]
the offer   for nude.bathers is modest

'The possibilities for nude bathers are limited.'

  b. einem Biedermann, in dem   er den ekstatischen *Nackttänzer* einer
a   bourgeois   in whom he the ecstatic   naked.dancer of.a
durchzechten Nacht wiedererkennt[181]
through.drunk night recognizes

'a bourgeois man whom he recognizes as the naked dancer he had encountered during a night of drinking'

The examples in (7.137) are *-erei*-nominalizations of resultative constructions.

(7.137) a. Freuen   kann sich darüber nur, wer nicht erkennt,   daß der
be.pleased can   self over.that only who not   recognizes that the
Höhepunkt der   krankmachenden medikamentösen *Gesundbeterei*
high-point of.the ill.making   medicine.ridden heathy.praying
längst überschritten ist [. . .][182]
long   overstepped is

'The only people who can be happy about this are those who do not recognize that the high-point of medicine-ridden faith-healing was reached long ago.'

  b. Soviel   „Beschönigung und *Gesundbeterei*" des schwer
so.much beautifying   and faith-healing   of   the
angeschlagenen Vereins   mag Kerssenbrock nicht
heavy   shattered club may   Kerssenbrock
aushalten.[183]
not   cope with

'Kerssenbrock can't handle so much idealization and faith-healing of the club that is in a bad shape indeed.'

7.1.11.2.1.3 *Ge- -e*-Nominalizations

The *Ge- -e*-nominalization is the only discontinuous or combinatorial noun derivation in German, consisting of the prefix *Ge-* and the suffix *-e* (which is sometimes missing for phonological reasons (see (7.139b))). *Ge- -e*-derivation is quite productive for

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[180]taz, berlin, 06.07.1994, p. 20
[181]taz, berlin, 21.02.1995, p. 24
[182]taz, 07.03.1990, p. 13
[183]taz, 31.10.1988, p. 5

transitive as well as for intransitive simplex verbs. Deverbal *Ge- -e*-nouns have the meaning of 'to V constantly/repeatedly' and usually they have the connotation that the constant V-ing is unpleasant.

Particle verbs also allow for *Ge- -e*-derivation. It is interesting that the *ge-* separates particle and base verb.

(7.138)   a.   Doch ihre Abneigung gegen   das bescheuerte *Angemache* auf den
                 but   her dislike   against the stupid   harassment on the
                 Verbindungsstraßen zwischen Simon-von-Utrecht-Straße und
                 connecting.streets   between   Simon-von-Utrecht-Straße and
                 Reeperbahn ließ sie zum   Fahrrad greifen.[184]
                 Reeperbahn let   her to.the bicycle   reach

                 'But due to her dislike of being harassed on the streets between Simon-von-Utrecht-Straße and Reeperbahn she decided to cycle.'

           b.   Nach all dem musikalischen *Eingeschleime*   bei Mutti   in
                 after all the   musical   PART (in).sliming by mummy in
                 Begleitung   eines singenden Teekesselchens mit   roten
                 accompaniment of.a   singing   teapotlet   with red
                 Korkenzieherlocken?[185]
                 corkscrew.curls

                 'After all the musical attempts to ingratiate oneself with mummy in the company of a small singing teapot with red corkscrew curls?'

           c.   Nach den antisemitischen Ausfällen im   November, dem
                 after the anti-Semitic   attacks   in.the November the
                 unsäglichen *Ausgekotze* darüber   in Eurer internen Nabelschau
                 unspeakable out-spewing that.over in your   internal   navel.show
                 reicht   es mir jezt   – ich kündige das Abo   zum   nächst
                 passes it me now   I   cancel   the subscription to.the next
                 möglichen Zeitpunkt.[186]
                 possible   time-point

                 'After your anti-Semitic statements in November and the unspeakable ensuing self-absorbed drivel on that subject, I have finally had enough: I am canceling my subscription at the next possible opportunity.'

           d.   Ohne   Schwule kein Sex aufm Klo,   ohne   Neger kein
                 without gays   no   sex on.the toilet without negros no
                 Angegrapsche, ohne   Türken keine Junkieszene.[187]
                 groping   without Turks no   junkie.scene

                 'Without gays no sex on the toilet, without blacks no groping, without Turks no junkie scene.'

(7.139)   a.   Wer die aktuelle Fleischmann-CD kennt, wer die neu
                 who the current   Fleischmann-CD knows who the new
                 dazugekommenen Texte hört,   wer   das *Angebrülle*   von
                 there.to.come   texts   hears who the PART (at).screaming from

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[184]taz, hamburg, 24.12.1993, p. 37

[185]taz, hamburg, 27.03.1997, p. IV

[186]Dr. Sabine Wendt, Marburg/Lahn, reader's letter, taz, 04.01.1989, p. 16

[187]article about a theater play about nazi-skins, taz, hamburg, 02.02.1995, p. 23

Norbert auf der Bühne erlebte,   mag daran zweifeln, daß diese
Norbert on the stage experienced may that.at doubt   that this

Band Spaß am Spaßhaben gefunden hat.[188]
band fun at fun-having found   has

'Those who are familiar with the new Fleischmann CD and who have heard the new lyrics and experienced Norbert screaming on stage are likely to have their doubts as to whether this band has found a way to enjoy having fun.'

b. Folter, *Rumgeballer*,   als Folge mehrere tote Hühner und
torture PART (around).shooting as result several dead chickens and

ein toter Mensch[189]
one dead man

'Torture and shooting resulting in several dead chickens and one dead man.'

c. Niels: Oder dieses *Rumgebiege*   nach rechts oder links, das
Niels or this PART (around).bending to right or left that

muß auch nicht unbedingt sein.[190]
must also not really be

'But this bending around to the right and to the left isn't really necessary either.'

d. Ist das *Rumgeheule*   der FDP nur der übliche
is the PART (around).shouting of.the FDP only the usual

Katzenjammer der Partei zum Jahreswechsel?[191]
cats'.yowling of.the party to.the year's.change

'Is the FDP's whining simply the party's usual end-of-year depression?'

e. Hauptsache sie haben Trikots an, denen man den Verein entnehmen
main.thing they have shirts on which one the club deduce

kann, und das *Herumgerenne*   wird ab und an von Toren
can and the PART (around).running gets off and on from goals

unterbrochen.[192]
interrupted

'The main thing is that they are wearing shirts from which their respective clubs can easily be deduced, and that the running around is interrupted by the occasional goal.'

The examples in (7.138) are *Ge- -e*-derivations from listed particle verbs[193], those in (7.139) are derived from productive particle verb combinations. *Ge- -e*-nominalizations of particle verbs with the particle *herum* ('around') are quite frequent. The *an* of *Angebrülle* ('at-shouting') is Stiebels' *an*$_5$ (1996, Chapter 7.4.1). According to Stiebels this pattern is highly productive.

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[188] taz, 15.10.1993, p. 16

[189] taz, hamburg, 01.02.1996, p. II

[190] Wie Männer Frauenhände erleben. An interview by Gerald Kleffmann, taz, Magazin, 07.03.1998, p. 8

[191] taz, 07.01.1998, p. 3

[192] taz, 01.02.1999, p. 16

[193] See (Stiebels, 1996, p. 105) on verbs like *angrapschen* ('to grope'), *anpacken* ('to grap'), *anrühren* ('to touch'), *antatschen* ('to paw at s.t./s.o.'), and *antippen* ('to tap').

Ge- -e-derivation from resultative constructions seem to be also possible, although Lüdeling (1998, p. 109) remarks that those are not very frequent. Fleischer and Barz (1995, p. 208) give the example in (7.140).

(7.140)   Totgeschlage

          beating to death

(7.141) is a constructed example of a *Ge- -e*-nominalization of an object predicative construction.

(7.141)   ? Dein ewiges *Schöngefinde*   anderer Frauen geht mir auf die Nerven!
          your eternal beautiful.finding of.other women goes me on the nerves

          'It gets on my nerves that you are always finding other women beauti-
          ful!'

It shows that the predicate that is embedded by *finden* can be separated by the prefix *ge-* from its head. Such nominalizations can be accounted for easily, if one assumes that the nominalization process applies to the head and that this head is combined with its dependents after the nominalization.

As Lüdeling (1998, p. 109) notes, the interesting thing about these *Ge- -e*-nominalizations is that there again seems to be a bracketing paradox: If one combines the stem *renn-* with *Ge-* and *-e* one gets *Gerenne*, which means 'repeated or constant running', or more technically 'repeated running events'. However, *Herumgerenne* means 'repeated instances of aimless running events'. The 'aimless' part of the meaning is contributed by *herum*. This meaning of *Herumgerenne* would be expected if the *Ge- -e* were combined with the whole particle verb combination.

Lüdeling considers for a moment the introduction of an abstract predicate to the form of *rennen*, but dismisses this suggestion since, according to her, this solution would not extend to listed particle verb combinations. I do not understand this argumentation, since the non-transparent forms are always the unproblematic ones in terms of scope relations. The particle verb selects the particle and the complete semantics is represented at the entry of the verb. See section 7.1.8. Lüdeling suggests the anal-
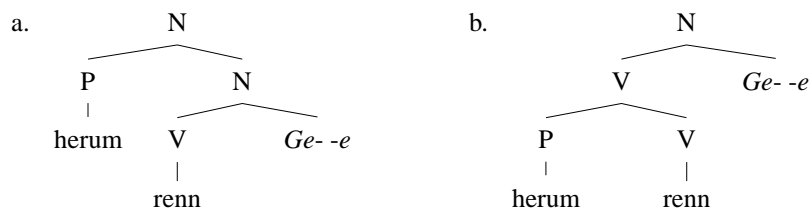
Figure 7.2: Alternative Structures for *Herumgerenne*

ysis in figure 7.2b. It is unclear how the prefix *ge-* is supposed to get in-between the particle and the verb without the assumption of rebracketing. In what follows I will assume the structure in figure 7.2a. I assume that the stem *renn-* that is used to derive *Herumgerenne* already contains the information that it combines with a particle, although the exact semantic and syntactic contribution of the particle is still underspecified. The *Ge- -e*-nominalization can therefore access the semantic contribution that will be instantiated by the particle and the right scope relations can be established.

7.1.11.2.1.4 Nominalizations of Infinitival Forms

The examples in (7.142) show nominalizations that correspond to the object predicative in (3.102b) and the examples in (7.127) – (7.144) are nominalizations of resultative constructions.

(7.142) a. Das *Gutfinden*   von Harald Juhnke zieht sich durch   sämtliche
          the good.finding of   Harald Juhnke pulls itself through all
          gesellschaftliche Sphären, [. . .][194]
          social   spheres

          'Appreciation of Harald Juhnke traverses all social spheres, . . . '

      b. das nicht unbedingt die Prämisse zum   *Gutfinden*   dieses
          that not   necessarily the premise for.the good.finding of.this
          Albums sein muß[195]
          album be   must

          'which does not necessarily have to be the premise for liking this album'

The data in (7.142) clearly falsifies Rosengren's claim (1995, p. 102) that object predicatives do not appear in nominalizations. She makes the same claim for depictives, but as the data that was discussed in chapter 5.1.1 on page 172 shows, various forms of verb nominalizations together with depictive predicates are also possible. (7.143) is an example of a nominalization of an infinitive together with a depictive.

(7.143) Auch wenn das *Nacktbaden*   vielerorts   längst Gang und Gebe ist,
         even if   the naked.bathing (in).many.places long   usual   is
         bleibt   das *Nacktjoggen*   verboten.[196]
         remains the naked.jogging forbidden

         'Even if nude bathing has been common in many places for a long time, naked jogging is still forbidden.'

In (7.144) we have instances of infinitive nominalizations of resultative constructions.

(7.144) a. Wie fast jedes Jahr werden auch dieses Mal Vorrichtungen zum sauberen *Leerdrücken* von Tuben, für das Fangen lästiger Insekten und zur Verhinderung der Fortpflanzung ausgestellt.[197]

          'Gadgets designed to squeeze the last scrap out of tubes, for catching annoying insects and for contraception are being exhibited this year, like almost every year.'

      b. Sich-Austoben   bis zum Letztmöglichen, die Beschwörung des
          self.let-off.steam until the last.possible   the conjuring   of.the
          Irrationalen, das *Kaputtspielen*   jeglicher Ordnung – dies scheinen
          irrational   the broken-playing of.all   order   this appear
          die Hauptziele in der Musik nicht nur   dieser ungarischen Band zu
          the main.aims in the music not   only of.this Hungarian   band to
          sein.[198]
          be

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[194]taz hamburg, 22.05.1995, p. 23
[195]taz, 29.10.1993, p. 16
[196]taz, 05.11.2000, p. 20, dpa
[197]taz, 25.03.1993, p. 20

'To bring letting-off steam to its ultimate limit, to conjure up the ir-
rational, to lull all order into destruction, these appear to be the main
goals of this Hungarian band and others producing similar music.'

c. Auch der Trainer muß sich dem Prinzip   des   *Gesundalterns*
also   the trainer must self the   principle of.the healthy.aging
unterwerfen.[199]
under.throw

'The trainer too must subject himself to the principle of aging oneself
healthy.'

d. In Indien und China finden Heilrituale   im   Tempel statt, in Sri
in India   and China find   healing.rituals in.the temple place in Sri
Lanka spielen Dämonen beim   „*Gesundbeten*" eine Rolle.[200]
Lanka play   demons   by.the healthy.praying a   role

'In India and China healing rituals are performed in the temple, in Sri
Lanka demons are involved in the healing prayers.'

e. Jones wandte sich obskurem *Gesundbeten*   zu und verstieg   sich
Jones turned self obscure   healthy-praying to and mis-climbed self
in den Wahn,   seinen Gefolgsleuten Gottersatz   zu sein.[201]
in the insanity his   followers   god-replacement to be

'Jones got involved with obscure faith-healing and mistook himself to
be his followers' God.'

f. die japanische Zentralbank, die sich beim   *Gesundbeten*   des
the Japanese   cantral.bank that self with.the healthy.praying of.the
Dollar hervortut[202]
dollar distinguishes

'The Japanese Central Bank is distinguishing itself in its faith-healing
of the dollar.'

In many examples in (7.142) – (7.144) the complements of the verb are realized in the
way that is known from other nominalizations: Accusative objects can be realized by
genitive NPs or *von*-PPs.

The nominalization of verb + modal combinations follows the same pattern as the
nominalizations discussed so far.

(7.145)   a. weil   er schlafen will.
             because he sleep   wants
             'because he wants to sleep.'

          b. weil   er gut   schlafen kann.
             because he good sleep   can
             'because he can sleep well.'

          c. weil   er Recht haben will.
             because he law   have   will
             'because he wants to be right.'

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[198]Mannheimer Morgen, 16.10.1989, Feuilleton; Am Rande des Wahnsinns
[199]taz, 02.12.1991, p. 13
[200]taz Hamburg, 29.10.1992, p. 24
[201]taz, 07.03.1989, p. 12
[202]taz, 28.08.1987, p. 8

(7.146) a. das Schlafen-Wollen
the sleep.want

'the wish to sleep'

b. das Gut-Schlafen-Können
the good.sleep.can

'the ability to sleep well'

c. das ständige Recht-Haben-Wollen
the always   law.have.want

'the wish to be always right'

(7.147) Menschen [. . .], deren unbedingtes Gut-Sein-Wollen   beinahe in
humans   whose absolute   good-be-wanting.to almost in
eine Katastrophe mündet[203]
a   catastrophe flows

'People whose desperation to be good almost culminates in a catastrophe'

a. daß Frauen Qualitäten haben, aufgrund   ihres So-erzogen-Seins,
that women qualities have   on.grounds their so.brought.up.being
und ihres So-Seins, die Männer nicht haben, und die offensichtlich
and their so.being   that men   not   have   and that evidently
auch nicht so schnell anlernbar   oder antrainierbar
also not   so fast   PART (to).learnable or   PART (to).trainable
sind.[204]
are

'That women, due to the way they are brought up and the way that they are, possess certain qualities that men do not, and which can evidently also not be learnt or acquired by training that quickly.'

These nominalizations are entirely regular and one would not want to list the verbs in the lexicon that can appear as complements of the modals.

In what follows, I will call the area before *gefinde* in (7.141), before *finden* in (7.142), before *fischung* in (7.127a), and before *drücken* in (7.144a) the prenominal area. All nominalizations discussed so far have in common that elements from the prenominal area cannot be extracted.

(7.148) a. * Auf$_i$ hat er das [_$_i$ Finden] probiert.
up   has he the   finding tried

Intended: 'He tried looking.'

b. * Nach$_i$ hat er das [_$_i$ Schlagen] gelernt.
after   has he the   hitting   learned

Intended: 'He learned to look things up.'

c. * Rum$_i$ hat er das [_$_i$ Geschreie] nicht mehr ertragen.
around has he the   shouting   not   more tolerated

Intended: 'He couldn't stand the shouting anymore.'

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[203]Mannheimer Morgen, 20.10.1989, Lokales; Vom Chaos hinter der Ordnung
[204]taz, 18.03.1989, p. 10

    d.   * Gut$_i$ verlangen sie das [$\_i$ Finden].[205]
        good demand they the   finding

        Intended: 'They demand that things are considered to be good.'

    e.   # Leer$_i$ wollen sie die [$\_i$ Fischung].
        empty want they the   fishing

        Intended: 'Do they want (it) to be fished empty.'

    f.   # Leer$_i$ haben sie eine Vorrichtung zum   [$\_i$ Drücken] erfunden.
        empty have they an   installation for.the   pressing invented

        Intended: 'They invented a mechanism to squeeze something empty.'

    g.   * Schlafen$_i$ kenne ich das [$\_i$ Wollen].
        sleep   know I   the   wanting

        Intended: 'Do I know about wanting to sleep.'

But this comes as no surprise since in German fronting of constituents from the prenominal area is impossible in general:[206]

(7.149) a.   * [Ihre Mutter]$_i$ liebt Maria [den $\_i$ achtenden Mann].
            her mother loves Maria the   respecting man

            Intended: 'Maria loves the man who respects her mother.'

      b.   * [Den Mann] schläft [die $\_i$ lieben wollende Frau].
            the man   sleeps [die   loving wanting woman

            Intended: 'The woman who wants to love the man is asleep.'

      c.   # Oft$_i$ schläft [die den Hund $\_i$ schlagende Frau].
            often sleeps   the the dog   hitting   woman

            Intended: 'The woman who often beats the dog is asleep.'

      d.   * [Schöne]$_i$ kennt Peter [eine $\_i$ Frau].
            beautiful knows Peter a   woman

            Intended: 'Peter knows a beautiful woman.'

In (7.149a) the NP corresponds to a complement of an adjectival participle, in (7.149b) the NP corresponds to a complement of a verb that is part of a predicate complex with an adjectival participle being the head of this complex, in (7.149c) an adjunct modifying a prenominal participle is extracted (the sentence is grammatical with scope over *schlafen* only), and in (7.149d) the prenominal adjective itself is extracted.

7.1.11.2.2 Adjective Derivation

Particle verb combinations participate in adjective derivations with the suffixes: *-bar*, *-ig*, and *-lich*. Examples are given in (7.150).[207]

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[205]The following sentences have a structure where they are grammatical, but this is not the one indicated by the brackets.

[206]The situation is different for movement to the right. See (Müller, 1999a, p. 222).

[207]See also (Lüdeling, 1998, p. 110).

Draft of January 12, 2001. Comments Welcome!

(7.150)   *-bar*: auffindbar ('discoverable') ← auffinden ('to discover')
zusammenklappbar ('collapsible') ← zusammenklappen
('to fold up')

      -ig: nachgiebig ('yielding', 'compliant') ← nachgeben ('to give in',
'to yield')
auffällig ('striking', 'conspicuous') ← auffallen ('be striking',
'conspicuous')

     -lich: nachdenklich ('thoughtful', 'pensive') ← nachdenken ('to think',
'to reflect')

Only *-bar* is productive.

7.1.11.2.2.1 *-bar*

-bar-derivation applies to transitive or ditransitive verbs that have an accusative object. The accusative object is suppressed. Sometimes it is expressed by PPs. There are also a few *-bar*-adjectives like *brennbar* ('flammable') that have an intransitive base verb, but these are listed in the lexicon (Riehemann, 1998) and not derived by the productive rules. The *-bar*-suffix adds a modal meaning, usually possibility, but sometimes also necessity. The *-bar*-adjectives are similar to the modal infinitvies with *sein* that were discussed in chapter 4.1.5.

The *-bar*-derivation also applies to particle verb combinations:

(7.151)   a. Die Durchsuchungen seien bereits gelaufen, die Sache nicht mehr
the searches   be   already run   the matter not   longer
anfechtbar.[208]
contestable
'The inquests have already been completed and the matter can no longer be contested.'

         b. Die Zusatzgeräte   sind an jede elektronische Schreibmaschine
the additional.machines are at every electronic   typewriter
anschließbar.[209]
PART (on).connectable
'The additional equipment can be connected to any electric typewriter.'

         c. doch sind seine Erkenntnisse auch auf die neuere Geschichte
but are his   discoveries   also on the newer history
anwendbar.[210]
applicable
'But his discoveries can also be applied to more recent history.'

         d. Der Catcher war nur noch wenige Minuten *ansprechbar*,   auch
the catcher was only still few   minutes PART (to).talkable also
ein Notarzt   konnte ihn nicht mehr retten.[211]
an emergency.doctor could   him not   more save
'But the catcher responded only for a few minutes, not even an emergency doctor could save him anymore.'

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[208]taz, 18.08.1999, p. 16
[209]taz, 12.06.1987, p. 5
[210]taz, taz-mag, 17.07.1999, p. 4–5
[211]taz, bremen, 15.12.1993, p. 20

    e. Als   Ulrike Meinhoff noch Journalistin war, veröffentlichte sie ein
        when Ulrike Meinhoff still journalist   was published   she a
        Buch mit   dem Titel „Die Würde des Menschen ist *antastbar*".[212]
        book with the   title   The Dignity of Man   is offendable
        'When Ulrike Meinhoff was still a journalist she wrote a book with the
        title "The Dignity of Man is not Invulnerable".'

The examples in (7.151) are *-bar*-derivations with particle verbs that have a non-transparent meaning.

    Lüdeling (1998, p. 111) claims that *-bar*-derivation is restricted to listed particle verb combinations. She compares coordinated structures with *-bar*-derivations of particle verb combinations that have both a non-transparent and a transparent reading and concludes that only the derivations from non-transparent particle verbs are well-formed. She discusses the two examples in (7.152).

(7.152) a.   Können in Deutschland Bananen angebaut werden oder sind sie
             can   in Germany   bananas cultivated be   or   are they
             hier nicht anbaubar?
             here not   growable

             'Is it possible to cultivate bananas in Germany or are they not growable here?'

        b.   * Kann der Schuppen hier angebaut werden oder ist er hier nicht
             can   the shed   here added   be   or   is it here not
             anbaubar?
             add+able

             Intended: 'Can the shed be built as an extension here or can't an extension be built here?'

(7.153) a.   Kann dieser Kandidat aufgestellt werden oder ist er nicht
             can   this   candidate nominated be   or   is he not
             aufstellbar?
             nominatable+able

             'Is it possible to put up this candidate or can he not be put up?'

        b. ?? Kann der Weihnachtsbaum hier aufgestellt werden oder ist er hier
             can   the christmas.tree   here up.put   be   or   is it here
             nicht aufstellbar?
             not   up.put+able

             Intended: 'Can the Christmas tree be put up here or is it impossible the put it up here?'

This shows that *anbaubar* can only be formed with the fully lexicalized variant *to cultivate* although the passive of *anbauen* + *können* with the meaning *to build onto*, *to add* in the first part of (7.152b) is grammatical. A similar contrast holds for (7.153a) and (7.153b).

    While this data is interesting, its interpretation is wrong. The only thing it shows is that the use of the *-bar*-derivations of a productive form seems to be strange if a *-bar*-derivations from a non-transparent particle verb is also available. The examples in (7.154) – (7.164) show that *-bar*-derivation is also possible with transparent particle

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[212]taz, bremen, 28.04.1999, p. 24

verb combinations. I searched the taz-CDs for examples with the particle *an* and listed the results classified according to Stiebels' classification (Stiebels, 1996).

The *an* in (7.154) is Stiebel's *an*₁ (Stiebels, 1996, Chapter 6.1.2).

(7.154)   a.   zur   bereits erwähnten Montagehalle, in der   jeder   sein
              to.the already mentioned assembly.shop in which everyone his
              anheftbares   Namenskärtchen erhält[213]
              PART (on).pinnable name.card   receives

              'To the aforementioned assembly shop where everyone gets their own pin-on name tag'

       b.   Denn erst wenn der Ausweis gezückt,   das Gepäck   durchleuchtet,
              for   first when the ID-card   pulled.out the baggage through.shone
              mit   einer Sofortbildkamera   zwei Fotos   geschossen, diese
              with an   instant.picture.camera two   photos shot   these
              nebst   persönlichen Daten in eine *anklemmbare*   Plastikfolie
              next.to personal   data   in an   PART (on).clippable plastic.foil
              verschweißt worden ist, erst dann ist der Zutritt   erlaubt zum
              welded   got   is   first then   is   the entrance allowed to.the
              Raumschiff in Straßburg, [...][214]
              spaceship   in Strasbourg

              'For only after you have shown your id-card, had your baggage x-rayed, had two Polaroid photos taken which are then laminated into a clip-on badge along with other personal data, only then are you allowed to enter the spaceship in Strasbourg.'

This form of *an* is used with verbs (causative) contact verbs and other verbs of fastening. Examples are *ankleben* ('to stick (on)') and *annähen* ('to sew (on)').

Stiebel's *an*₂ (Stiebels, 1996, Chapter 6.1.2) is combined with motion verbs: *anjagen* ('to race up'), *anhüpfen* ('to jump up'), *anschleichen* ('to sneak up'), *anrennen* ('to run up'). These verbs are intransitive and therefore do not allow the *-bar*-derivation.

The *an* in (7.155) is Stiebel's *an*₃ (Stiebels, 1996, Chapter 7.1.2).

(7.155)   a.   Und Moral ist *anerziehbar*.[215]
              and moral is PART (to).educable

              'And morals can be taught.'

       b.   daß Frauen Qualitäten haben, aufgrund   ihres So-erzogen-Seins,
              that women qualities   have   on.grounds their so.brought.up.being
              und ihres So-Seins, die Männer nicht haben, und die offensichtlich
              and their so.being that men   not   have   and that evidently
              auch nicht so schnell anlernbar   oder *antrainierbar*
              also not   so fast   PART (to).learnable or   PART (to).trainable
              sind.[216]
              are

              'That women, due to the way they are brought up and the way that they are, possess certain qualities that men do not, and which can evidently also not be learnt or acquired by training that quickly.'

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[213]taz, 30.01.1995, p. 15
[214]taz, 24.01.1989, p. 14
[215]taz, 22.08.1997, p. 14
[216]taz, 18.03.1989, p. 10

Examples of particle verbs of this class are shown in (7.156).

(7.156) a. Er trainiert den Kindern   gutes Benehmen   an.
             he trains   the children-DAT good behavior-ACC PART (to)
             'He teaches the children good behavior.'

         b. Sie haben den Kindern   Pünktlichkeit anerzogen.
             they have   the children-DAT punctuality   PART (to).taught
             'They instilled punctuality into the children.'

According to Stiebels (1996, p. 130), combinations with *an* are not productive for knowledge transfer verbs, although new forms may be constructed by analogy. The *an* in (7.157) is Stiebel's *an*$_4$ (Stiebels, 1996, Chapter 7.3.5).

(7.157) a. der *anknipsbare*   Leuchtglobus[217]
             the PART (on).switchable glow.globe
             'the light-up globe'

         b. Immer wieder erscheint Gavin vor   seiner Geliebten mit
             always again   appears Gavin before his   beloved   with
             Mitbringseln   von zweifelhaftem ästhetischen Wert, beispielsweise
             small.presents of dubious   aesthetic   worth for.example
             einer Hinterglaslandschaft   mit *anknipsbarer*   Sonne.[218]
             a   verre.églomisé.landscape with PART (on).switchable sun

             'Gavin appears before his beloved again and again, each time bearing small gifts of dubious aesthetic value, for example a verre églomisé landscape with a light-up sun.'

This version of *an* corresponds to a resultative predicate.

(7.158) Das Licht / das Radio / der Ofen ist an.
         the light   the radio   the oven is on

It can appear together with *machen* and verbs like *drehen* and *schalten*.

(7.159) a. Er macht das Radio an.
             he makes the radio on

         b. Er schaltet das Radio an.
             he switches the radio on

The *an* in (7.160) is Stiebel's *an*$_5$ (Stiebels, 1996, Chapter 7.4.1).

(7.160) a. „Die Kneipen, Theater und Geschäfte müssen *anfahrbar*
              the pubs   theaters and shops   must   PART (to).drivable
             bleiben."[219]
             remain
             'The pubs, theaters and shops must remain accessible by car.'

         b. Flughafen Schönefeld jetzt bei jedem Wetter *anfliegbar*[220]
             airport   Schönefeld now at all   weather PART (to).flyable
             'Airport Schönefeld can now by accessed by plane in any weather.'

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[217]taz, berlin, 27.03.1990, p. 24
[218]taz, 17.09.1992, p. 14
[219]taz, 05.06.1997, p. 22
[220]taz, berlin, 04.02.1992, p. 22

c. Im   ebenfalls unter dieser Adresse *ansteuerbaren*
in.the equally   under this   address PART (to).steerable
Diskussionsforum erntete   diese Dienstleistung aber helle
discussion.forum harvested this   service   but light
Empörung.[221]
indignation

'However, in the discussion forum which can also be accessed under this address this service was strongly criticized.'

d. Dauerläufer, die   in   der Defensive ackern,   ständig
continuous runners who in   the   defensive slug.away
anspielbar sind   und dennoch genug   Spielwitz haben,
always   to.playable are and   nonetheless enough   game.wit
[…][222]
have

'Those who never stop running, slug away in the defense, are always ready for the ball, and who still have enough skill,'

e. Mit dem „City-Ruf" von […] sind sie   von jedem Telefon   aus
with the   City-Call from   are they from each   telephone out
anfunkbar.[223]
PART (to).radioable

'With the […] City-Call they can be reached from any telephone.'

This *an* expresses that the action that is described by the base verb is directed to a thing or a person. The particle can be combined with intransitive agentive verbs. This pattern is highly productive. Examples are verbs of uttering (7.161) and verbs that are used to express emotions (7.162).

(7.161)　a. Er quatscht sie an.
　　　　　he gabs   her PART (to)

　　　　　'He chats her up.'

　　　　b. Sie   schrien ihre Nachbarn an.
　　　　　they shout   their neighbors PART (to)

　　　　　'They shout at their neighbors.'

　　　　c. Die Katze faucht Andreas an.
　　　　　the cat   hisses Andreas PART (to)

　　　　　'The cat spits at Andreas.'

(7.162)　a. Sie lacht   ihn an.
　　　　　she laughs him PART (to)

　　　　　'She smiles at him.'

　　　　b. Er schmachtet   die große Diva an.
　　　　　he gazes.lovingly the great diva PART (at)

　　　　　'He gazes at the great diva adoringly.'

　　　　c. Er staunt   den Akrobaten / den Dom   an.
　　　　　he marvels the acrobat   the cathedral at

---

[221]taz, 08.07.1999, p. 13

[222]taz, 22.02.1999, p. 16

[223]taz, bremen, 09.03.1989, p. 18

'He marvels at the acrobat / the cathedral.'

Stiebels also considers verbs like *anfunken* ('to contact by walkie.talkie'), *anblinken* ('to flash (at)'), *anleuchten* ('to shine (at)'), *anstrahlen* ('to beam at somebody / something'), and *anscheinen* ('to shine at') that describe the transfer of optical or acoustic signals as members of this *an*-class. (7.163a) could also be considered as such a verb, although it also is possible that *anfaxen* ('to fax') is formed in analogy to *anrufen*('to phone').

(7.163) a. Das taz-Kummerfax für trostbedürftige   Wahlkämpfer   ist Tag
             the taz.sorrow.fax   for consolation.needing election.fighters is day

             für Tag *anfaxbar*   unter der Nummer 3890 1710[224]
             for day PART (to)faxable under the number   3890 1710

             'The taz-sorrow-fax for election campaigners in need of consolation
             can be reached under the fax-number 3890 1710 every day.'

         b. Nur die Bibliothek [. . .], das Immatrikulationsamt [. . .] und das
             only the library   the matriculation.office   and the

             Akademische Prüfungsamt   [. . .] sind *anrufbar*.[225]
             academic   examination.office   are PART (to).callable

             'Only the library, the matriculation office and the academic examina-
             tion board can be reached by telephone.'

The *an* in (7.164) is Stiebel's *an$_6$* (Stiebels, 1996, Chapter 5.2.3).

(7.164) Das Konzept sei zwar   „grundsätzlich *andenkbar*“.[226]
         the concept be actually in.principle   PART.thinkable

         'In principle it is possible to start thinking about the concept.'

This version of *an* is the most productive one of the particles and prefixes Stiebles examined in her study. The *an* expresses a partiality of the action that is described by the main verb. It can be combined with verbs that describe incremental or decremental processes, which makes an early termination plausible. The group of *an*-verbs can be divided into those where the *an* expresses a spatial relation: *anbohren* ('to begin to bore a hole'), *anknabbern* ('to nibble'), *anlecken* ('to (begin) to lick'), *annagen* ('to (begin) to gnaw'), and those where the *an* is a progressive marker: *andrucken* ('to start to print'), *anlesen* ('to begin to read'), *ansingen* ('to begin to sing').

Concluding the discussion of *-bar*-derivations with particle verbs with *an* it can be said that it is possible with transparent particle verbs, including verbs that follow productive particle verb combination patterns.

Having established that particle verb combinations that are the result of a productive process can take part in *-bar*-derivations, I am faced with another apparent bracketing paradox: There are particles that only combine with intransitive verbs and add another argument. On the other hand, *-bar* combines only with transitive verbs productively. The situation is similar to the problem with the inflection and *Ge- -e*-nominalizations. The inflectional affixes and *Ge- -e* attach to the stem, but the particle verb nevertheless has the meaning of the complete verb and *Ge- -e* scopes over the contribution of the particle. For *-bar*-derivations I will assume the structure in figure 7.3a. While at the first glance this may seem to be problematic for the reasons mentioned above, it is not

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[224]taz, 13.08.1993, p. 28
[225]taz, bremen, 23.12.1998, p. 22
[226]taz, 06.11.1997, p. 2

```
    a.         A                         b.            A
          ┌────┴────┐                           ┌──────┴──────┐
          P         A                           V            bar
          │     ┌───┴───┐                   ┌───┴───┐
          an    V      bar                  P       V
                │                           │       │
               fahr                         an     fahr
```
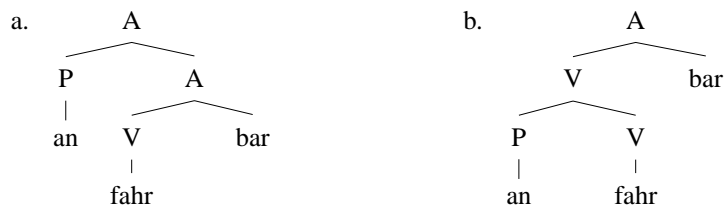
Figure 7.3: Alternative Structures for *anfahrbar* ('reachable by car')

in constraint-based theories. I assume that the stem in figure 7.3a contains a slot for the particle that will be added in a later step. The valence and the semantics of the whole combination is represented at the stem so that *-bar* may access it.

7.1.11.3 Non-Existing Bases

It has been noted by many researchers that there are particle verbs that have a base verb that cannot be used without the particle (for instance *anstrengen* ('to strain')).

Similarly there are particle verb formations (7.165a) and derivations (7.165b) where the derived base never appears without particle.

> (7.165) a. *Dose* ('tin'), *eindosen* ('to tin'), but * *dosen*
>
> b. *rauben* ('to steal'), *ausrauben* ('to rob'), *Ausraubung* ('robbing'), but * *Raubung*[227]
>
> c. *ausbreiten* ('to spread out'), but * *breiten*, *Ausbreitung* ('out-spreading'), but * *Breitung*[228]

This does not pose a problem, if one assumes that the derivation applies to the linguistic object that represents the particle verb. So if the *-ung*-nominalization applies to a lexical representation for *rauben* that contains the information that there will be a particle, the constraints that block the derivation of * *Raubung* do not apply to this lexical entry and the derivations succeeds. For the same reason it is not necessary to list * *strengen* in the lexicon as a verb that can appear without a particle.

7.1.12 Conclusion of the Data Section

To sum up, one can conclude that particles behave in a way that is known from other elements in the predicate complex. All classes of particles can be extracted and positioned in the *Vorfeld*. The restrictions on these frontings are not syntactic, but depend on contrast, discourse structure, and other things which are not fully understood yet. The particle can also appear separated from a verb in final position, if it is contrasted (focus split) or if an element that further specifies the meaning of the particle intervenes. In dialects of German the particle always appears at the left periphery of the verbal complex. So, particle verbs can be discontinuous even in head final contexts. This strongly suggests that particles have a syntactic life.

On the other hand we are faced with the evidence from derivational morphology. Particles can appear in the middle of complex entities that are derived by morphological

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[227](Fleischer and Barz, 1995, p. 173)
[228](Paul, 1920, p. 75)

processes. Inflectional and derivational affixes always attach to the stem of the verb, although they scope over the meaning of the complete particle verb combination. An analysis that assumes that inflection and derivation applies to stems that contain the information about particles to be added later makes the right predictions without any bracketing paradox.

7.2 The Analysis

Due to the data in section 7.1, it seems reasonable to treat particles as elements that take part in complex formation.[229] In the following subsections, I will provide the basic lexical entries for non-transparent particle verbs, and I will discuss lexical rules that allow templates to be derived for some prototypical particle verbs that are the result of productive particle verb combinations. Analyses for the verb position, for the fronting of particles and for the verbal complex in Franconian/Thuringian will be provided. Section 7.2.5 will deal with both inflection and derivation of particle verbs, resultatives, and subject and object predicates.

7.2.1 Lexical Entries for Non-Transparent Particle Verbs and Verb Position

(7.166) shows the lexical entry for *vorhaben* (*to plan*).

(*vor*) *hab-* ('to plan', non-transparent particle verb):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \left\langle \text{NP}[nom]_{\boxed{1}} \right\rangle \\ verb \end{bmatrix} \\[2ex]
\text{SUBCAT} & \left\langle \text{NP}[acc]_{\boxed{2}} \right\rangle \\
\text{VCOMP} & \left\langle \text{PART}[vor] \right\rangle
\end{bmatrix} \\[4ex]
\text{CONT} & \begin{bmatrix} \text{ARG1} & \boxed{1} \\ \text{ARG2} & \boxed{2} \\ vorhaben \end{bmatrix} \\[3ex]
loc
\end{bmatrix}
\tag{7.166}
$$

I follow Olsen (1999b, p. 238) and McIntyre (To Appear, p. 44) in assuming that particles like *von* are not prepositions, but are related to prepositions by lexical redundancy rules. The particle is selected like other complements that take part in complex formation via VCOMP. Figure 7.4 on the facing page shows the analysis for (7.167), where the verb is in final position.

(7.167) weil   er das vorhat?
         because he that PART(before).has
         'because he plans to do this'

For sentence (7.168) I assume the analysis shown in figure 7.5 on page 286.

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[229]Tilman Höhle suggested using the same rule for the combination of particle and verb as for the verbal complex in his 1976 dissertation. The chapter of his dissertation that deals with this issue was published as (Höhle, 1982). Höhle deals mainly with morphological problems. The syntactic properties of the particle verb constructions are not explored in detail.

Draft of January 12, 2001. Comments Welcome!

V[SUBCAT ⟨⟩ ,
VCOMP ⟨⟩ ,
DOM ⟨ *er, das, vor, hat* ⟩]

C   H

[1] NP[*nom*] V[SUBCAT ⟨ [1] ⟩ ,
VCOMP ⟨⟩ ,
DOM ⟨ *das, vor, hat* ⟩]

C   H

[2] NP[*acc*] V[SUBCAT ⟨ [1], [2] ⟩ ,
VCOMP ⟨⟩ ,
DOM ⟨ *vor, hat* ⟩]

CL   H

[3] Part V[SUBCAT ⟨ [1], [2] ⟩ ,
VCOMP ⟨ [3] ⟩]
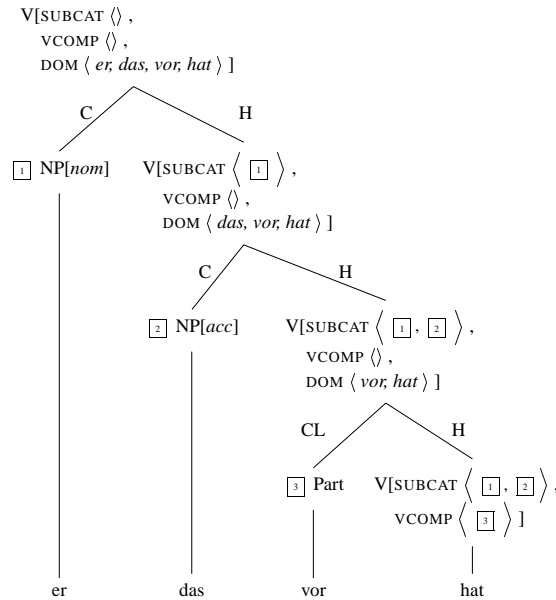
er das vor hat

Figure 7.4: Analysis of *weil er das vorhat.*

(7.168) Hat er das vor?
    has he that PART(before)
    'Does he plan to do this?'

The tree shows dominance relations. The constituents do not appear in surface order in such trees. The surface order of the elements is represented in the word order domain (DOM) of each node. The dominance structure is entirely the same, only the serialization of the main verb differs.

For subject predicative verbs like *aussehen* ('to look') and *vorkommen* ('to seem to somebody to be'), I assume that they select both the particle and the embedded predicate via VCOMP.

(aus) sehen (non-finite form):

$$
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \boxed{1} \end{bmatrix} \\
\text{SUBCAT} & \langle \rangle \\
\text{VCOMP} & \left\langle \begin{bmatrix} \text{LOC}|\text{CAT} & \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \text{PRD} & + \\ \text{SUBJ} & \boxed{1} \end{bmatrix} \\ \text{SUBCAT} & \langle \rangle \\ \text{VCOMP} & \langle \rangle \end{bmatrix} \end{bmatrix}, \text{PART}[aus] \right\rangle \\
cat
\end{bmatrix}
$$
               (7.169)

For the analysis of sentences like (7.97a) and (7.97b)—repeated here as (7.170a) and (7.170b)—I assume that a complex head for *vorkommen* or *aussehen* is combined with the predicate.

(7.170) a. Das kam ihm dumm vor.
      this came him silly PART

V[SUBCAT ⟨⟩ ,
  VCOMP ⟨⟩ ,
  DOM ⟨ *hat, er, das, vor* ⟩]

    C   H
  1 NP[*nom*]   V[SUBCAT ⟨ 1 ⟩ ,
                  VCOMP ⟨⟩ ,
                  DOM ⟨ *hat, das, vor* ⟩]

                    C   H
                  2 NP[*acc*]   V[SUBCAT ⟨ 1 , 2 ⟩ ,
                                  VCOMP ⟨⟩ ,
                                  DOM ⟨ *hat, vor* ⟩]

                                    CL   H
                                  3 Part   V[SUBCAT ⟨ 1 , 2 ⟩ ,
                                                   VCOMP ⟨ 3 ⟩]
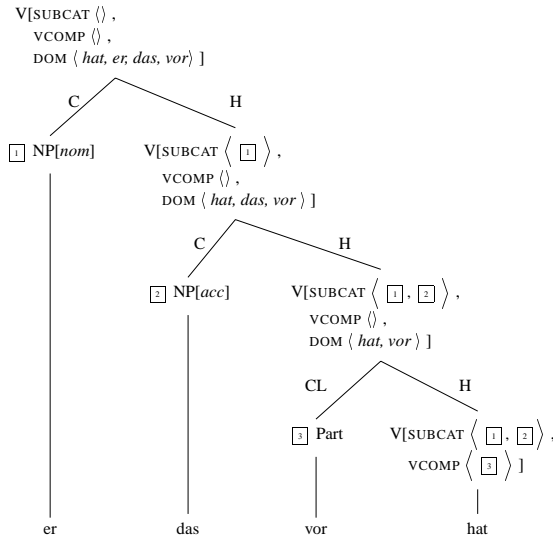
  er   das   vor   hat

Figure 7.5: Analysis of *Hat er das vor?*

'This seemed silly to him.'

b. Er sieht gut   aus.
   he looks good PART

'He looks good.'

7.2.2   Lexical Entries for Productive Particle Verb Combinations

A large group of particle verbs is transparent and can be analyzed compositionally. The most detailed study of the semantics of German particle/prefix verb combinations was done by Stiebels (1996). She examined several meanings of the particles *an* and *auf*. She uses indices to distinguish certain meanings of these particles. I already used her indices in sections 7.1.11.2.2.1. In what follows, I will give some example analyses of transparent particle verbs that are representative for certain classes of particle verb combinations.

(7.171) shows examples where the particle is an aspectual marker. The particle does not change the argument structure of the verb.

(7.171)   a.   Er lacht.
               he laughs

          b.   Er lacht   los.
               he laughs PART

               'He starts to laugh.'

          c.   * Er lacht   sie los.
               he laughs her PART

          d.   * Er liest   das Buch los.
               he reads the book PART

               Intended: 'He starts to read the book.'

     e.   Er liest los.
           he reads PART

           'He starts to read.'

(7.171c) shows that it is impossible to have an additional NP complement that is not selected by the base verb as is possible in resultative constructions. (7.171d–e) show that transitive verbs cannot be combined with the particle *los*, if the object is expressed. The particle *an₅* behaves differently.

  (7.172)   a.   Er lacht sie an.
                he laughs she PART (to)

                'He smiles at her.'

          b.   * Er lacht sie.
                he laughs her

It adds an argument. The base verb must be intransitive and agentive (Stiebels and Wunderlich, 1994, p. 950). This contrast suggests that the particle is responsible for the argument structure of the complex verb. *an₅* adds an argument, but *los* does not. Both particles can combine with intransitive verbs only. Furthermore, the particle selects the semantic class of the baseverb. It is not adequate to analyze the particle as the head of the particle verb, since the head information comes from the base verb. So the only other option is to see the particle as an adjunct. As was shown in section 2.6, adjuncts select the head they modify via the MOD feature. Since MOD has a *synsem* object as its value, both syntactic and semantic properties of the modified head can be selected. On the other hand, the data in section 7.1 suggested treating the particle as an element of the verbal complex. I will unify these two insights and analyze the particles in (7.171) and (7.172) as subcategorized adjuncts. The lexical rule in (7.173) takes a verb with the empty list as VCOMP list as input and produces a new lexical entry that subcategorizes for a particle.

Lexical Rule for Productive Particle Verb Combinations:

$$
\begin{bmatrix} \text{SYNSEM}\ \boxed{1}\ \begin{bmatrix} \text{LOC}|\text{CAT}\ \begin{bmatrix} \text{HEAD } verb \\ \text{VCOMP } \langle\rangle \end{bmatrix} \end{bmatrix} \\ stem \end{bmatrix} \rightarrow
$$

$$
\begin{bmatrix} \text{SYNSEM}|\text{LOC} \begin{bmatrix} \text{CAT} \begin{bmatrix} \text{SUBCAT } \boxed{2} \oplus \boxed{3} \\ \text{VCOMP } \left\langle \begin{bmatrix} \text{LOC} \begin{bmatrix} \text{CAT} \begin{bmatrix} \text{HEAD} \begin{bmatrix} \text{MOD } \boxed{1} \\ \text{SUBJ } \boxed{2} \\ particle \end{bmatrix} \\ \text{SUBCAT } \boxed{3} \\ \text{VCOMP } \langle\rangle \end{bmatrix} \\ \text{CONT } \boxed{4} \end{bmatrix} \end{bmatrix} \right\rangle \end{bmatrix} \\ \text{CONT } \boxed{4} \end{bmatrix} \\ stem \end{bmatrix} \quad (7.173)
$$
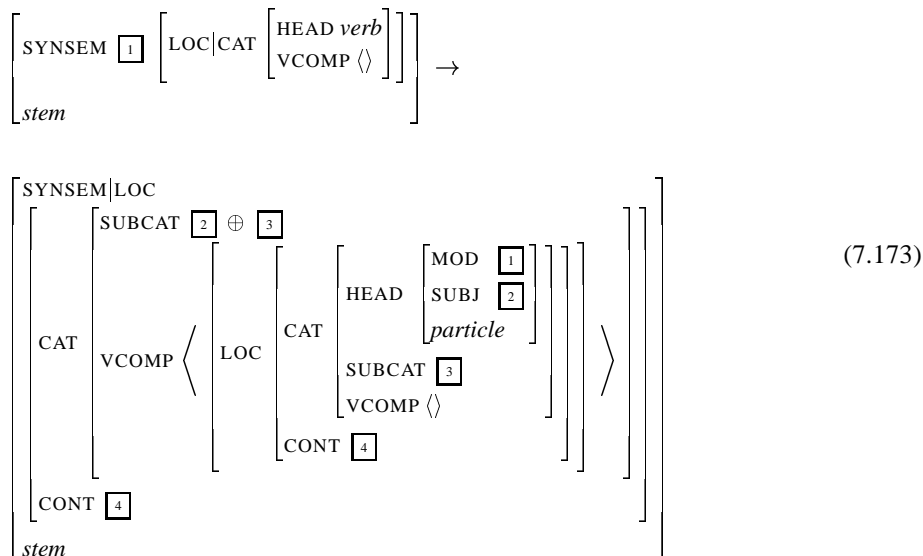
The lexical rule in (7.173) is very similar to the rule for resultative constructions that was given in (6.60). The difference is that the format of the input sign is not restricted

by the rule except from the restriction of the VCOMP value. The rule applies to all verbs with an empty VCOMP value. Whether the resulting verb is actually used in an analysis depends on the presence of a particle that can be combined with this verb.

Particles like those in (7.172) and (7.173) have the form of adjuncts. They select their head via MOD. The entry for *los* is shown in (7.174).

los (aspectual marker):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix}
\text{MOD} & \text{V[SUBCAT } \langle \rangle \text{ , CONT } \boxed{1} \text{]} \\
\text{SUBJ} & \langle \rangle \\
\textit{particle}
\end{bmatrix} \\
\text{SUBCAT} & \langle \rangle \\
\text{VCOMP} & \langle \rangle
\end{bmatrix} \\
\text{CONT} & \begin{bmatrix}
\text{ARG} & \boxed{1} \\
\textit{begin}
\end{bmatrix} \\
\textit{local}
\end{bmatrix}
\tag{7.174}
$$

This particle modifies an intransitive verb (SUBCAT = $\langle \rangle$) and encapsulates the semantics of this verb ($\boxed{1}$) under the relation it contributes (*begin*). The lexical entry that is combined with the particle takes the semantic contribution from the particle.

As an example, consider what happens, if the lexical rule applies to the entry of the base verb *lachen* ('to laugh').

lach- ('laugh'):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix}
\text{SUBJ} & \left\langle \text{NP[}\textit{str}\text{]}_{\boxed{1}} \right\rangle \\
\textit{verb}
\end{bmatrix} \\
\text{SUBCAT} & \langle \rangle \\
\text{VCOMP} & \langle \rangle
\end{bmatrix} \\
\text{CONT} & \begin{bmatrix}
\text{AGENT} & \boxed{1} \\
\textit{lachen}
\end{bmatrix} \\
\textit{local}
\end{bmatrix}
\tag{7.175}
$$

The result is shown in (7.176):

lach- ('laugh' + Particle):

$$
\begin{bmatrix}
\text{C} \begin{bmatrix}
\text{HEAD} \begin{bmatrix} \text{SUBJ} \left\langle \text{NP}[\textit{str}]_{\boxed{1}} \right\rangle \\ \textit{verb} \end{bmatrix} \\
\text{SUBCAT} \boxed{2} \oplus \boxed{3} \\
\text{VCOMP} \left\langle \text{L} \begin{bmatrix} \text{C} \begin{bmatrix} \text{H} \begin{bmatrix} \text{MOD}|\text{L} \begin{bmatrix} \text{C} \begin{bmatrix} \text{H} \begin{bmatrix} \text{SUBJ} \left\langle \text{NP}[\textit{str}]_{\boxed{1}} \right\rangle \\ \textit{verb} \end{bmatrix} \\ \text{SUBCAT} \langle\rangle \\ \text{VCOMP} \langle\rangle \end{bmatrix} \\ \text{CONT} \begin{bmatrix} \text{AGENT} \ \boxed{1} \\ \textit{lachen} \end{bmatrix} \end{bmatrix} \\ \text{SUBJ} \ \boxed{2} \\ \textit{particle} \end{bmatrix} \\ \text{SUBCAT} \ \boxed{3} \\ \text{VCOMP} \langle\rangle \end{bmatrix} \\ \text{CONT} \ \boxed{4} \end{bmatrix} \right\rangle
\end{bmatrix} \\
\text{CONT} \ \boxed{4} \\
\textit{local}
\end{bmatrix}
\tag{7.176}
$$
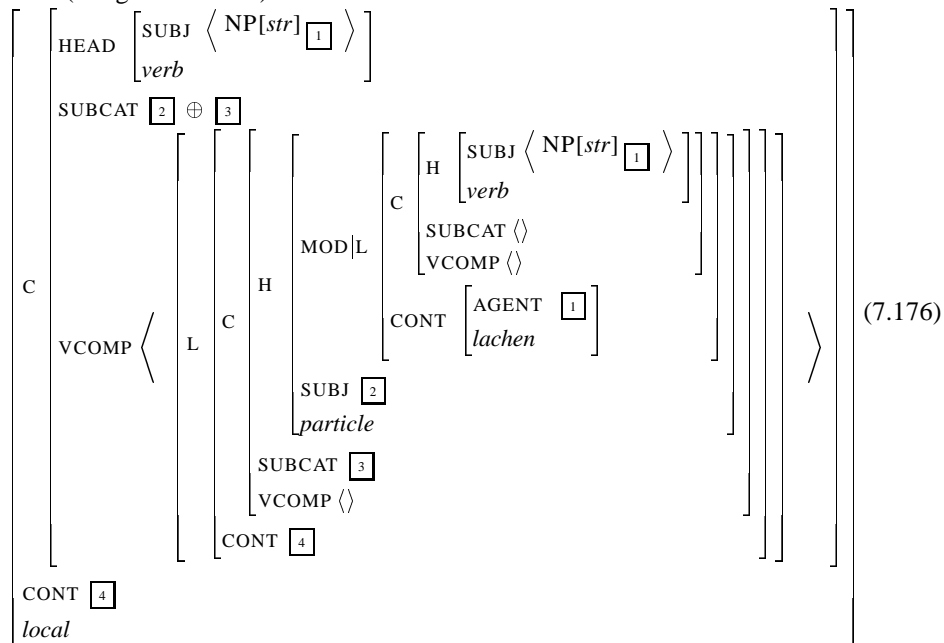
This entry has to be inflected in order to be usable in syntax. The details of the analysis of inflection will be discussed in section 7.2.5.3. The result of the inflection will be a lexical entry that is very similar to (7.176): For non-finite verbs only the phonological form is changed and information about the verb form and the tense is added. For finite verbs the subject is included into the subcat list, as was discussed in chapter 2.5. In the following I will use the entry in (7.176) to explain the syntactic combination of particle and verb. When the inflected form of the entry in (7.176) is combined with the particle in (7.174), the structure under CAT|VCOMP gets instantiated in the following way:

lachen ('laugh' + Particle *los* Result of the unification in VCOMP):

$$
\begin{bmatrix}
\text{C}\begin{bmatrix}
\text{HEAD}\begin{bmatrix}
\text{VFORM } \textit{bse} \\
\text{SUBJ} \quad \left\langle \text{NP}[\textit{str}]_{\boxed{1}} \right\rangle \\
\textit{verb}
\end{bmatrix} \\
\text{SUBCAT } \boxed{2} \oplus \boxed{3} \\
\text{VCOMP} \left\langle \text{L}\begin{bmatrix}
\text{C}\begin{bmatrix}
\text{H}\begin{bmatrix}
\text{MOD}|\text{L}\begin{bmatrix}
\text{C}\begin{bmatrix}
\text{H}\begin{bmatrix}
\text{SUBJ} \left\langle \text{NP}[\textit{str}]_{\boxed{1}} \right\rangle \\
\textit{verb}
\end{bmatrix} \\
\text{SUBCAT } \langle\rangle \\
\text{VCOMP } \langle\rangle
\end{bmatrix} \\
\text{CONT } \boxed{4}\begin{bmatrix}
\text{AGENT} \quad \boxed{1} \\
\textit{lachen}
\end{bmatrix}
\end{bmatrix} \\
\text{SUBJ } \boxed{2} \langle\rangle \\
\textit{particle}
\end{bmatrix} \\
\text{SUBCAT } \boxed{3} \langle\rangle \\
\text{VCOMP } \langle\rangle
\end{bmatrix} \\
\text{CONT } \boxed{5}\begin{bmatrix}
\text{ARG} \quad \boxed{4} \\
\textit{begin}
\end{bmatrix}
\end{bmatrix}\right\rangle \\
\text{CONT } \boxed{5}
\end{bmatrix} \\
\textit{local}
\end{bmatrix}
\tag{7.177}
$$
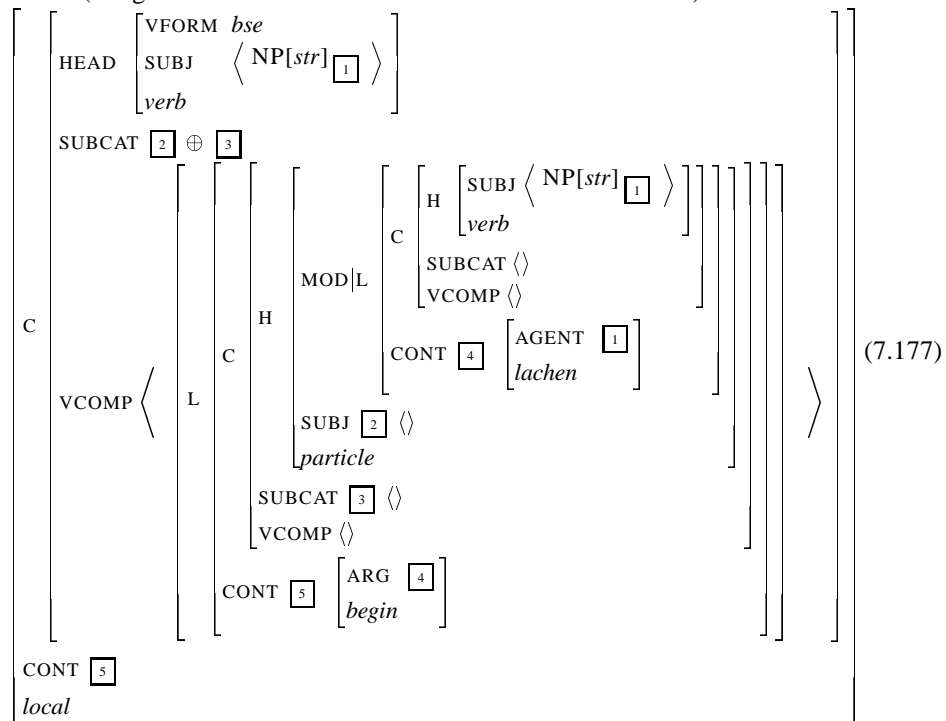
The information that was added by the particle is the structure sharing between the semantics of the original base verb that was the input to the lexical rule (7.173) ($\boxed{4}$) and the argument of the relation contributed by the particle. The semantics of the combination of *lachen* and *los* is taken from the adjunct ($\boxed{5}$) and is also represented as the semantics of the complete combination. The SUBJ value of *los* is raised to the object position of *lachen*. Since *los* does not have a subject, the combination of *los* and *lachen* remains intransitive. The result of combining the particle with the verb is shown in (7.178).

lachen ('laugh' + Particle *los*):

$$
\begin{bmatrix}
\text{CAT}\begin{bmatrix}
\text{HEAD}\begin{bmatrix}
\text{VFORM } \textit{bse} \\
\text{SUBJ} \quad \left\langle \text{NP}[\textit{str}]_{\boxed{1}} \right\rangle \\
\textit{verb}
\end{bmatrix} \\
\text{SUBCAT } \langle\rangle \\
\text{VCOMP } \langle\rangle
\end{bmatrix} \\
\text{CONT}\begin{bmatrix}
\text{ARG}\begin{bmatrix}
\text{AGENT} \quad \boxed{1} \\
\textit{lachen}
\end{bmatrix} \\
\textit{begin}
\end{bmatrix} \\
\textit{local}
\end{bmatrix}
\tag{7.178}
$$
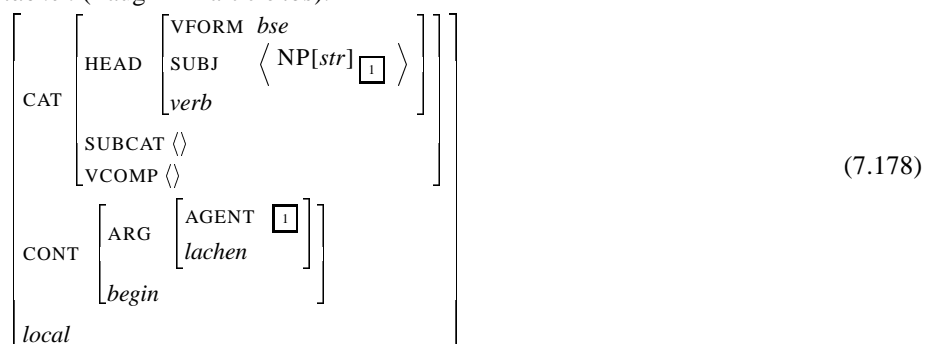
If one combines (7.176) with *an₅* instead of *los* one gets a different result, since the lexical entry of *an₅* differs from the entry for *los* in that it has an element on SUBJ:

an₅ (direction):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \text{MOD} & V[\text{SUBCAT } \langle \rangle \text{ , CONT } \boxed{1}] \\ \text{SUBJ} & \langle NP[str]_{\boxed{2}} \rangle \\ particle \end{bmatrix} \\ \text{SUBCAT} & \langle \rangle \\ \text{VCOMP} & \langle \rangle \end{bmatrix} \\
\text{CONT} & \begin{bmatrix} \text{ARG1} & \boxed{1} \\ \text{ARG2} & \boxed{2} \\ directed\text{-}towards \end{bmatrix} \\
local
\end{bmatrix}
\tag{7.179}
$$
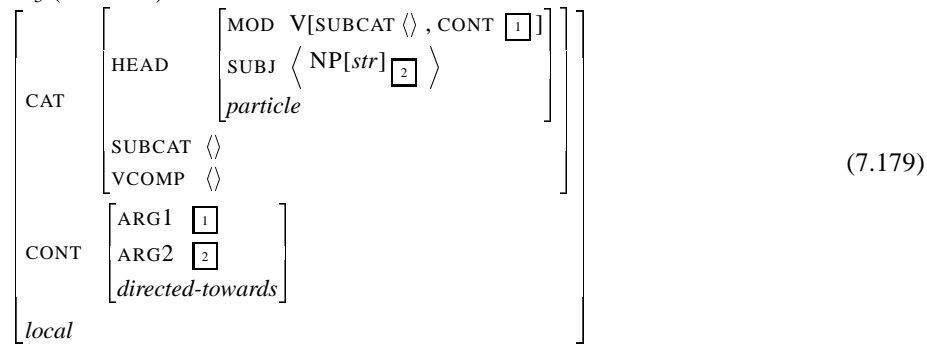
The result of the unification of *an₅* and the specification in the VCOMP list of *lachen* is shown in (7.180).

lachen ('laugh' + Particle *an₅* Result of the unification in VCOMP):

$$
\begin{bmatrix}
\text{C} & \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \text{VFORM} & bse \\ \text{SUBJ} & \langle NP[str]_{\boxed{1}} \rangle \\ verb \end{bmatrix} \\ \text{SUBCAT} & \boxed{2} \oplus \boxed{3} \\ \text{VCOMP} & \left\langle \text{L} \begin{bmatrix} \text{C} & \begin{bmatrix} \text{H} & \begin{bmatrix} \text{MOD}|\text{L} & \begin{bmatrix} \text{C} & \begin{bmatrix} \text{H} & \begin{bmatrix} \text{SUBJ} & \langle NP[str]_{\boxed{1}} \rangle \\ verb \end{bmatrix} \\ \text{SUBCAT} & \langle \rangle \\ \text{VCOMP} & \langle \rangle \end{bmatrix} \\ \text{CONT} & \boxed{4} \begin{bmatrix} \text{AGENT} & \boxed{1} \\ lachen \end{bmatrix} \end{bmatrix} \\ \text{SUBJ} & \boxed{2} \langle NP[str]_{\boxed{5}} \rangle \\ particle \end{bmatrix} \\ \text{SUBCAT} & \boxed{3} \langle \rangle \\ \text{VCOMP} & \langle \rangle \end{bmatrix} \\ \text{CONT} & \boxed{6} \begin{bmatrix} \text{ARG1} & \boxed{4} \\ \text{ARG2} & \boxed{5} \\ directed\text{-}towards \end{bmatrix} \end{bmatrix} \right\rangle \end{bmatrix} \\
\text{CONT} & \boxed{6} \\
local
\end{bmatrix}
\tag{7.180}
$$
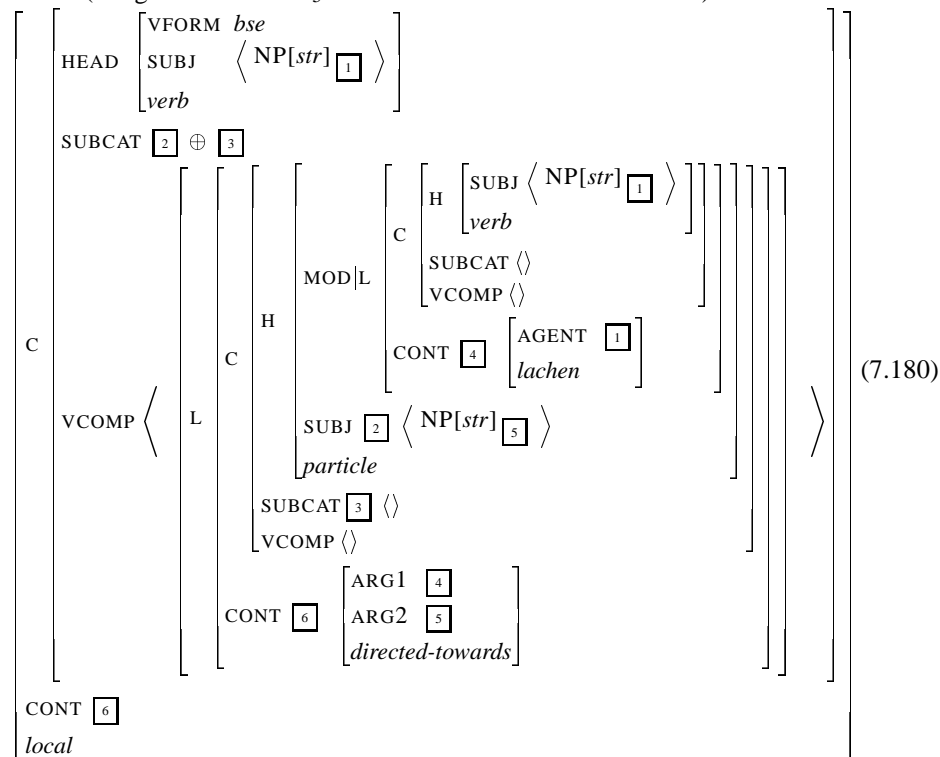
The result of the combination of *lachen* and *an₅* is shown in (7.181).

an lachen ('laugh' + Particle *an₅* combination):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \langle\ \text{NP}[\textit{str}]_{\boxed{1}}\ \rangle \\ \textit{verb} \end{bmatrix} \\
\text{SUBCAT} & \langle\ \text{NP}[\textit{str}]_{\boxed{2}}\ \rangle \\
\text{VCOMP} & \langle\rangle
\end{bmatrix} \\
\text{CONT} & \begin{bmatrix}
\text{ARG1} & \begin{bmatrix} \text{AGENT} & \boxed{1} \\ \textit{lachen} \end{bmatrix} \\
\text{ARG2} & \boxed{2} \\
\textit{directed-towards}
\end{bmatrix} \\
\textit{local}
\end{bmatrix}
\tag{7.181}
$$

Since *an₅* contributes an element via its SUBJ value, the resulting verb is transitive. For finite verbs we get a complex head that contains both the subject of *lachen* and the element that was contributed by *an₅* in its subcat list. These elements are dependents of the same complex head and therefore they can appear in any order in the domain of their head:

(7.182) a. weil   niemand   ihn   anlacht.
             because nobody-NOM him-ACC PART.laughs

             'because nobody smiles at him.'

         b. weil   ihn   niemand   anlacht.
             because him-ACC nobody-NOM PART.laughs

             'because nobody smiles at him.'

Both elements have structural case and therefore the first one (the subject of the base verb) gets nominative and the second one (the element contributed by *an₅*) gets accusative. The element that was added by *an₅* can also surface as subject in passive constructions:

(7.183) weil   er   nie   angelacht   wurde.
         because he-NOM never PART.laughed was

         'because nobody ever smiled at him.'

The example in (7.95d)—repeated here as (7.184)—is ruled out for the same reasons as the iteration of resultative constructions.

(7.184)   * weil   Maria Karl anloslacht.
            because Maria Karl PART.PART.laughs

            Intended: 'because Maria starts to smile at Karl.'

Since the lexical rule (7.173) cannot be applied to its own output, no iteration is possible. Furthermore, the formulation of the rule excludes productive particle verb combinations with other complex predicates. The rule does not apply to subject or object predicates that already select a predicate via VCOMP. The particle verb lexical rule neither applies to the output of the resultative lexical rule (6.60), nor does the resultative lexical rule apply to the output of the particle verb lexical rule. So it is explained that particles and resultatives cannot be iterated and that they are mutually exclusive. Note that my account does not predict that particle verbs which embed another predicate do not exist. In fact, various types of such verbs do exist. Examples are the subject predicative *aussehen* ('to look') and *vorkommen* ('to seem to somebody to be') (7.170) and

Draft of January 12, 2001. Comments Welcome!

also the phase verb *anfangen* ('to start') that will be discussed in section 7.2.4. These verbs are not derived via productive rules. They are listed as such in the lexicon.

The lexical entries for *los* and *an* as given in (7.174) and (7.179), respectively, are adjuncts and nothing said so far prevents these adjuncts from modifying a simple intransitive verb. The combination of particles with a verb via the head-adjunct schema is not desired since this makes wrong predictions in respect to the frontability of the verb and other distributional facts that were discussed in the data section. This problem can be solved very easily by assuming that adjunct daughters have to be LEX− while particles are specified to be LEX+ in the lexicon. All other adjuncts are underspecified with regard to their LEX value, no projection is necessary for adverbs like *gestern* ('yesterday') that do not take complements.[230]

7.2.3 Particle Fronting

Von Stechow and Sternefeld (1988) suggest a structure like (7.185) for their example—which was given here as (7.61).

(7.185)   [Die Tür auf $\_i$]$_j$ hat er gemacht$_i$ $\_j$.
          the door open   has he made

          'He opened the door.'

In (7.185) the verb *gemacht* is moved back after fronting *die Tür aufgemacht*.[231] For sentences like (7.61), I assume a structure like the one in (7.186).

(7.186)   [Die Tür auf]$_j$ hat er [$\_j$ gemacht].
          the door open has he   made

But since such sentences with *machen* + predicate have to be regarded as constructions with an obligatorily subcategorized for predicate like *finden* ('find', 'think') and *nennen* ('call'), I will demonstrate my analysis with the sentence (7.43c) which contains a nontransparent particle verb. Haider (1990b, p. 96; 1993, p. 280; 1997a, p. 35–36; 1997b, p. 86–87, p. 93), Fanselow (1993, p. 68), and Haider, Olsen and Vikner (1995a, p. 17) explicitly rule out structures like the one suggested by von Stechow and Sternefeld (1988).

(7.187)   * [Das vor-$\_i$]$_j$ hat$_i$ er.
            this PART (before) has he

However, since sentences like (7.43c) are possible, structures like (7.188) should also be possible.

(7.188)   [Vor-$\_i$]$_j$ hat$_i$ er das.
            PART (before) has he this

As was explained in the previous sections, I do not assume a verb movement analysis for German. Therefore there is no movement back from the *Vorfeld*. But even with verb movement analyses like the ones suggested by Kiss and Wesche (1991), Netter (Netter

---

[230]Thanks to Detmar Meurers for some discussion on this point.

[231]Alternatively one can assume that *gemacht* is moved out of *die Tür auf gemacht* before *die Tür auf* is moved. Such an analysis has never been proposed in HPSG, but an analysis where elements that depend on a head in the *Vorfeld* are moved back into the *Mittelfeld* has been suggested by Hinrichs and Nakazawa (1994b).

1992; Netter 1998a), Frank (1994), Kiss (1995), and Meurers (2000, p. 206–208)[232]
structures like the one in (7.188) are not necessary:

(7.189)   [Vor]$_i$ hat$_j$ er das [$\_i$ $\_j$].
          PART (before) has he this

          'He plans (to do) that.'

If the particle is analyzed as a complement ($\_i$) of the finite verb ($\_j$), the extraction has
the normal pattern of partial verb phrase fronting.

   In my approach, sentences (7.34c) and (7.43c) get structures like those in (7.190).

(7.190)   a.   [Fest]$_j$ scheint [$\_j$ zu stehen], daß ....
               PART (solid) seems   to stand   that

               'It seems to be certain that ...'

          b.   [Vor]$_j$ hat er das jedenfalls $\_j$.
               PART (before) has he this in.any.case

               'He plans (to do) that anyway.'

The analysis of (7.43c) is shown in figure 7.6. For this analysis to work it is not nec-
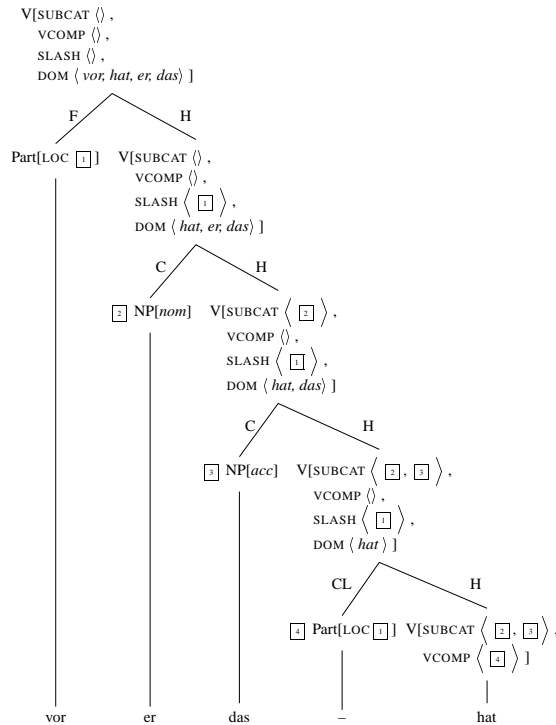
Figure 7.6: Analysis of *Vor hat er das.*

essary to assume that the particle is projected in some way, as it would be in $\overline{\text{X}}$-theory.
See also section 3.2.2 on this point.

---

[232]Meurers (2000, p. 207, fn. 10) suggest that the element that introduces the dependency for the verb in
   initial position contains the phonology of the particle if the fronted verb is part of a particle verb. With
   such a treatment one were forced to assume structures like (7.188).

7.2.4 The Verbal Complex in Thuringian

Phase verbs like *anfangen* ('start') and *aufhören* ('stop') are raising verbs. They are able to form a verbal complex with the verb they embed (See (Kiss, 1995) and Chapter 3.1.5). The important thing to focus on here is the relation of base verb and particle, and how the order in the verbal complex in examples like (7.91)—repeated here as (7.191)—can be accounted for.

(7.191) daß ich an   zu weinen fing.
        that I   PART to cry   started

        'that I started to cry.'

(7.192) shows the lexical entry for *anfangen*.

(an) fing ('started', finite form):

$$\begin{bmatrix} \text{CAT} & \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \text{SUBJ} & \langle\rangle \\ verb \end{bmatrix} \\ \text{SUBCAT } \boxed{1} \oplus \boxed{2} \\ \text{VCOMP} \left\langle \text{V}[\text{SUBJ } \boxed{1}, \text{SUBCAT } \boxed{2}, inf, \text{LEX+}]: \boxed{3}, \text{PART}[an] \right\rangle \end{bmatrix} \\ \text{CONT} \begin{bmatrix} \text{ARG1} & \boxed{3} \\ anfangen \end{bmatrix} \\ loc \end{bmatrix} \quad (7.192)$$

Figures 7.7 on the following page and 7.8 on the next page show how the sentences in (7.193) and (7.191) are analyzed, respectively.

(7.193) daß ich zu weinen anfing.
        that I   to cry   started

        'that I started to cry.'

A verbal complex is built from *an* and *fing*. This complex is combined with the infinitive *zu weinen*. All three elements are serialized in the same order domain. A similar analysis can be given for the sentence in (7.93c)—repeated here with standard German orthography and slightly simplified as (7.194).

(7.194) weil   er ihn um   hat wollen stimmen.
        because he him PART has want.to tune

        'because he wanted to change his mind.'

The analysis for (7.194) is given in figure 7.9 on page 297.

7.2.5 Morphology

In the HPSG paradigm three different proposals have been made to describe inflectional and derivational morphology: a lexical rule-based approach with Meta-Level Lexical Rules (Pollard and Sag, 1987, Chapter 8.2), a lexical rule-based approach with Description-Level Lexical Rules (Orgun, 1996; Riehemann, 1998; Ackerman and Webelhuth, 1998; Koenig, 1999),[233] and an affix based approach (Krieger and Nerbonne, 1993; Krieger, 1994; van Eynde, 1994, Chapter 4; Lebeth, 1994). Most proponents of

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[233]For non-HPSG-based approaches see for instance (Dowty, 1979, p. 304; Aronoff, 1994).

V[SUBCAT ⟨⟩ ,
  VCOMP ⟨⟩ ,
  DOM ⟨ *ich, zu weinen, an, fing* ⟩]

      C   H

[1] NP[*nom*]   V[SUBCAT ⟨ [1] ⟩ ,
                  VCOMP ⟨⟩ ,
                  DOM ⟨ *zu weinen, an, fing* ⟩]

                CL   H

          [2] V[*inf*,   V[SUBCAT ⟨ [1] ⟩ ,
             SUBCAT ⟨⟩]   VCOMP ⟨ [2] ⟩ ,
                      DOM ⟨ *an, fing* ⟩]

                      CL   H

                  [3] Part   V[SUBCAT ⟨ [1] ⟩ ,
                            VCOMP ⟨ [2] , [3] ⟩]

ich   zu weinen   an   fing
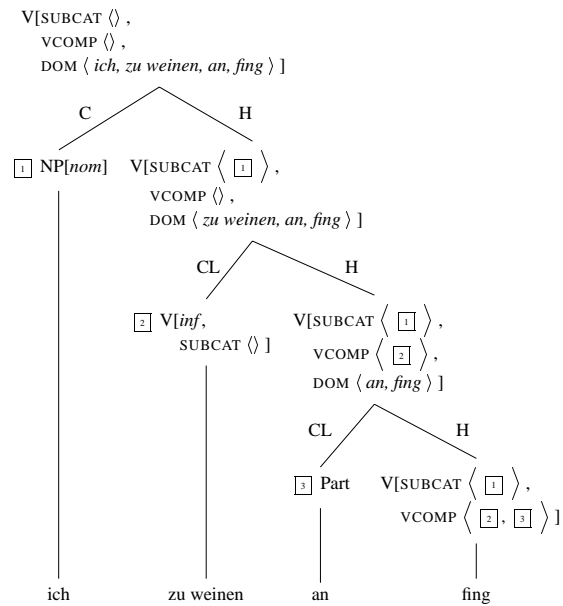
Figure 7.7: Analysis of *daß ich zu weinen anfing*.

V[SUBCAT ⟨⟩ ,
  VCOMP ⟨⟩ ,
  DOM ⟨ *ich, an, zu weinen, fing* ⟩]

      C   H

[1] NP[*nom*]   V[SUBCAT ⟨ [1] ⟩ ,
                  VCOMP ⟨⟩ ,
                  DOM ⟨ *an, zu weinen, fing* ⟩]

                CL   H

          [2] V[*inf*,   V[SUBCAT ⟨ [1] ⟩ ,
              SUBCAT ⟨⟩]   VCOMP ⟨ [2] ⟩ ,
                      DOM ⟨ *an, fing* ⟩]

                      CL   H

                  [3] Part   V[SUBCAT ⟨ [1] ⟩ ,
                            VCOMP ⟨ [2] , [3] ⟩]

ich   zu weinen   an   fing
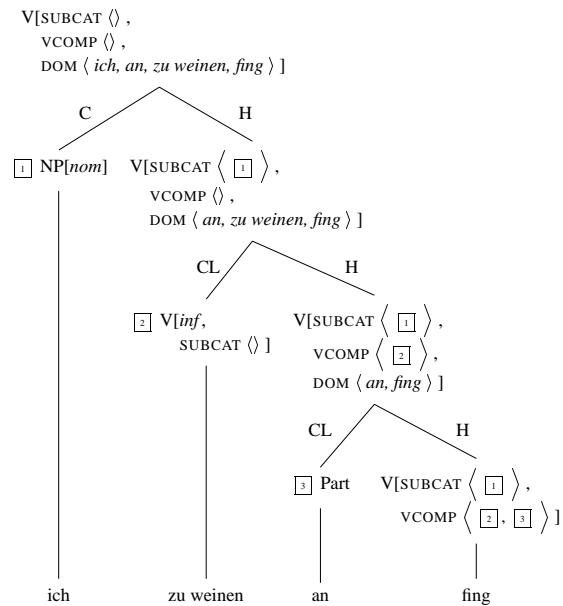
Figure 7.8: Analysis of *daß ich an zu weinen fing*.

V[SUBCAT ⟨⟩ ,
  VCOMP ⟨⟩ ,
  DOM ⟨ *er, ihn, um, hat, wollen, stimmen* ⟩]

        C   H

1 NP[*nom*]   V[SUBCAT ⟨ 1 ⟩ ,
            VCOMP ⟨⟩ ,
            DOM ⟨ *ihn, um, hat, wollen, stimmen* ⟩]

        C   H

2 NP[*acc*]   V[SUBCAT ⟨ 1 , 2 ⟩ ,
            VCOMP ⟨⟩ ,
            DOM ⟨ *um, hat, wollen, stimmen* ⟩]

        CL   H

3 V[SUBCAT ⟨ 1 , 2 ⟩ ,   V[SUBCAT ⟨ 1 , 2 ⟩ ,
    VCOMP ⟨⟩ ,   VCOMP ⟨ 3 ⟩]
    DOM ⟨ *um, wollen, stimmen* ⟩]

     CL   H

4 V[SUBCAT ⟨ 1 , 2 ⟩ ,   V[SUBCAT ⟨ 1 , 2 ⟩ ,
    VCOMP ⟨⟩ ,   VCOMP ⟨ 4 ⟩]
    DOM ⟨ *um, stimmen* ⟩]

   CL   H

5 Part   V[SUBCAT ⟨ 1 , 2 ⟩ ,
            VCOMP ⟨ 5 ⟩]

er   ihn   um   stimmen   wollen   hat
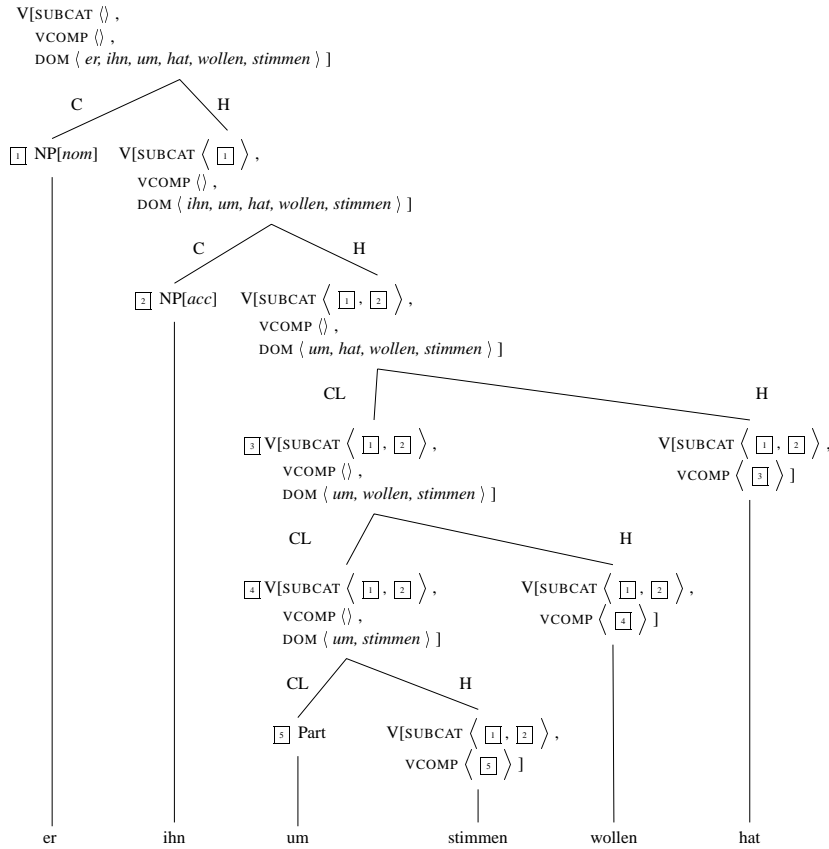
Figure 7.9: Analysis of *weil er ihn um hat wollen stimmen.*

the respective analyses discuss the alternatives in some length and show why the other solutions do not work. The discussion reminds me of similar discussions in the area of syntax. In what follows I will show that three alternatives have to be considered in syntax for the analysis of many phenomena. In many cases it is possible to convert grammars of one format into grammars of the other. For feature based grammars the introduction of auxiliary features is sometimes necessary, which makes some of the analyses less elegant. I will apply these insights from syntax to morphology and will show that many of the problems that arise in syntax do not araise in morphology. Having done this, I will suggest an approach to inflection and derivation that is based on Description-Level Lexical Rules.

7.2.5.1 Unary Projections, Lexical Rules, and (Empty) Elements

7.2.5.1.1 Syntax

In chapter 2.8.2 I assumed a phonological empty element for the introduction of non-local dependencies. This was mainly for explanatory reasons. In principle there are three ways to introduce nonlocal dependencies: an empty element, a unary projection, and a lexical rule. For context free grammars it is known that grammars with epsilon productions can be transformed into grammars without epsilons (Bar-Hillel, Perles and Shamir, 1961, p. 153, Lemma 4.1). Take for instance the grammar in (7.195). This grammar can be transformed into the grammar in (7.196) by adding rules where a symbol that can be rewritten as ε is omitted.

(7.195) $\bar{v} \to v, np$
$np \to \varepsilon$
$\bar{v} \to \bar{v}, adv$
$adv \to \varepsilon$

(7.196) $\bar{v} \to v, np$
$\bar{v} \to v$
$\bar{v} \to \bar{v}, adv$
$\bar{v} \to \bar{v}$

For a grammar that represents valence in lists and that assumes binary and unary branching structures only, this looks like this:

(7.197) $H[\text{SUBCAT } X] \to H[\text{SUBCAT } X \oplus \langle\, Y \,\rangle\,], Y$
$Y \to \varepsilon$

(7.198) $H[\text{SUBCAT } X] \to H[\text{SUBCAT } X \oplus \langle\, Y \,\rangle\,], Y$
$H[\text{SUBCAT } X] \to H[\text{SUBCAT } X \oplus \langle\, Y \,\rangle\,]$

In addition to the binary branching rule that combines a head H with one element (Y), there is another rule that discharges Y without realizing it. In an HPSG the local value of this element is introduced into SLASH. This solution has been argued for in (Müller, 1999a, Chapter 9.4.2).[234]

The third possibility to introduce nonlocal dependencies is a lexical rule that changes the valence properties of lexical entries (Pollard and Sag 1994, Chapter 9.5; Sag and Fodor 1994).

---

[234]An early formulation of an equivalent rule in Categorial Grammar can be found in (Hoeksema, 1991a, p. 693).

(7.199) $\overline{v} \rightarrow$ v-ditrans, np, np, np   v-ditrans $\rightarrow$ geben
          $\overline{v} \rightarrow$ v-trans, np, np   v-trans $\rightarrow$ lieben
          $\overline{v} \rightarrow$ v-intrans, np   v-intrans $\rightarrow$ schlafen
          $\overline{v} \rightarrow$ v-subjless
          np $\rightarrow \varepsilon$

So for the example grammar in (7.199), the ε-production can be eliminated and additional lexical entries for *geben* ('to give'), *lieben* ('to love'), and *schlafen* ('to sleep') have to be introduced.

(7.200) $\overline{v} \rightarrow$ v-ditrans, np, np, np   v-ditrans $\rightarrow$ geben
          $\overline{v} \rightarrow$ v-trans, np, np   v-trans $\rightarrow$ lieben $\vee$ geben
          $\overline{v} \rightarrow$ v-intrans, np   v-intrans $\rightarrow$ schlafen $\vee$ lieben $\vee$ geben
          $\overline{v} \rightarrow$ v-subjless   v-subjless $\rightarrow$ schlafen $\vee$ lieben $\vee$ geben

The $\vee$ stands for a disjunction. So v-trans can be rewritten as lieben or geben.

For a grammar with valence information represented in lists this would look like this:

(7.201)   V[SUBCAT $\langle$ NP, NP, NP $\rangle$] $\rightarrow$ geben
          V[SUBCAT $\langle$ NP, NP $\rangle$] $\rightarrow$ lieben
          V[SUBCAT $\langle$ NP $\rangle$] $\rightarrow$ schlafen

(7.202)   V[SUBCAT $\langle$ NP, NP, NP $\rangle$] $\rightarrow$ geben
          V[SUBCAT $\langle$ NP, NP $\rangle$] $\rightarrow$ geben
          V[SUBCAT $\langle$ NP $\rangle$] $\rightarrow$ geben
          V[SUBCAT $\langle\rangle$] $\rightarrow$ geben
          V[SUBCAT $\langle$ NP, NP $\rangle$] $\rightarrow$ lieben
          V[SUBCAT $\langle$ NP $\rangle$] $\rightarrow$ lieben
          V[SUBCAT $\langle\rangle$] $\rightarrow$ lieben
          V[SUBCAT $\langle$ NP $\rangle$] $\rightarrow$ schlafen
          V[SUBCAT $\langle\rangle$] $\rightarrow$ schlafen

The grammar in (7.195) contains epsilons for non-heads. Kathol (2000, p. 92) argues against head movement approaches for the verb position, claiming that traceless accounts are not possible.

(7.203) $\overline{v} \rightarrow$ np, ε

However, there is a possible transformation of grammars like (7.203) that is trivial:

(7.204) $\overline{v} \rightarrow$ np

To demonstrate the transformation for the feature based grammar I assume the analysis of Netter (1992). Netter stipulates an empty verbal element that subcategorizes for an unspecified list of complements ([1]) and the verb in verb first position that takes the same list of arguments.[235]

---

[235]I adapted Netter's trace in a way that the order of elements on the subcat list corresponds to the order that is assumed by Pollard and Sag (1994) and throughout this book.

(7.205)
$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix} \text{HEAD} & [verb] \\ \text{SUBCAT} & \text{V[LEX+, SUBCAT } \boxed{1}, \text{ CONT } \boxed{2}] \oplus \boxed{1} \end{bmatrix} \\
\text{CONT} & \boxed{2} \\
loc &
\end{bmatrix}
$$

Figure 7.10 shows an example analysis for the sentence (7.206).

(7.206) Bringt Peter die Ladung?
         brings Peter the load

         'Does Peter bring the load?'

V[SUBCAT ⟨⟩]

C   H

$\boxed{1}$ V[SUBCAT $\left\langle \boxed{2}, \boxed{3} \right\rangle$]   V[SUBCAT $\left\langle \boxed{1} \right\rangle$]

C   H

$\boxed{2}$ NP[*nom*]   V[SUBCAT $\left\langle \boxed{1}, \boxed{2} \right\rangle$]

C   H

$\boxed{3}$ NP[*acc*]   V[SUBCAT $\left\langle \boxed{1}, \boxed{2}, \boxed{3} \right\rangle$]

bringt   Peter   die Ladung   _
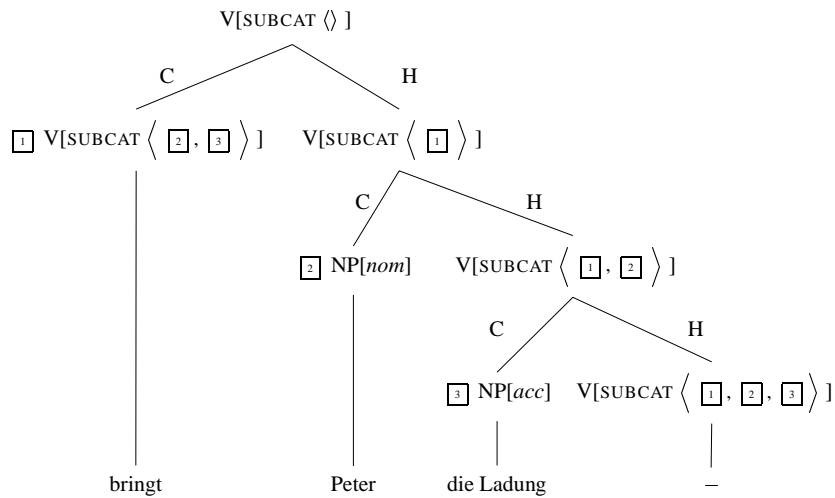
Figure 7.10: Analysis for Sentences with the Verb in Initial Position with Verbal Trace

Abbreviated and in rule notation, a grammar with the head complement schema and such a trace looks like (7.207).

(7.207) H[SUBCAT X] → H[SUBCAT X ⊕ ⟨ Y ⟩], Y
         V[SUBCAT ⟨ V[SUBCAT X] ⟩ ⊕ X] → ε

The trace in (7.207) can be eliminated, yielding (7.208):

(7.208) H[SUBCAT X] → H[SUBCAT X ⊕ ⟨ Y ⟩], Y
         V[SUBCAT ⟨ V[SUBCAT X ⊕ ⟨ Y ⟩] ⟩ ⊕ X] → Y

The grammar in (7.208) does not combine a trace for a verb with a complement, but rather projects from the complement directly. See figure 7.11 on the facing page for an example analysis. I implemented a similar approach in the Verb*mobil* grammar (Müller and Kasper, 2000, p. 243). However, this case differs from (7.197) in that the lexical rule based transformation cannot be applied, and this was what Kathol had in mind with his statement. In principle one can imagine a lexical rule-based approach that maps every head the projections of which can be a complement of a verb onto a verb, inheriting the complements of that head. The noun *Bild* ('picture') would be mapped as is shown in (7.209) and (7.210):

Draft of January 12, 2001. Comments Welcome!
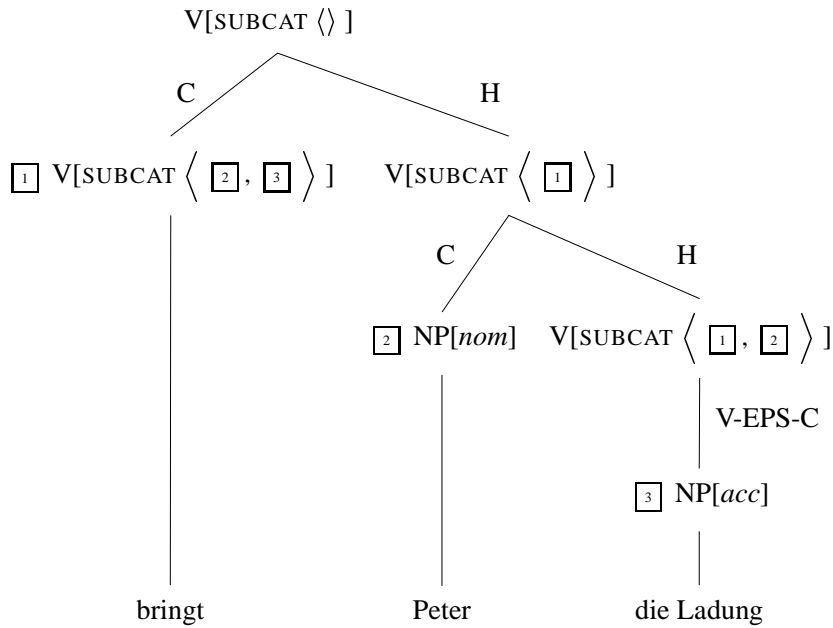
$$\text{V[SUBCAT } \langle \rangle \text{]}$$

Figure 7.11: Analysis for Sentences with the Verb in Initial Position with Verbal Trace

(7.209) $\text{N[SUBCAT } \langle \text{ DET, PP } \rangle \text{]} \rightarrow \text{Bild}$

$\text{V[SUBCAT } \langle \text{ V[SUBCAT X} \oplus \langle \text{ NP } \rangle \text{]} \rangle \oplus \text{X} \oplus \langle \text{ DET, PP } \rangle \text{]} \rightarrow \text{Bild}$

Of course this is totally absurd. The determiner and the PP would be complements of a verbal head and therefore linearization patterns would be predicted that differ from NP internal serialization patterns. Furthermore, this approach would fail with nominalized verbs since if they are mapped back to verbs, case assignment principles would assign case as it is done in verbal environments, i.e., accusative instead of genitive. Nevertheless, there is a way to transform a grammar with empty heads into one without empty heads, as I have shown above.[236]

Although such grammar transformations can be done automatically for context free grammars and although this is also possible for feature based grammars under certain conditions, this is not what the linguist is interested in. In order to make grammars of the various forms identical in coverage, features and constraints are necessary in some of the grammar formats that are not necessary in the other. As an example, consider the trace that was used in chapter 2.8.2 (see page 27). This trace corresponds to the second rule in (7.197). The problem with it is that it is totally underspecified. Without any further restrictions this empty element could also be used as a head in headed structures. This would permit an analysis of (7.210b).

(7.210) a. [Der kluge Mann]_i hat _i geschlafen.
the smart man has slept

---

[236] Another example for the elimination of phonologically empty heads is the relative clause analysis. Pollard and Sag (1994) suggested an empty relativizer for the analysis of relative clauses. This empty relativizer is the head of the relative clause. It can be replaced by a binary unheaded projection that has the complements of the relativizer as daughters and projects a relative clause. See (Sag, 1997) and (Müller, 1999a, Chapter 10.3.2; Müller, 1999b) for such proposals. The alternatives are discussed in more detail in (Müller, 1999a, Chapter 10.3).

'The smart man slept.'

b.   * [Mann]$_i$ hat der kluge $\_i$ geschlafen.
     man   has the smart   slept

Another problem with the trace is that the coordination of traces has to be blocked: In coordinated structures the CAT and the NONLOC values of conjuncts are shared (Pollard and Sag, 1994, p. 202). The sharing of the NONLOC values explains cases of across the board extraction where one filler corresponds to several gaps in the conjuncts.

   (7.211)   Bagels$_i$ [[I like $\_i$] and [Alison hates $\_i$]].

In (7.211) two sentences are coordinated that contain a gap. The descriptions of the gap constituent are identified in the coordination and therefore the filler fills both gaps simultaneously. The problem with traces now is that without further constraints, sentences like (7.212) would be permitted.

   (7.212)   * Bagels$_i$ I like [$\_i$ and $\_i$].

In (7.212) *Bagels* also fills the two gaps in the conjuncts. The coordinated structure is the object of *like*.

   And finally traces are problematic for languages with a more liberate constituent order since it is not clear where they should be serialized (Nerbonne, 1994, p. 147–148). Meurers (2000, p. 178) claims that traces are unproblematic as far as serialization is concerned since only the phonology of signs is serialized. While this is true for the approach to constituent order that was suggested in Pollard and Sag (1987, p. 178) it is not true for a domain based approach as is assumed in this book. Traces are inserted into the domain of their head as any other dependents are.

   All these problems can be solved technically. Traces as heads can be blocked by a feature or by a type specification in the schemata. In the same way, traces in coordinated structures can be ruled out. Kathol (1995, Chapter 5.4.1) deals with the serialization problem by using a special relational constraint for domain formation that is sensitive to traces and does not insert them into higher order domains.

   If one did not have traces in the first place, one would not have to invent such devices to block their occurrence where they are not wanted. Approaches that assume unary projections or lexical rules do not have these problems and they do not have to introduce special blocking features or special relational constraints. On the other hand, one needs several grammar rules for the introduction of nonlocal dependencies (one for complements, one for adjuncts, one for every valence feature from which extraction is possible: SUBCAT, VCOMP in my grammar) or a system of lexical rules that can also account for adjunct extraction. Such lexical rules were suggested by van Noord and Bouma (1994). They produce an infinite lexicon, since adjuncts are introduced into the subcat list from where they can be extracted (see also Chapter 5.3.1 for a discussion of this proposal). Since I do not like the idea of an infinite lexicon, I used unary projections in my grammar. Another difference between the projection based approach and the lexicon based approach to extraction is that the lexical rule based approach changes the order in which elements on the valence list get saturated. If the accusative object of a ditransitive verb is extracted, this nonlocal dependency is introduced before syntactic combination starts, i.e., the accusative object is saturated before the dative object, whereas in the schema based approach the dative object is saturated first and then the unary projection applies and extracts the accusative object. In that way the unary projection resembles the effects of a trace more closely.

7.2.5.2 Morphology

For morphology one basically has the same options: One can treat affixes as heads or one can use lexical rules. In the lexicon unary projections are equivalent to Description Based Lexical Rules. The first approach combines the two linguistic objects *frag* and *t* to form *fragt* and the second one derives *fragt* directly from *frag* by changing the phonological information by the rule. The following two grammars may serve as an example.

(7.213) word → stem, suffix
         stem → frag
         suffix$_1$ → t
         suffix$_2$ → ε

In (7.213) a rule is used that combines a stem with a suffix. For inflection it is usually assumed that the stem is the head and for derivation the affix is assumed to be the head. Van Eynde (1994, Chapter 4) analyzes inflection with the head marker schema and derivation with the head complement schema. Since the phonology values of the suffixes in the grammar in (7.213) are known and since the number of these elements is finite, the suffixes that can be derived by rules in (7.213) can be merged with the first rule in (7.213). The result is (7.214).

(7.214) word$_1$ → stem
         word$_2$ → stem
         stem → frag

Instead of having two suffixes, one gets two rules. In feature based grammars that employ type hierarchies the fact that the rules in (7.214) are rather similar when affixes of the same class have been used to derive these rules can be captured by assigning a common supertype to them.

The differences of the two approaches are similar to those with the trace based / traceless accounts: Approaches that assume that affixes are independent linguistic objects have to provide mechanisms that block these elements from occurring in syntax. This can easily be done by a feature. But this is not a real drawback in comparison with the rule-based approach since the latter also has to take care of the uninflected stems. They cannot be used in syntax. So the mechanism that blocks *frag* and *t* in (7.213) from appearing in syntax also has to be available for *frag* in (7.214).

The problem of coordination of invisible affixes or the serialization of invisible affixes does not arise. It is always clear whether a given affix is a prefix or a suffix.

As Orgun (1996, p. 52) observed, the fact that certain languages signal certain information by truncating parts of words can be captured easily in the lexical rule-based analysis. But since the phonology value that results from the combination of a stem and an affix is related to the phonologies of stem and affix by a relational constraint anyway, this relational constraint can be used to truncate parts of words. Such a relational constraint is encoded in the lexical rules in a lexical rule-based approach. In an affix based approach one can either encode it in a zero or rather 'negative' affix or attach it to the rule that combines stem and affix and make it truncate parts of the stem phonology only if a certain class of 'negative' affixes is present.

Ackerman and Webelhuth (1998, p. 140) argue that in cases like the prefect participle in German (*ge+frag+t*) it is not clear which part of the *ge- -t*-circumfix bears the meaning of participle of the perfect and that therefore a lexical rule-based account has to be preferred. Again this argument is not really conclusive, since the circumfix is not

necessarily represented by two separate linguistic objects. But even if one did assume a prefix *ge-* and a suffix *-t* and binary branching structures, the situation is not very different from idiomatic constructions in syntax. An idiomatic phrase has its idiomatic meaning only when all parts of the idiom are present in a certain syntactic environment. An example for a binary branching analysis of [[ge lach]t] would be one, where the *ge-* is subcategorized for by the *-t*. The *ge-* takes over the semantics of the stem it embeds and the *-t* contributes the meaning of the perfect participle.

In what follows I will assume the lexical rule-based approach as it was suggested by Krieger and Nerbonne (1993). This is mainly for uniformity. Since I argued for analyzing passive with a lexical rule it is also reasonable to analyze the passive-like *-bar-*adjectives by means of a lexical rule.

7.2.5.3   Inflection

The lexical rule in (7.215) is used to derive inflected lexical entries from entries that are listed in the lexicon or that have been derived by other lexical rules that map uninflected lexical entries to other uninflected lexical entries. So it can be used to derive *lachst* from various forms of *lach-* ('laugh'). One entry for *lach-* is the one that is listed. Another one is derived by the lexical rules for resultatives (see (6.60) on page 203) and can be used in sentences as *er lacht sich heiser* ('he laughs himself hoarse'), and the third one is derived by the rule for productive particle verb combinations (see (7.173) on page 287), and can be used in sentences like *er lacht los* ('he starts to laugh').

Lexical rule for the 2nd person singular, present:

$$
\begin{bmatrix}
\text{PHON} & \boxed{1} \oplus \langle\, \mathit{st}\, \rangle \\[2ex]
\text{SYNSEM} &
\begin{bmatrix}
\text{LOC} &
\begin{bmatrix}
\text{CAT} &
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{VFORM} & \mathit{fin} \\ \text{SUBJ} & \langle\,\rangle \end{bmatrix} \\[1ex]
\text{SUBCAT} & \boxed{2} \oplus \boxed{3}
\end{bmatrix} \\[2ex]
\text{CONT} & \begin{bmatrix} \text{PSOA} & \boxed{4} \\ \mathit{present} & \end{bmatrix}
\end{bmatrix}
\end{bmatrix} \\[6ex]
\text{LEX-DTR} &
\begin{bmatrix}
\text{PHON} & \boxed{1} \\[1ex]
\text{SYNSEM} &
\begin{bmatrix}
\text{LOC} &
\begin{bmatrix}
\text{CAT} &
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \boxed{2} \; \langle\, \text{NP}[\mathit{str}]_{2,sg} \,\rangle \end{bmatrix} \\[1ex]
\text{SUBCAT} & \boxed{3}
\end{bmatrix} \\[1ex]
\text{CONT} & \boxed{4}
\end{bmatrix}
\end{bmatrix} \\[2ex]
\mathit{stem} &
\end{bmatrix} \\[2ex]
\mathit{2nd\text{-}inflected\text{-}verb\text{-}lexical\text{-}sign} &
\end{bmatrix}
\tag{7.215}
$$

This lexical rule produces a finite form from the stem that may be basic or derived. The VFORM value is instantiated appropriately and since I assume that subjects of finite verbs are represented on the subcat list, the subject of the uninflected stem is appended at the beginning of the list of other complements. The tense information is added to the semantics of the uninflected stem. The agreement information is directly represented at the subject. The rule in (7.215) is a subtype of the general Subject Insertion Lexical Rule (SILR). For other inflectional affixes there will be other subtypes that add other phonological information to the stem and that enforce different agreement features on

the subject. For subjectless verbs and verbs with clausal subjects there is a version of the rule above that adds a third person singular ending to the phonology value of the stem.

The three lexems for *lach-* that were mentioned above cannot be used in syntax since they are of the wrong type: they are not subtypes of *lexical-sign*, only the output of lexical rules for inflection is.

If the rule in (7.215) is applied to the listed entry for *lach-* in (7.175), one gets (7.216).

lachst ('laugh'):

$$
\begin{bmatrix}
\text{PHON } \langle \text{ lachst} \rangle \\
\text{SYNSEM}|\text{LOC}
\begin{bmatrix}
\text{CAT}
\begin{bmatrix}
\text{HEAD}
\begin{bmatrix}
\text{VFORM } \textit{fin} \\
\text{SUBJ} \quad \langle\rangle \\
\textit{verb}
\end{bmatrix} \\
\text{SUBCAT } \langle \text{ NP}[\textit{str}]_{\boxed{1}} \rangle \\
\text{VCOMP } \langle\rangle
\end{bmatrix} \\
\text{CONT}
\begin{bmatrix}
\text{PSOA}
\begin{bmatrix}
\text{AGENT } \boxed{1} \\
\textit{lachen}
\end{bmatrix} \\
\textit{present}
\end{bmatrix}
\end{bmatrix}
\end{bmatrix}
\tag{7.216}
$$
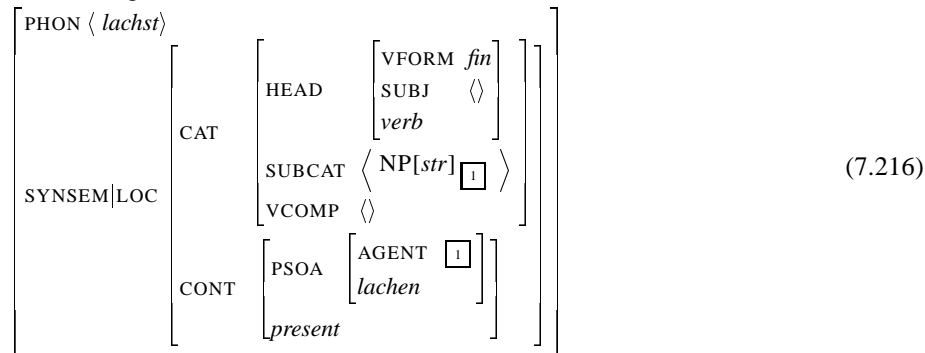
The result of applying the rule to the derived entry for the particle verb combinations with *lach-* in (7.176) is shown in (7.217).

lachst ('laugh' + Particle):

$$
\begin{bmatrix}
\text{C}
\begin{bmatrix}
\text{HEAD}
\begin{bmatrix}
\text{SUBJ } \langle\rangle \\
\textit{verb}
\end{bmatrix} \\
\text{SUBCAT } \langle \text{ NP}[\textit{str}]_{\boxed{1}\,2,sg} \rangle \oplus \boxed{2} \oplus \boxed{3} \\
\text{VCOMP } \left\langle \text{L}
\begin{bmatrix}
\text{C}
\begin{bmatrix}
\text{H}
\begin{bmatrix}
\text{MOD}|\text{L}
\begin{bmatrix}
\text{C}
\begin{bmatrix}
\text{H}
\begin{bmatrix}
\text{SUBJ } \langle \text{ NP}[\textit{str}]_{\boxed{1}} \rangle \\
\textit{verb}
\end{bmatrix} \\
\text{SUBCAT } \langle\rangle \\
\text{VCOMP } \langle\rangle
\end{bmatrix} \\
\text{CONT}
\begin{bmatrix}
\text{AGENT } \boxed{1} \\
\textit{lachen}
\end{bmatrix}
\end{bmatrix} \\
\text{SUBJ } \boxed{2} \\
\textit{particle}
\end{bmatrix} \\
\text{SUBCAT } \boxed{3} \\
\text{VCOMP } \langle\rangle
\end{bmatrix} \\
\text{CONT } \boxed{4}
\end{bmatrix}
\right\rangle \\
\text{CONT}
\begin{bmatrix}
\text{PSOA } \boxed{4} \\
\textit{present}
\end{bmatrix} \\
\textit{local}
\end{bmatrix}
\tag{7.217}
$$
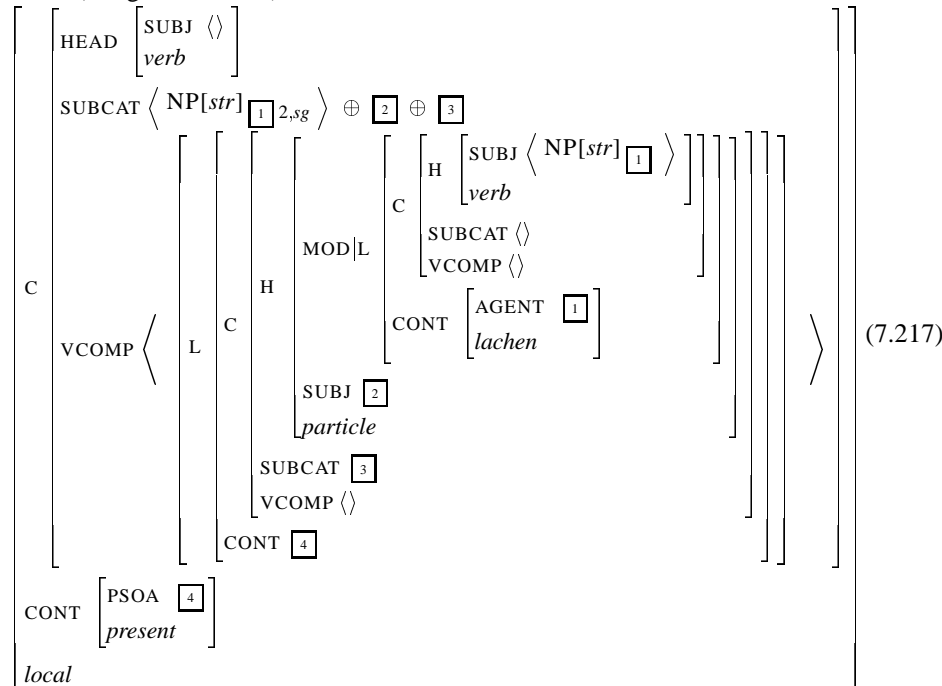
Although the semantics of the particle verb combination ($\boxed{4}$) is still underspecified since the particle is not combined with the verb yet, it can be referred to. The content

of the particle that will be filled in later is embedded under the tense relation. When
the particle *an₅* is combined with the lexical sign in (7.217), we get (7.218).

an lachst ('laugh' + Particle *an₅* combination):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \langle\rangle \\ verb \end{bmatrix} \\
\text{SUBCAT} & \left\langle \text{NP}[str]_{\boxed{1}\,2,sg},\ \text{NP}[str]_{\boxed{4}} \right\rangle \\
\text{VCOMP} & \langle\rangle
\end{bmatrix} \\[2em]
\text{CONT} & \begin{bmatrix}
\text{PSOA} & \begin{bmatrix}
\text{ARG1} & \begin{bmatrix} \text{AGENT} & \boxed{1} \\ lachen \end{bmatrix} \\
\text{ARG2} & \boxed{4} \\
& directed\text{-}towards
\end{bmatrix} \\[2em]
present
\end{bmatrix} \\[2em]
local
\end{bmatrix}
\tag{7.218}
$$
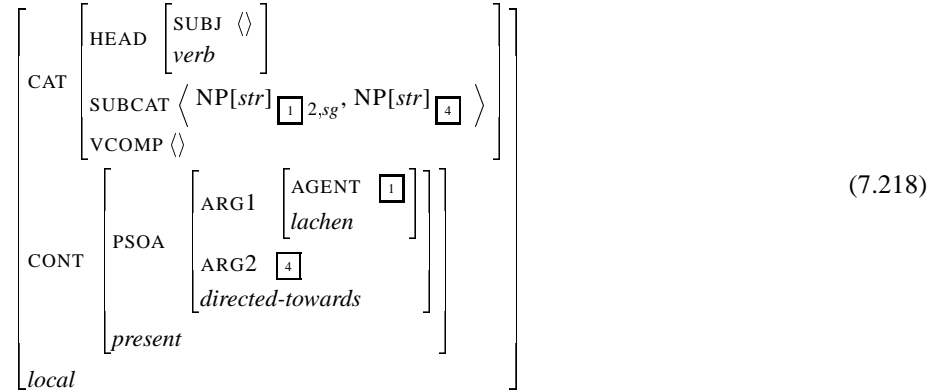
The combination of particle and verb works as it was described in section 7.2.2. The
only things that have been added are the agreement information and the semantic in-
formation about tense.

7.2.5.4   Derivational Morphology

In the following sections I will show how *Ge- -e*-nominalizations and *-bar*-derivations
can be analyzed without getting the bracketing paradoxes that were discussed in sec-
tion 7.1.11.

7.2.5.4.1   Nominalizations

As is clear from looking at the examples that were discussed in section 7.1.11.2.1, there
are various ways in which the arguments of a verb can be realized after nominalization
has been applied. The subject of the verb can be realized as a *von*-PP, as a postnominal
genitive NP, or it may be left implicit.

(7.219)   a.   das Angebrülle   von Norbert
               the PART (at).screaming from Norbert

               'Norbert's screaming at somebody'

          b.   das Rumgeheule   der   FDP
               the PART (around).shouting of.the FDP

               'the FDP's whining'

          c.   das Herumgerenne
               the PART (around).running

               'the running around'

Accusative objects can also be realized as a *von*-PP, as a postnominal genitive NP, or
they may be left implicit.

(7.220)   a.   das Gutfinden   von Harald Juhnke
               the good.finding of Harald Juhnke

               'Appreciation of Harald Juhnke'

b. die Kaputtsanierung   der   Stadt
the broken.renovation of.the town

'the destructive over-renovation of the town'

c. die Kaputtindustrialisierung
the broken.industrialization

'the destructive over-industrialization'

Rather than giving a detailed account of the various ways in which these arguments can be realized, I will consider the case where all arguments are suppressed. The main purpose of this section is not to provide all the details of argument realizations in nominal environments, but rather to show how *Ge- -e*-nominalizations can be accounted for without any bracketing paradox.

7.2.5.4.1.1   *Ge- -e*-nominalizations

The lexical rule in (7.221) can be used to derive nominalizations like the one in (7.219c).

Lexical rule for *Ge- -e*-nominalizations:

$$
\begin{bmatrix}
\text{PHON} & f(\,\langle ge \rangle\,,\,\boxed{1}\,,\,\langle\, e\,\rangle\,) \\[4pt]
\text{SYNSEM} & \begin{bmatrix}
\text{LOC} & \begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix} noun \end{bmatrix} \\
\text{SUBCAT} & \langle\, \text{DET}\, \rangle
\end{bmatrix} \\[8pt]
\text{CONT} & \begin{bmatrix}
\text{PSOA} & \boxed{2} \\
repeated &
\end{bmatrix}
\end{bmatrix}
\end{bmatrix} \\[20pt]
\text{LEX-DTR} & \begin{bmatrix}
\text{PHON} & \boxed{1} \\
\text{SYNSEM} & \begin{bmatrix}
\text{LOC} & \begin{bmatrix}
\text{CAT}\,|\,\text{HEAD} & \begin{bmatrix} verb \end{bmatrix} \\
\text{CONT} & \boxed{2}
\end{bmatrix}
\end{bmatrix} \\
stem &
\end{bmatrix} \\[10pt]
ge\text{-}e\text{-}derived\text{-}noun\text{-}stem
\end{bmatrix}
$$

(7.221)

The rule applies to all verbs. The valence properties of the nominalized verb are ignored since this lexical rule licenses only the bare noun with a determiner without any complements that could be inherited from the verb. Following Pollard and Sag (1994, Chapter 1), I assume an NP analysis rather than a DP analysis, but the rule in (7.221) could be easily changed. For a DP analysis in HPSG see (Abb, 1994). A special variant of a DP analysis can be found in (Netter, 1994) and (Netter, 1998b).

Consider first *Gerenne* as it can be derived from the verb *renn-* without a particle. The entry for *renn-* analogous to the one *lach-*. It is given in (7.222).

renn- ('run'):

$$
\begin{bmatrix}
\text{PHON } \langle \textit{renn} \rangle \\[2pt]
\text{SYNSEM}|\text{LOC}
\begin{bmatrix}
\text{CAT}
\begin{bmatrix}
\text{HEAD}
\begin{bmatrix}
\text{SUBJ } \left\langle \text{NP}[\textit{str}]\,\boxed{1} \right\rangle \\
\textit{verb}
\end{bmatrix} \\[10pt]
\text{SUBCAT } \langle\rangle \\
\text{VCOMP } \langle\rangle
\end{bmatrix} \\[10pt]
\text{CONT}
\begin{bmatrix}
\text{AGENT } \boxed{1} \\
\textit{rennen}
\end{bmatrix}
\end{bmatrix}
\end{bmatrix}
\qquad (7.222)
$$

If this lexical entry is fed into (7.221), the result is (7.223).

Gerenne- ('repeated running'):

$$
\begin{bmatrix}
\text{PHON } \langle \textit{Gerenne} \rangle \\[2pt]
\text{SYNSEM}|\text{LOC}
\begin{bmatrix}
\text{CAT}
\begin{bmatrix}
\text{HEAD} \quad \begin{bmatrix} \textit{noun} \end{bmatrix} \\[6pt]
\text{SUBCAT } \langle \text{DET} \rangle
\end{bmatrix} \\[10pt]
\text{CONT}
\begin{bmatrix}
\text{PSOA}
\begin{bmatrix}
\text{AGENT } \boxed{} \\
\textit{rennen}
\end{bmatrix} \\[8pt]
\textit{repeated}
\end{bmatrix}
\end{bmatrix} \\[6pt]
\textit{ge-e-derived-noun-stem}
\end{bmatrix}
\qquad (7.223)
$$

The agent of *rennen* is not specified in (7.223). The nominalization rule has to take care of the existential quantification of this argument.

To derive *Herumgerenne* we first have to apply the lexical rule (7.173) for productive particle verb combinations to the entry for *renn-* that is listed in the lexicon. The result is shown in (7.224). This entry is similar to the one for *lach-* that was shown in (7.176). The only difference is the semantic representation that was inherited from the lexical entry that fed the rule.

renn- ('run' + Particle):

$$
\begin{bmatrix}
\text{PHON } \langle \textit{renn} \rangle \\
\text{SYNSEM|LOC} \\
\begin{bmatrix}
\text{HEAD} \begin{bmatrix} \text{SUBJ } \langle \text{NP}[\textit{str}]_{\boxed{1}} \rangle \\ \textit{verb} \end{bmatrix} \\
\text{SUBCAT } \boxed{2} \oplus \boxed{3} \\
\text{C} \\
\text{VCOMP} \left\langle \text{L} \begin{bmatrix} \text{C} \\ \text{H} \begin{bmatrix} \text{MOD|L} \begin{bmatrix} \text{C} \begin{bmatrix} \text{H} \begin{bmatrix} \text{SUBJ } \langle \text{NP}[\textit{str}]_{\boxed{1}} \rangle \\ \textit{verb} \end{bmatrix} \\ \text{SUBCAT } \langle \rangle \\ \text{VCOMP } \langle \rangle \end{bmatrix} \\ \text{CONT} \begin{bmatrix} \text{AGENT } \boxed{1} \\ \textit{rennen} \end{bmatrix} \end{bmatrix} \\ \text{SUBJ } \boxed{2} \\ \textit{particle} \end{bmatrix} \\ \text{SUBCAT } \boxed{3} \\ \text{VCOMP } \langle \rangle \\ \text{CONT } \boxed{4} \end{bmatrix} \right\rangle \\
\text{CONT } \boxed{4} \\
\textit{local}
\end{bmatrix} \\
\textit{stem}
\end{bmatrix}
\tag{7.224}
$$
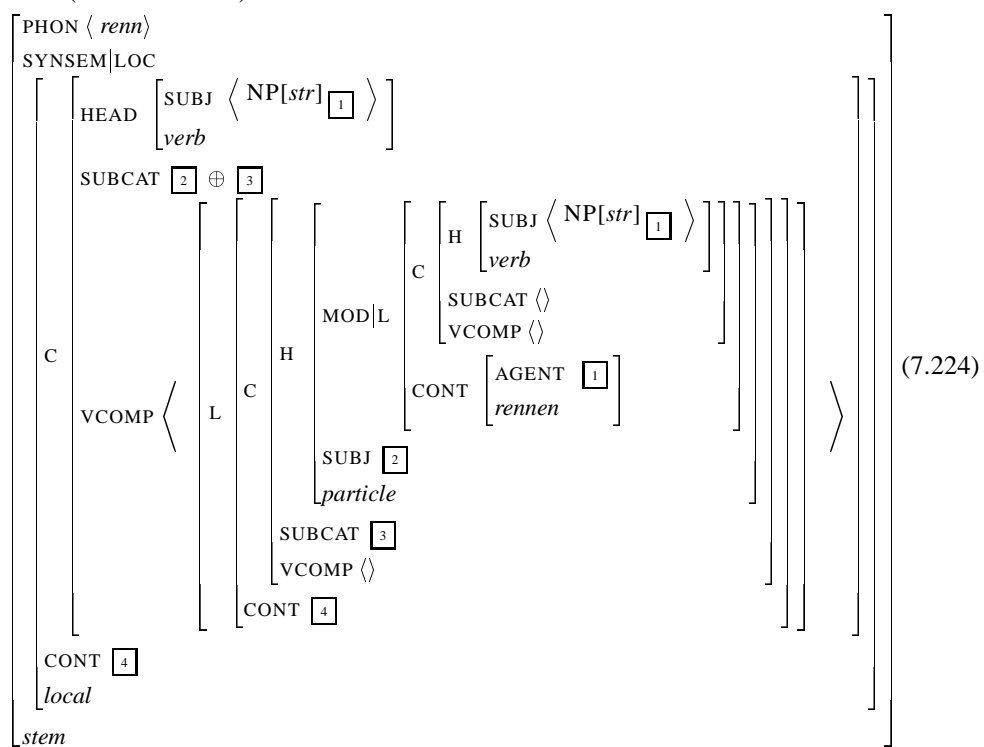
The lexical rule for *Ge-* *-e*-nominalization applies to this entry. The result is shown in (7.225).

gerenne- ('repeated running' + Particle):

$$
\begin{bmatrix}
\text{PHON } \langle\, \textit{gerenne}\,\rangle \\[4pt]
\text{SYNSEM}|\text{LOC}
\begin{bmatrix}
\text{C}
\begin{bmatrix}
\text{HEAD } [\textit{noun}] \\[2pt]
\text{SUBCAT } \langle\, \text{DET}\,\rangle \\[2pt]
\text{VCOMP } \left\langle\,
\text{L}
\begin{bmatrix}
\text{C}
\begin{bmatrix}
\text{H}
\begin{bmatrix}
\text{MOD}|\text{L}
\begin{bmatrix}
\text{C}
\begin{bmatrix}
\text{H}
\begin{bmatrix}
\text{SUBJ } \langle\, \text{NP}[\textit{str}]\; \boxed{1}\,\rangle \\
\textit{verb}
\end{bmatrix} \\
\text{SUBCAT } \langle\rangle \\
\text{VCOMP } \langle\rangle
\end{bmatrix} \\[4pt]
\text{CONT}
\begin{bmatrix}
\text{AGENT } \boxed{1} \\
\textit{rennen}
\end{bmatrix}
\end{bmatrix} \\[6pt]
\text{SUBJ } \boxed{2} \\
\textit{particle}
\end{bmatrix} \\[4pt]
\text{SUBCAT } \boxed{3} \\
\text{VCOMP } \langle\rangle
\end{bmatrix} \\[4pt]
\text{CONT } \boxed{4}
\end{bmatrix}
\,\right\rangle
\end{bmatrix} \\[6pt]
\text{CONT}
\begin{bmatrix}
\text{PSOA } \boxed{4} \\
\textit{repeated}
\end{bmatrix} \\[2pt]
\textit{local}
\end{bmatrix} \\[4pt]
\textit{ge-e-derived-noun-stem}
\end{bmatrix}
\qquad (7.225)
$$

The semantics of *rennen* + particle ($\boxed{4}$) is the argument of *repeated*. In (7.225) the actual value is still underspecified, but when (7.225) is combined with the particle, $\boxed{4}$ gets instantiated.

herum like *los* attaches to intransitive verbs only.

(7.226) a. Karl rennt / hüpft herum.
            Karl runs   jumps around

         b. Karl liest   (in dem Buch) herum.
            Karl reads in the   book around

         c. * Karl liest   das Buch herum.
            Karl reads the book around

There are several meanings of *herum*. I will call the one that is of interest here *herum*$_1$. *herum*$_1$ adds a component to the meaning of the input lexical entry that the action is aimless.

herum ('around'):

$$
\begin{bmatrix}
\text{CAT} & \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \text{MOD} & V[\text{SUBCAT}\ \langle\rangle\ ,\ \text{CONT}\ \boxed{1}] \\ \text{SUBJ}\ \langle\rangle \\ \textit{particle} \end{bmatrix} \\ \text{SUBCAT}\ \langle\rangle \\ \text{VCOMP}\ \langle\rangle \end{bmatrix} \\
\text{CONT} & \begin{bmatrix} \text{PSOA}\ \boxed{1} \\ \textit{aimless} \end{bmatrix} \\
\textit{local}
\end{bmatrix}
\tag{7.227}
$$
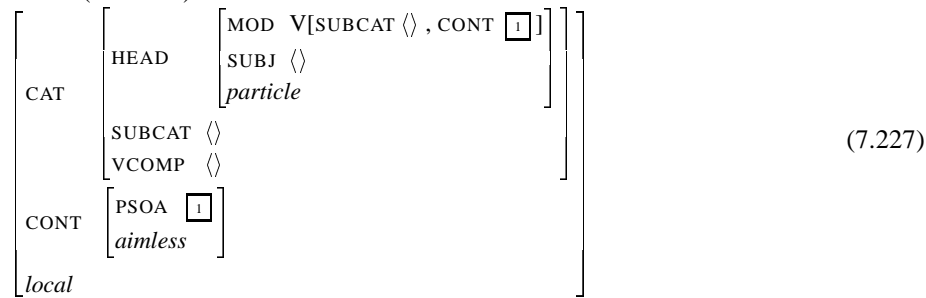
The result of combining the particle *herum* in (7.227) with (7.225) is shown in (7.228).

Herumgerenne-:

$$
\begin{bmatrix}
\text{PHON}\ \langle\ \textit{Herumgerenne}\ \rangle \\
\text{SYNSEM}|\text{LOC} \begin{bmatrix} \text{CAT} & \begin{bmatrix} \text{HEAD} & [\textit{noun}] \\ \text{SUBCAT}\ \langle\ \text{DET}\ \rangle \\ \text{VCOMP}\ \langle\rangle \end{bmatrix} \\ \text{CONT} & \begin{bmatrix} \text{PSOA} & \begin{bmatrix} \text{PSOA} & \begin{bmatrix} \text{AGENT} & \boxed{} \\ \textit{rennen} \end{bmatrix} \\ \textit{aimless} \end{bmatrix} \\ \textit{repeated} \end{bmatrix} \end{bmatrix} \\
\textit{ge-e-derived-noun-stem}
\end{bmatrix}
\tag{7.228}
$$
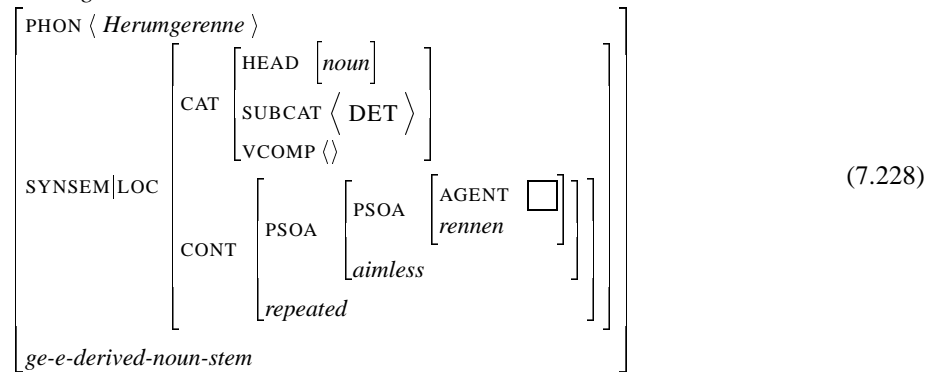
As with the simple *Gerenne* in (7.223), the agent of *rennen* is not specified in (7.228). The nominalization rule takes care of the existential quantification of this argument.

The derivation with object predicatives and resultatives is completely analogous: the rule in (7.221) is applied to the lexical entry for the object predicative *find-* ('find') producing *Gefinde*, which is then combined with *schön* ('beautiful') to yield *Schöngefinde* ('beautiful.finding'). The listed entry for *schlag-* ('to hit') is fed into the lexical rule (6.60) for resultative constructions. And the output is the input to (7.221), yielding *geschlage*, which is then combined with *tot* ('dead'), resulting in *Totgeschlage* ('dead beating').

Having dealt with inflection and with *Ge- -e*-nominalization, I can now explain the most difficult part of the analysis: the *-bar*-derivation.

7.2.5.4.2 Adjective Derivation

The *-bar*-derivation with particle verbs is the most difficult part, since both semantic and syntactic constraints are relevant for this derivation.

Riehemann (1998) assumes a schema for *-bar*-derivation that is similar to the following:

Lexical rule for the derivation of adjectives with *-bar*:

$$
\begin{bmatrix}
\text{PHON} & \boxed{1} \oplus \langle\, bar \,\rangle \\[4pt]
\text{SYNSEM} & \begin{bmatrix} \text{LOC} & \begin{bmatrix} \text{CAT} & \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \text{SUBJ} & \langle\, \boxed{2}\ \text{NP}[str] \,\rangle \\ adj \end{bmatrix} \\ \text{SUBCAT} & \boxed{3} \end{bmatrix} \\[6pt] \text{CONT} & \begin{bmatrix} \text{ARG1} & \boxed{4} \\ \text{ARG2} & \boxed{5} \\ k\ddot{o}nnen \end{bmatrix} \end{bmatrix} \end{bmatrix} \\[40pt]
\text{LEX-DTR} & \begin{bmatrix} \text{PHON} & \boxed{1} \\[4pt] \text{SYNSEM} & \begin{bmatrix} \text{LOC} & \begin{bmatrix} \text{CAT} & \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \text{SUBJ} & \langle\, \text{NP}[str]_{\boxed{4}} \,\rangle \\ verb \end{bmatrix} \\ \text{SUBCAT} & \langle\, \boxed{2}\ \text{NP}[str] \,\rangle \oplus \boxed{3} \end{bmatrix} \\[6pt] \text{CONT} & \boxed{5} \end{bmatrix} \end{bmatrix} \end{bmatrix} \\[40pt]
\textit{reg-bar-adj-stem}
\end{bmatrix}
\tag{7.229}
$$

This lexical rule applies to a transitive verb and promotes the accusative object to the subject of the adjective. This is the same process as in passivization, the rule is a subtype of the general passive rule (4.145). The unexpressed subject ($\boxed{4}$) is the one that has the ability to perform the action that is described by the verb ($\boxed{5}$).

    The result of this lexical rule is a stem that has to go through an inflection lexical rule in order to become a lexical sign that can take part in syntactic combinations. An inflectional rule that does not add phonological material produces a lexical entry that can be used predicatively in copula constructions. Other rules that add phonological material license the attributive forms that are inflected and can be used prenominally.[237]

    To start with a simple example, I show what happens with a transitive verb without particle. The feature description in (7.231) corresponds to the transitive use of *fahren* as in (7.230).

(7.230)   Sie fährt ein Auto mit geringem Spritverbrauch.

fahr- ('drive'):

$$
\begin{bmatrix}
\text{PHON} & \langle\, fahr \,\rangle \\[4pt]
\text{SYNSEM}\,|\,\text{LOC} & \begin{bmatrix} \text{CAT} & \begin{bmatrix} \text{HEAD} & \begin{bmatrix} \text{SUBJ} & \langle\, \text{NP}[str]_{\boxed{1}} \,\rangle \\ verb \end{bmatrix} \\ \text{SUBCAT} & \langle\, \text{NP}[str]_{\boxed{2}} \,\rangle \\ \text{VCOMP} & \langle\,\rangle \end{bmatrix} \\[6pt] \text{CONT} & \begin{bmatrix} \text{AGENT} & \boxed{1} \\ \text{THEME} & \boxed{2} \\ fahren \end{bmatrix} \end{bmatrix}
\end{bmatrix}
\tag{7.231}
$$
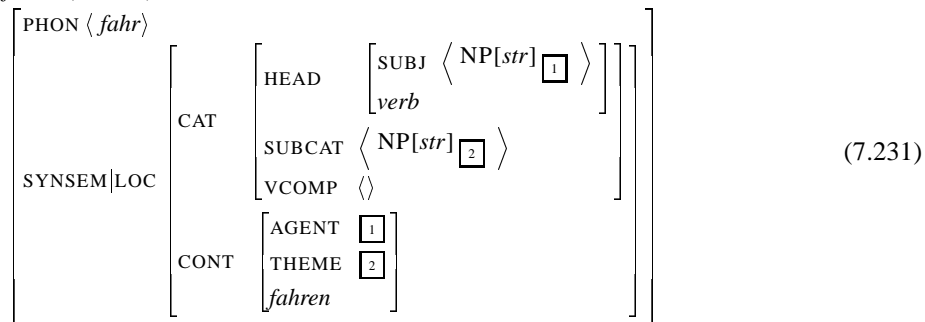
The rule in (7.229) promotes the object of *fahren* to the subject of the adjective. The subject is suppressed.

---

[237]See also Koenig (1999, p. 118) for a similar proposal for the interaction of inflection and derivation.

fahrbar- ('drivable'):

$$
\begin{bmatrix}
\text{PHON } \langle \textit{fahrbar} \rangle \\[2pt]
\text{SYNSEM|LOC}
\begin{bmatrix}
\text{CAT}
\begin{bmatrix}
\text{HEAD}
\begin{bmatrix}
\text{SUBJ } \left\langle \text{NP}[\textit{str}]_{\boxed{2}} \right\rangle \\
\textit{adj}
\end{bmatrix} \\[4pt]
\text{SUBCAT } \langle \rangle \\
\text{VCOMP } \langle \rangle
\end{bmatrix} \\[6pt]
\text{CONT}
\begin{bmatrix}
\text{AGENT } \boxed{} \\
\text{THEME } \boxed{2} \\
\textit{fahren}
\end{bmatrix}
\end{bmatrix} \\[4pt]
\textit{reg-bar-adj-stem}
\end{bmatrix}
\qquad (7.232)
$$
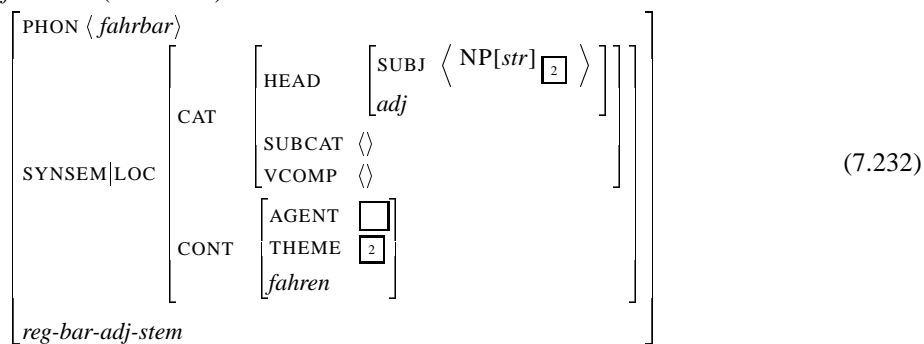
This entry can be used to analyze phrases like (7.233).

(7.233) der fahrbare Untersatz[238]
the drivable underneath.put

'wheels' / 'the car'

Now consider what happens if this rule is applied to the lexical entry in (7.234) for *fahr-* + particle. (7.234) is analogous to (7.176) for *lach-* + particle.

fahr- ('drive' + Particle):

$$
\begin{bmatrix}
\text{PHON } \langle \textit{fahr} \rangle \\
\text{SYNSEM|LOC}
\begin{bmatrix}
\text{C}
\begin{bmatrix}
\text{HEAD}
\begin{bmatrix}
\text{SUBJ } \left\langle \text{NP}[\textit{str}]_{\boxed{1}} \right\rangle \\
\textit{verb}
\end{bmatrix} \\[4pt]
\text{SUBCAT } \boxed{2} \oplus \boxed{3} \\[4pt]
\text{VCOMP } \left\langle
\begin{array}{l}
\text{L}
\begin{bmatrix}
\text{C}
\begin{bmatrix}
\text{H}
\begin{bmatrix}
\text{MOD|L}
\begin{bmatrix}
\text{C}
\begin{bmatrix}
\text{H}
\begin{bmatrix}
\text{SUBJ } \left\langle \text{NP}[\textit{str}]_{\boxed{1}} \right\rangle \\
\textit{verb}
\end{bmatrix} \\
\text{SUBCAT } \langle \rangle \\
\text{VCOMP } \langle \rangle
\end{bmatrix} \\
\text{CONT}
\begin{bmatrix}
\text{AGENT } \boxed{1} \\
\textit{fahren}
\end{bmatrix}
\end{bmatrix} \\
\text{SUBJ } \boxed{2} \\
\textit{particle}
\end{bmatrix} \\
\text{SUBCAT } \boxed{3} \\
\text{VCOMP } \langle \rangle
\end{bmatrix} \\
\text{CONT } \boxed{4}
\end{bmatrix}
\end{array}
\right\rangle
\end{bmatrix} \\[4pt]
\text{CONT } \boxed{4} \\
\textit{local}
\end{bmatrix} \\
\textit{stem}
\end{bmatrix}
\qquad (7.234)
$$

(7.235) shows the structure that results when (7.234) is unified with the LEX-DTR.

---

[238]taz, 03.20.1999, p. 30

fahrbar ('drivable' + particle with daughter):

$$
\begin{bmatrix}
\text{PHON} \; \langle \textit{fahr} \rangle \; \oplus \; \langle \textit{bar} \rangle \\[4pt]
\text{SYNSEM} \; \begin{bmatrix} \text{LOC} \begin{bmatrix}
\text{CAT} \begin{bmatrix}
\text{HEAD} \begin{bmatrix} \text{SUBJ} \; \langle \; \boxed{2} \; \text{NP[}\textit{str}\text{]} \; \rangle \\ \textit{adj} \end{bmatrix} \\
\text{SUBCAT} \; \boxed{3} \\
\text{VCOMP} \; \boxed{6}
\end{bmatrix} \\[8pt]
\text{CONT} \begin{bmatrix} \text{ARG1} \; \boxed{4} \\ \text{ARG2} \; \boxed{5} \\ \textit{können} \end{bmatrix}
\end{bmatrix} \end{bmatrix} \\[40pt]
\text{L-DTR} \begin{bmatrix}
\text{PHON} \; \langle \textit{fahr} \rangle \\
\text{SYNSEM|LOC} \begin{bmatrix}
\text{C} \begin{bmatrix}
\text{HEAD} \begin{bmatrix} \text{SUBJ} \; \langle \; \text{NP[}\textit{str}\text{]}\boxed{4} = \boxed{1'} \; \rangle \\ \textit{verb} \end{bmatrix} \\
\text{SUBCAT} \; \langle \; \boxed{2} \; \text{NP[}\textit{str}\text{]} \; \rangle \; \oplus \; \boxed{3} = \boxed{2'} \oplus \boxed{3'} \\
\text{VCOMP} \; \boxed{6} \; \Big\langle \begin{bmatrix} \text{L} \begin{bmatrix} \text{C} \begin{bmatrix} \text{H} \begin{bmatrix} \text{MOD|L} \begin{bmatrix} \text{C} \begin{bmatrix} \text{H} \begin{bmatrix} \text{SUBJ} \langle \text{NP[}\textit{str}\text{]}\boxed{1'} \rangle \\ \textit{verb} \end{bmatrix} \\ \text{SUBCAT} \langle \rangle \\ \text{VCOMP} \langle \rangle \end{bmatrix} \\ \text{CONT} \begin{bmatrix} \text{AGENT} \boxed{1'} \\ \textit{fahren} \end{bmatrix} \end{bmatrix} \\ \text{SUBJ} \; \boxed{2'} \\ \textit{particle} \end{bmatrix} \\ \text{SUBCAT} \; \boxed{3'} \\ \text{VCOMP} \langle \rangle \end{bmatrix} \\ \text{CONT} \; \boxed{4'} \end{bmatrix} \end{bmatrix} \Big\rangle
\end{bmatrix} \\
\text{CONT} \; \boxed{5} = \boxed{4'} \\
\textit{local}
\end{bmatrix}
\end{bmatrix}
\end{bmatrix}
$$

(7.235)

I kept the original tag numbers that were used in the lexical rule. The tags that were used in the entry for *fahr-* have been marked with an apostrophe. In addition to the tags that were used in the lexical rule, I used the tag $\boxed{6}$ to mark the identity of the VCOMP value of the lex daughter and the mother. As was explained earlier, information that is not mentioned in lexical rules is carried over by convention. In (7.235) the sharing of the VCOMP-values has been made explicit. If one looks at the mother node only, one gets (7.236).

fahrbar ('drivable' + particle):

$$
\begin{bmatrix}
\text{PHON } \langle \textit{fahrbar} \rangle \\
\text{SYNSEM|LOC} \\
\begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \langle \boxed{2}\ \text{NP}[\textit{str}] \rangle \\ \textit{adj} \end{bmatrix} \\
\text{SUBCAT} & \boxed{3} \\
\text{C} \\
\text{VCOMP} & \left\langle \text{L}\ \text{C} \begin{bmatrix} \text{H} & \begin{bmatrix} \text{MOD|L} & \text{C} \begin{bmatrix} \text{H} & \begin{bmatrix} \text{SUBJ} \langle \text{NP}[\textit{str}]\ \boxed{1'} \rangle \\ \textit{verb} \end{bmatrix} \\ \text{SUBCAT } \langle\rangle \\ \text{VCOMP } \langle\rangle \end{bmatrix} \\ \text{CONT} & \begin{bmatrix} \text{AGENT} & \boxed{1'} \\ \textit{fahren} \end{bmatrix} \end{bmatrix} \\ \text{SUBJ } \boxed{2'} \\ \textit{particle} \end{bmatrix} \\ \text{SUBCAT } \boxed{3'} \\ \text{VCOMP } \langle\rangle \\ \text{CONT } \boxed{4'} \end{bmatrix} \right\rangle \\
\text{CONT} & \begin{bmatrix} \text{ARG1} & \boxed{4} \\ \text{ARG2} & \boxed{4'} \\ \textit{können} \end{bmatrix}
\end{bmatrix}
\end{bmatrix}
\tag{7.236}
$$

$$\wedge \left\langle \boxed{2}\ \text{NP}[\textit{str}] \right\rangle \oplus \boxed{3} = \boxed{2'} \oplus \boxed{3'}$$
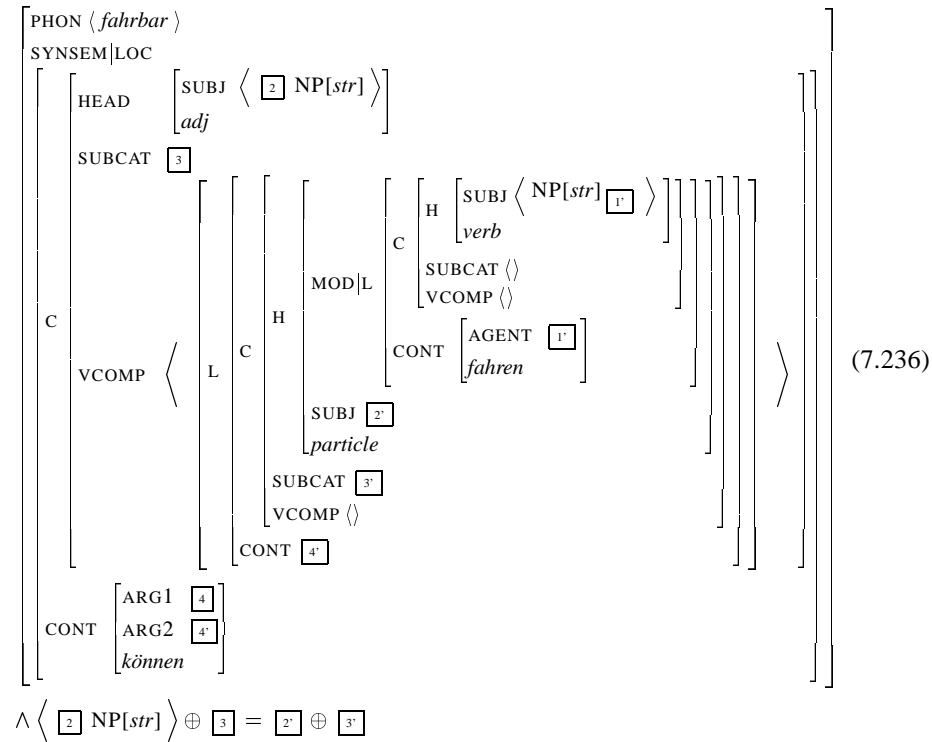
The constraint says that the valence list of the particle verb, which is determined by the particle ($\boxed{2'} \oplus \boxed{3'}$) has to be split into a list with an NP with structural case (an accusative object) and a rest ($\boxed{3}$). The rest is the subcat list of the mother. With the assumption that the subject list of the particle has zero or one element, this relational constraint can be reformulated into a disjunction.

The semantics that is embedded under *können* is not the semantics of *fahren* but rather the semantics of *fahr-* + particle. So whatever is contributed by the particle will be embedded under *können*.

When the structure in (7.236) is combined with the particle *an$_5$* that was given in (7.179) on page 291, one gets (7.237).

an+fahrbar ('drivable' + *an5*):

$$
\begin{bmatrix}
\text{PHON } \langle \textit{ anfahrbar } \rangle \\
\text{SYNSEM}|\text{LOC} \\
\begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \begin{bmatrix} \text{SUBJ} & \langle \boxed{2}\ \text{NP}[str]_{\boxed{3''}} \rangle \\ \textit{adj} \end{bmatrix} \\
\text{SUBCAT } \langle\rangle \\
\text{VCOMP } \langle\rangle
\end{bmatrix} \\
\text{CONT} & \begin{bmatrix}
\text{ARG1} & \boxed{1'} \\
\text{ARG2} & \begin{bmatrix}
\text{ARG1} & \begin{bmatrix} \text{AGENT} & \boxed{1'} \\ \textit{fahren} \end{bmatrix} \\
\text{ARG2} & \boxed{3''} \\
\textit{directed\text{-}towards}
\end{bmatrix} \\
\textit{können}
\end{bmatrix}
\end{bmatrix}
\end{bmatrix}
$$

(7.237)
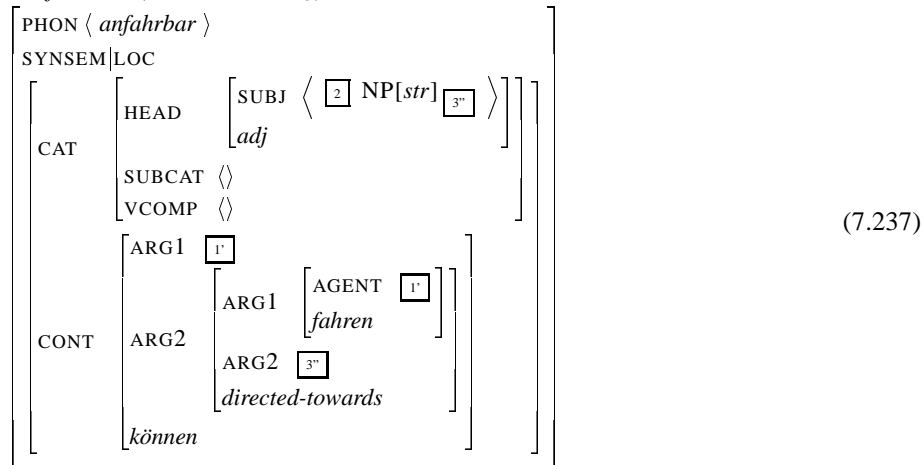
In this structure the tags that are instantiated by the particle are marked with two apostrophes. The particle contributes a subject and instantiates $\boxed{2'}$ with $\left\langle \text{NP}[str]_{\boxed{3''}} \right\rangle$. Since the subcat list of the particle is empty, $\boxed{3'}$ is instantiated as $\langle\rangle$. The subtraction of $\left\langle \boxed{2}\ \text{NP}[str] \right\rangle$ from $\boxed{2'} \oplus \boxed{3'}$ yields the empty list and therefore $\boxed{3}$ is $\langle\rangle$. The subject of the *-bar*-adjectives in (7.237) is identical to the accusative element that was introduced by the particle. It is the second argument of the *directed-towards* relation. The agent of *fahren* is suppressed, but nevertheless the arguments of *können* and *fahren* are correctly coreferential.

The interesting thing is that this analysis not only derives (7.238a), it also blocks (7.238b).

(7.238) a. die anfahrbaren   Geschäfte
             the PART.drivable shops

             'the shops that can be accessed by vehicle'

         b. * die losfahrbaren   Geschäfte
             the PART.drivable shops

             Corresponding to: '*the shops that can be started to drive'

         c. ? die losfahrbaren Autos
             the off.drivable cars

             'the cars that can be driven off'

The reason is that *los* does not introduce arguments. Since *los* only combines with intransitive verbs, the result of such a combination is again an intransitive verb. Although there is a form for *fahrbare*, it cannot be combined with *los* since the constraint on (7.236) would be violated: $\boxed{2'} \oplus \boxed{3'}$ would be the empty list.

There is a marginal resultative reading for *losfahrbar*, with the resultative predicate *los* ('off'). A context would be ten cars that are stuck in the snow and some of them can be freed by driving. This form of *losfahrbar* is also derived with the lexical rule (7.229), but it is derived from an entry for *fahr* that was the result of the resultative predicate lexical rule (see chapter 6.2), and not from (7.236). The lexical entry with the resultative meaning cannot be used to derive (7.238b), since the selectional restrictions of the resultative predicate *los* block the combination with *Geschäfte*.

Draft of January 12, 2001. Comments Welcome!

Elements that are derived from particle verbs can undergo further morphological processes:

(7.239)   a. unannehmbar
            unacceptable

         b. das Pseudo-Herumgerede[239]
            the pseudo.babble

In (7.239a) *annehmbar* is prefixed with *un-* and in (7.239b) *Herumgerede* is combined with *Pseudo-*. Therefore it is necessary that the schema that combines the particle with the derived adjective or noun applies in the morphology component. The result is then the basis for the combination with elements like *un-* or *Pseudo-*. The schema that is used to combine particles with their heads is a specialized instance of the general predicate complex schema that applies in syntax. This schema applies to nouns and adjectives only, i.e., to those objects that are inseparable. The process of combining a particle with its head resembles compound structures like *Romanleser* ('novel reader') where the first part of the compound fills a semantic role in the second, i.e., is an argument.

7.3   Alternatives

In a grammar that allows for discontinuous constituents it is tempting to assume that particle verbs are discontinuous lexical entries. This has, for instance, been suggested by Wells (cited in (McCawley, 1982, p. 91)). Kathol (1995, p. 244–248) formalizes this idea using the constituent order domains that were introduced in chapter 2.8.1. He suggests the following lexical entry for the non-transparent particle verb *aufwachen*:

aufwachen ('wake up', according to Kathol (1995, p. 246)):

$$
\begin{bmatrix}
\dots|\text{HEAD } \boxed{1} \quad \begin{bmatrix} verb \end{bmatrix} \\
\dots|\text{VCOMP } \langle\rangle \\
\text{DOM } \left\langle \begin{bmatrix} \langle wachen \rangle \\ \dots|\text{HEAD } \boxed{1} \quad [verb] \\ \dots|\text{VCOMP } \langle \boxed{2} \rangle \end{bmatrix} \right\rangle \bigcirc \left\langle \begin{bmatrix} \langle auf \rangle \\ \text{SYNSEM } \boxed{2} \quad \begin{bmatrix} \dots|\text{HEAD } \begin{bmatrix} \text{FLIP } - \\ sepref \end{bmatrix} \end{bmatrix} \end{bmatrix} \right\rangle
\end{bmatrix} \quad (7.240)
$$

This lexical entry represents syntactic structure in the lexicon. The DOM value is identical to the DOM value that would result from a combination of particle and verb in syntax. Kathol's approach has the advantage that a feature that ensures that the base verb selects the right particle, i.e., *auf* instead of *vor* or something else, is not necessary. A similar analysis was suggested for idioms by Nunberg, Sag and Wasow (1994, p. 513). Idiom parts can be listed in the unordered domain list of a lexical entry with the correct representation of the non-compositional semantics. Both approaches are problematic since they cannot explain why particles and idiom parts can be fronted. Kathol distinguishes between compositional and non-compositional particle verbs and assumes that the compositional ones are licensed by his verb complex schema and non-compositional ones are listed in the form of lexical entries like (7.240).

As has been shown in section 7.1.2, transparent and non-transparent particle verbs allow for the fronting of the particle. I therefore suggest that all particle verbs are

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[239](Stiebels, 1996, p. 40)

represented in the same way and that fronting is restricted by general conditions for fronting and not by different lexical representations for different classes of particle verbs.

As has been argued in chapter 2.8.2, verb second should be analyzed as extraction, i.e., as a nonlocal dependency described by the nonlocal mechanism. Lexical entries like (7.240) represent an object that would be the result of a syntactic combination licensed by the predicate complex schema. An extraction of material out of this lexical entry is not possible. The only way to use lexical representations like (7.240) and nevertheless allow for particles to be fronted is to totally revise the analysis of nonlocal dependencies. Mechanisms for liberation of domain elements that can explain all data that have been discussed so far would have to be devised. As yet no such analysis exists.

7.4   Summary

After an extensive discussion of data, an account for particle verbs that treats particles as part of the predicate complex has been developed. Particle fronting can be analyzed as an instance of complex fronting. No new mechanisms have to be introduced. In particular, no extraction of the finite verb from the fronted constituent as is needed in other theories is necessary. The particle is selected by the same valence feature as other complements that form a complex with their head. The lexical rules that license particle verbs that follow a productive pattern do not combine two adjacent elements, but for every input entry they license another lexical item that has the potential to combine with a particle. This particle may be modified, extracted or intraposed into the *Mittelfeld*. In the cases where modification, intraposition, or extraction is impossible this impossibility is due to additional constraints that are not imposed on these structures in general. Since matrix verb and particle do not form one single object, the matrix verb may appear in clause initial position separated from the embedded particle.

The suggested analysis explains similarities with object predicatives and resultative constructions. The impossibility of resultative constructions with particle verbs also follows from the valence specification of the latter. Since particles are selected via VCOMP, the resultative formation lexical rule cannot introduce a resultative predicate since VCOMP is filled already. For the same reason, particles cannot be added to stems that have been derived by the resultative predicate lexical rule. The iteration of particles is also excluded.

In the last part of this chapter I developed an approach to inflectional and derivational morphology that handles the data without powerful devices like rebracketing. Inflection and derivation apply to stems directly, the particle is attached to fully inflected signs by the same grammar rule, either in morphology or in syntax.

Chapter 8

Alternatives

In this chapter I will discuss some alternatives that could not be dealt with in the previous chapters since these analyses try to account for all phenomena discussed so far or for subsets thereof.

In section 8.1, I will discuss the approach to resultatives and particle verbs by Neeleman and Weermann. In section 8.2, I will discuss Ackerman and Webelhuth's proposal. Their book provided the most detailed HPSG-inspired analysis of complex predicates to date. They discuss auxiliary constructions, causative formation, modal infinitives, and particle verbs. I will show that their approach has quite serious empirical problems and that it does not capture the generalizations about coherent constructions in German. In section 8.4, I will briefly discuss small clauses and explain why small clause analyses have not been used in HPSG grammars.

8.1 The Complexity Constraint: Neeleman and Weermann (1993)

Neeleman and Weermann (1993, Section 5) and Neeleman (1994, Chapter 6.3.2) analyze particle verbs in morphology and resultative constructions in syntax. They observe that particles and resultative predicates are mutually exclusive. Neeleman and Weermann (1993, Section 5) and Neeleman (1994, Chapter 6.3.2) stipulate various forms of a complexity constraint that is supposed to rule out the presence of both resultative predicates and particles. Neeleman (1994) treats also object predicates (his *consider*-type predicates) as complex predicates. This kind of predicative construction can also be formed with particle verbs which shows that the complexity constraint in whatever version cannot be right. The examples were already discussed in the chapters 7.1.5.1 and 7.2.1 and are repeated here as (8.1) for convenience.

(8.1) a. Das kam ihm dumm vor.
          this came him silly   PART
          'This seemed silly to him.'

       b. Er sieht gut   aus.
          he looks good PART
          'He looks good.'

The example in (8.2) is a Dutch example that has the same structure as (8.1b).

(8.2) Hij ziet er   dom uit.[1]
       he looks it-EXPL stupid PART (out)

       'He looks stupid.'

These examples show that the formulation of such constraints is not justified, since complex heads of the kind Neeleman and Weermann want to rule out do exist. The restrictions rather have to be placed on the productive processes that form resultative constructions and that license the productive cases of particle verb combinations. Verbs like *aussehen* ('to look') and *vorkommen* ('to seem to somebody to be') are instances of complex heads that are listed in the lexicon and that are not derived by productive rules.

8.2 Lexical Adicity and the Inversion of the Selection: Ackerman and Webelhuth (1998)

Ackerman and Webelhuth (1998) propose an interesting approach for a single unique lexical representation of predicates that may surface in different ways. They address the fact that passive, tense, and causatives are expressed analytically in some languages and synthetically in others. Ackerman and Webelhuth (1998) develop analyses for tense, passive, causatives, and particle verbs. In their book they develop the analyses in the order just given and I will comment on their analyses in the same order in the next subsections.

The analyses for languages that realize their predicates analytically assume a lexical rule that takes a lexical entry as input and adds an appropriate auxiliary to a special purpose valence list that contains auxiliaries. This means that Ackerman and Webelhuth reverse the direction of selection: It is not the auxiliary that embeds a main verb or another verbal complex, but instead the main verb selects all auxiliaries.[2]

Ackerman and Webelhuth use a feature geometry that is strongly influenced by the LFG view of Ackerman. For instance they have an f-structure. f-structures are used to represent grammatical functions like subject, direct object, indirect object, and so on. Since the introduction of this feature geometry would go beyond the scope of the discussion, I took the liberty of translating their rules into a form that the reader is more familiar with. The parts of the analyses discussed here are completely analogous to those suggested by Ackerman and Webelhuth. For the details I left out the reader is referred to their book.

8.2.1 Lexical Rules

Ackerman and Webelhuth emphasize the point that their approach is superior to lexical rule-based accounts as they use types. They claim that it is impossible to express generalizations with lexical rules. As Krieger, Nerbonne, Copestake, Briscoe, and Meurers have shown in several publications (Krieger and Nerbonne, 1993; Copestake and Briscoe, 1992; Meurers, 1995; 2000, Chapter 4) and as was discussed in chapter 2.7, lexical rules can be written in the same way as immediate dominance schemata. The lexical rule in (8.3) is just another way to write (8.4).

---

[1] I thank Paul Buitelaar for constructing this example for me.

[2] A similar analysis was suggested by Karttunen (1986, Chapter 2.4) for the treatment of *Clause Union* in Finnish in the framework of Categorial Grammar.

$$\text{LE}_1 \rightarrow \text{LE}_2 \tag{8.3}$$

$$\begin{bmatrix} \text{LE}_1 \\ \text{LEX-DTR } \text{LE}_2 \\ \textit{lexical-rule} \end{bmatrix} \tag{8.4}$$

The only difference is that the type of the feature structure is not specified in (8.3). The argument of Ackerman and Webelhuth is only true for so-called external lexical rules, i.e., Meta Level Lexical Rules. In what follows I will therefore use the term lexical rule when I refer to the descriptions used by Ackerman and Webelhuth.

8.2.2 Tense

(8.5) is the counterpart of the types that Ackerman and Webelhuth give on pages 203–206.

Lexical Rule for the Perfect following (Ackerman and Webelhuth, 1998):

$$\begin{bmatrix} \text{SYNSEM}|\text{LOC}|\text{CAT} \begin{bmatrix} \text{HEAD} & \boxed{1} \\ \text{SUBCAT} & \boxed{2} \\ \text{AUX} & \left\langle \text{V}[\text{HEAD } \boxed{1}, \text{AUXF } \textit{haben}] \right\rangle \oplus \boxed{3} \end{bmatrix} \\ \text{LEX-DTR} \begin{bmatrix} \text{SYNSEM}|\text{LOC}|\text{CAT} \begin{bmatrix} \text{SUBCAT} & \boxed{2} \\ \text{AUX} & \boxed{3} \end{bmatrix} \\ \textit{lexical-sign} \end{bmatrix} \\ \textit{lexical-sign} \end{bmatrix} \tag{8.5}$$

The lexical rule in (8.5) takes a participle form as its input (LEX-DTR). The output of the rule takes an arbitrary form of *haben* in addition to other auxiliaries that have already been subcategorized for by the input ($\boxed{3}$). The head features of the output are taken over from the head features of the added auxiliary. When the lexical rule is applied to *schlafen*, the result is (8.6).

schlafen ('sleep') + Perfect following (Ackerman and Webelhuth, 1998):

$$\begin{bmatrix} \text{SYNSEM}|\text{LOC}|\text{CAT} \begin{bmatrix} \text{HEAD} & \boxed{1} \\ \text{SUBCAT} & \left\langle \text{NP}[\textit{str}] \right\rangle \\ \text{AUX} & \left\langle \text{V}[\text{HEAD } \boxed{1}, \text{AUXF } \textit{haben}] \right\rangle \end{bmatrix} \\ \textit{lexical-sign} \end{bmatrix} \tag{8.6}$$

Ackerman and Webelhuth assume a subcat set instead of the list that is used here. It is unclear to me why they do this since they state in footnote 2 on page 86 that they use order domains to account for constituent order. The use of a set for the representation of subcategorized elements breaks their case assignment and agreement principles. Since this is of no relevance in the present discussion, I will restate their lexical rules and lexical entries with lists instead of sets.

During an analysis of (8.7a) the *haben* auxiliary is instantiated by the finite verb *hat*. The HEAD value of the complete construction is determined by the head value of the dependent element, i.e., by the head value of the auxiliary.

(8.7)   a.   weil   Karl geschlafen hat.
            because Karl slept   has
            'because Karl has slept'

    b. weil   Karl geschlafen haben wird.
           because Karl slept   have   will

           'because Karl will have slept.'

For the analysis of (8.7b) another lexical rule is needed that maps the perfect lexical entry in (8.6) to a lexical entry that subcategorizes for a future auxiliary. The output of such a rule is (8.8).

schlafen ('sleep') + Perfect + Future following (Ackerman and Webelhuth, 1998):

$$
\begin{bmatrix}
\text{HEAD} & \boxed{1} \\
\text{SUBCAT} & \left\langle \text{NP}[str] \right\rangle \\
\text{AUX} & \left\langle \text{V}[\text{HEAD } \boxed{1}, \textit{werden}], \text{V}[\text{VFORM } \textit{bse}, \textit{haben}] \right\rangle \\
\textit{cat} &
\end{bmatrix}
\tag{8.8}
$$

Ackerman and Webelhuth motivate their approach mainly by the principle of *Lexical Adicity*, which states that the valence of a lexical entry must be entirely determined and that it may not be changed depending on its syntactic environment. This motivation is not a very strong one, since Lexical Adicity also holds for the argument attraction approaches of Hinrichs and Nakazawa. The point is that the arguments of the auxiliaries in particular and for argument raising verbs in general are actually specified in the lexicon. The combination of elements in syntax does not introduce new arguments at heads. The matrix verbs in argument attraction constructions have specified valence features. For the perfect auxiliary the SUBJ and SUBCAT features are identical with those of the embedded verb. The actual form and number of the complements of perfect auxiliaries is underspecified in their lexical entries, but nevertheless this information is present and it is projected from this head until it gets saturated in head complement structures.

    Another argument which Ackerman and Webelhuth discuss (on pages 140 and 167–168), is that a theory that analyzes auxiliaries in the way suggested by Hinrichs and Nakazawa (1989b) cannot account for sentences like those in (8.9).

(8.9)   a. warum er geweint hat.
           why   he cried   has

           'why he has cried.'

        b. warum er geweint.
           why   he cried

           'why he has cried.'

In earlier stages of German it was possible to omit the perfect auxiliary as in (8.9b). Ackerman and Webelhuth represent the *hat* as an optional element in the AUX list.

    That heads may be omitted is not an unusual thing in German. In nominal structures both determiners and nouns can be omitted:

(8.10)   a. Er hat nur die interessanten Bücher gelesen.
            he has only the interesting   books   read

            'He only read the interesting books.'

        b. Er hat nur die interessanten gelesen.
            he has only the interesting   read

            'He only read the interesting ones.'

c. Er hat nur interessante Bücher gelesen.
he has only interesting books read

'He only read interesting books.'

d. Er hat nur interessante gelesen.
he has only interesting read

'He only read interesting ones.'

Regardless whether we assume the determiner or the noun to be the head in the nominal structures in (8.10), we have structures without phonologically realized head in (8.10). This can be analyzed by phonologically empty elements or by unary projections. If we assume a phonologically empty *hat* for the cases in (8.9), this *hat* would have the very same structure, the same type, as the phonologically realized versions of *haben* ('to have') and *sein* ('to be'). The assumption of a lexical rule for the finitivization of the participle was criticized by Ackerman and Webelhuth (1998, p. 141), since the construction in (8.9) would be described partly in the lexicon and partly in syntax. This point is also invalid, since the difference of a lexical rule and a unary projection is zero in this case. The ellipsis rule that can be assumed for (8.9) as an alternative to an empty head is a part of syntax in the same way as the combination of perfect auxiliary and embedded verbal complex is.

To conclude, I can say that all arguments that Ackerman and Webelhuth put forward to support their inversion of selection are either very weak or wrong.

8.2.3 Causatives

Ackerman and Webelhuth assume a lexical rule for causatives that is parallel to the one in (8.11).

Lexical rule for causatives following (Ackerman and Webelhuth, 1998):

$$
\begin{bmatrix}
\text{SYNSEM}|\text{LOC}
\begin{bmatrix}
\text{CAT}
\begin{bmatrix}
\text{HEAD} & \boxed{1} \\
\text{SUBCAT} & \left\langle \text{NP}[str]_{\boxed{2}} \right\rangle \oplus \boxed{3} \\
\text{AUX} & \left\langle \text{V}[\text{HEAD } \boxed{1}, lassen] \right\rangle \oplus \boxed{4}
\end{bmatrix} \\
\text{CONT}
\begin{bmatrix}
\text{CAUSER} & \boxed{2} \\
\text{CAUSED-SOA} & \boxed{5} \\
cause
\end{bmatrix}
\end{bmatrix} \\
\text{LEX-DTR}
\begin{bmatrix}
\text{SYNSEM}|\text{LOC}
\begin{bmatrix}
\text{CAT}
\begin{bmatrix}
\text{SUBCAT} & \boxed{3} \\
\text{AUX} & \boxed{4}
\end{bmatrix} \\
\text{CONT} & \boxed{5}
\end{bmatrix} \\
lexical\text{-}sign
\end{bmatrix} \\
lexical\text{-}sign
\end{bmatrix} \tag{8.11}
$$

This special rule that was stipulated for causatives in German does not account for the fact that other AcI verbs (like perception verbs) behave like *lassen*. Since these verbs have another meaning, both the head information and the semantic contribution of the head have to be transferred from the AcI verb to the output lexical entry.

Lexical Rule (8.11) generalized for AcI Verbs:

$$
\begin{bmatrix}
\text{SYNSEM}|\text{LOC} \\[2pt]
\quad \begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \boxed{1} \\
\text{SUBCAT} & \left\langle \text{NP}[str]_{\boxed{2}} \right\rangle \oplus \boxed{3} \\
\text{AUX} & \left\langle \text{V}[\text{HEAD } \boxed{1}, \textit{AcI}, \text{CONT } \boxed{4}\ ] \right\rangle \oplus \boxed{5}
\end{bmatrix} \\[2pt]
\text{CONT} & \boxed{4}
\end{bmatrix} \\[10pt]
\text{LEX-DTR} \begin{bmatrix}
\text{SYNSEM}|\text{LOC} \begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{SUBCAT} & \boxed{3} \\
\text{AUX} & \boxed{5}
\end{bmatrix} \\
\text{CONT} & \boxed{6}
\end{bmatrix} \\[6pt]
\textit{lexical-sign}
\end{bmatrix} \\[6pt]
\textit{lexical-sign}
\end{bmatrix}
\tag{8.12}
$$

The question that now follows immediately is how the linking between the subject of the AcI construction and the semantic role in the predicate of the AcI verb can be established. Because of their assumptions about *Lexical Adicity*, Ackerman and Webelhuth are forced to assume that the subject of the AcI verb is directly contained in the output of the causativization lexical rule. It cannot be raised from the AcI verb. The filling of the roles in (8.11) is only possible because it is known what the feature name of the subject role is (CAUSER). For perception verbs the subject role is not a causer, but an experiencer.[3] The causative rule in (8.12) can only be generalized to the other AcI cases if possible roles that come from the AcI verb are specified disjunctively. Furthermore, the AcI verb does not have access to the predicate that it embeds logically. It is therefore not possible to integrate the semantic contribution of the embedded predicate ($\boxed{6}$) in its own semantic representation. This also has to be done in the lexical rule which therefore has to have knowledge about the semantic roles to be filled.

Lexical Rule (8.11) generalized for AcI Verbs + Linking:

$$
\begin{bmatrix}
\text{SYNSEM}|\text{LOC} \\[2pt]
\quad \begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{HEAD} & \boxed{1} \\
\text{SUBCAT} & \left\langle \text{NP}[str]_{\boxed{2}} \right\rangle \oplus \boxed{3} \\
\text{AUX} & \left\langle \text{V}[\text{HEAD } \boxed{1}, \textit{AcI}, \text{CONT } \boxed{4}\ ] \right\rangle \oplus \boxed{5}
\end{bmatrix} \\[2pt]
\text{CONT} & \boxed{4} \wedge \left(\begin{bmatrix}
\text{CAUSER} & \boxed{2} \\
\text{CAUSED-SOA} & \boxed{5} \\
\textit{cause}
\end{bmatrix} \vee \begin{bmatrix}
\text{EXPEREINCER} & \boxed{2} \\
\text{CONTENT} & \boxed{5} \\
\textit{verbum-sentiendi}
\end{bmatrix} \vee \ldots \right)
\end{bmatrix} \\[10pt]
\text{LEX-DTR} \begin{bmatrix}
\text{SYNSEM}|\text{LOC} \begin{bmatrix}
\text{CAT} & \begin{bmatrix}
\text{SUBCAT} & \boxed{3} \\
\text{AUX} & \boxed{5}
\end{bmatrix} \\
\text{CONT} & \boxed{5}
\end{bmatrix} \\[6pt]
\textit{lexical-sign}
\end{bmatrix} \\[6pt]
\textit{lexical-sign}
\end{bmatrix}
\tag{8.13}
$$

---

[3] Ackerman and Webelhuth (1998, p. 335) use role names like CALLER and CALLED for the predicate *call-up*. With such predicate specific role names the disjunction in (8.13) would get even more complex, since it would have to include SEER and SEEN, HEARER and HEARD and so on. The disjunction in (8.13) would basically have to list all role names for all AcI predicates. The same holds for a lexical rule for other verbs that are heads in a coherent construction. See the discussion around (8.14).

If one were to take Ackerman and Webelhuth's understanding of *Lexical Adicity* seriously, one would have to analyze coherent constructions by lexical rules like (8.13). As the sentence in (8.14) shows, the verbal complex formation can be iterated and in principle there is no upper limit.

(8.14) weil   ich Cecilia Hans die Nilpferde füttern helfen lassen habe.
        because I   Cecilia Hans the Hippos   feed   help   let   have
        'because I let Cecilia help Hans feed the Hippos.'

Füttern is the transitive main verb. The object control verb *helfen* introduces its own subject and another argument is added by *lassen*. Of course the number of verbs in the verbal complex is restricted by performance factors. Up until now I have been unable to find a non-constructed example for a coherent construction with more than four verbs, but to model this in syntax would be as wrong as the assumption of an upper bound for the number of center self embeddings of relative clauses.

(8.15) Der Mann, [RS der [NP den Mann, [RS der [NP der Frau,   [RS der die Katze
        the man   the   the the man   the   the woman   the the cat
        gehört,]]   hilft,] kennt,] schläft.
        belongs.to helps knows   sleeps

The sentence in (8.15) is not ungrammatical, but it is hardly understandable for humans.

The consequence of the iterability of embedding of verbal complexes under object control verbs and AcI verbs is that Ackerman und Webelhuth have to assume an infinite number of lexical entries. There is no trigger for the prediction of these lexical entries. In a syntax based account as the one that was presented in this book, only material that is present is combined.

If they did not handle such coherent constructions with their lexical rule but in syntax, instead as they suggested later (personal communication, 2000), they would have two totally different analyses for coherent constructions: In causative constructions the base verb is the head and *lassen* the dependent, and in coherent constructions involving ordinary control verbs, the control verb is the head and the other verb the dependent. The only thing the two structures would have in common would be the fact that they are headed structures, they would not even have the same head.

8.2.4 Semantics and Pronominalization

According to Ackerman and Webelhuth the meaning of all auxiliaries is represented in the semantic contribution of the base verb that selects for auxiliaries and causatives. As was discussed on page 324, Ackerman and Webelhuth's analysis had to be extended to all coherent constructions. The question then is how they want to explain the possibility of the pronominalization of different predicates in a clause. In cases like (8.16) it is usually assumed that the pronoun refers to some predicate or a projection thereof.

(8.16) a. Ich habe Komödie gespielt und du   wirst es auch.
           I   have comedy   played and you will it too

           'I put on an act and you will do so too.' (es = Komödie spielen)

        b. Ich mußte Komödie spielen, um dich zu bekommen, aber nun, da
           I   had.to comedy   play   for you to get   but now since
           ich dich habe, brauche ich es nicht mehr.[4]
           I   you have need   I   it not   more

> 'I had to put on an act to get you, but now that I have you I do not have
> to do that anymore.' (es = Komödie spielen)

Now according to Ackerman and Webelhuth, all semantic information is already contained in the lexical entry of the main verb, i.e., in *gespielt* and *spielen*, respectively. The consequence of this is that pronouns must be able to look inside these lexical entries.

8.2.5   Particle Verbs

Ackerman and Webelhuth use a separate valence feature PART. The value of this feature is a list that contains a particle if the verb occurs in verb initial position and that is empty when the verb occurs in final position. Their lexical entry for *an+ruft* is shown in (8.17) in a notation that is adapted to the one that I used throughout the book.

(*an*) *ruft* verb initial version according to AW (1998, p. 334–335):

$$
\begin{bmatrix}
\text{PHON} \; \langle \; ruft \rangle \; \vee \langle \; anruft \rangle \\[2ex]
\text{SYNSEM|LOC|CAT} \;
\begin{bmatrix}
\text{SUBCAT} \; \langle \; \text{NP}[str],\, \text{NP}[str] \; \rangle \\[1.5ex]
\text{PART} \quad \langle \; \text{PART}[an] \; \rangle \; \vee \langle \rangle
\end{bmatrix}
\end{bmatrix}
\tag{8.17}
$$

The proper distribution of the particle in both the valence feature and the phonological representation is ensured by type constraints that rule out the cases with a phonological representation *anruft* + particle *an* and the phonological representation *ruft* without a particle. With the types multiplied out, (8.17) is equivalent to (8.18) and (8.19).[5] (8.18) is the entry that is needed for clauses with the finite verb in the left sentence bracket.

(*an*) *ruft* verb initial version according to AW:

$$
\begin{bmatrix}
\text{PHON} \; \langle \; ruft \rangle \\[2ex]
\text{SYNSEM|LOC|CAT} \;
\begin{bmatrix}
\text{SUBCAT} \; \langle \; \text{NP}[str],\, \text{NP}[str] \; \rangle \\[1.5ex]
\text{PART} \quad \langle \; \text{PART}[an] \; \rangle
\end{bmatrix} \\[2ex]
partld\text{-}lci \wedge second\text{-}lci
\end{bmatrix}
\tag{8.18}
$$

For the verb final case they do not select the particle via a valence feature, but have the phonological contribution of the particle integrated in the phonological representation of the lexical entry.

anruft verb final version according to AW:

$$
\begin{bmatrix}
\text{PHON} \; \langle \; anruft \rangle \\[2ex]
\text{SYNSEM|LOC|CAT} \;
\begin{bmatrix}
\text{SUBCAT} \; \langle \; \text{NP}[str],\, \text{NP}[str] \; \rangle \\[1.5ex]
\text{PART} \quad \langle \rangle
\end{bmatrix} \\[2ex]
compound\text{-}lci
\end{bmatrix}
\tag{8.19}
$$

So, the disjunctive specification in (8.17) is equivalent to two separate lexical entries. The representation of particle verbs which I suggested in chapter 7.2 is free of disjunctions. One single lexical entry for each particle verb is sufficient. In chapter 10.2.2 of

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[4](Bech, 1955, p. 212)

[5]It is unclear to me why they use a type that describes a verb in the second position of a clause. The distribution of particles is not dependent on the *Vorfeld* being filled or not.

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their book Ackerman and Webelhuth argued at length against theories that stipulate two lexical entries for particle verbs, whether related by lexical rules or not. Of course two lexical rules that derive two lexical entries from one representation in a stem lexicon can be reformulated as one lexical rule producing a disjunctively specified output. That is what Ackerman and Webelhuth did. So, if their argument has any force at all, it is an argument against their own theory.

The lexical entry in (8.19) states that particle and verb constitute a single object that may not be separated. As should be clear from the discussion of the data in section 7.1.3, there are several problematic aspects of such an approach. Firstly, it cannot explain why the particle may appear separated from the verb, even in verb final sentences. Example (7.86)—repeated as (8.20) for convenience—shows that the particle can appear non-adjacent to its base verb.

(8.20) Andrew Halsey ist auf dem Weg von   Kalifornien nach Australien weit ab
        Andrew Halsey is on the way from California to   Australia   far   off
        vom   Kurs   gekommen.[6]
        from.the course come.

        'On the way from California to Australia Andrew Halsey strayed way off course.'

This example further shows that there are particles that have a syntactic life in that they can be modified. This fact is not accounted for by Ackerman and Webelhuth's approach at all. Apart from that, they cannot explain the separation of verb and particle in Thuringian verbal complexes.

Secondly, consider the sentences in (7.59) repeated in abbreviated form here in (8.21):

(8.21) a. *Schicht*   hat von denen keiner *gearbeitet.*[7]
           PART(shift) has of   those nobody worked

           'None of them has worked shifts.'

        b. *Dagegen*   ist *zu halten*, daß [...][8]
           this.against is to hold   that

           'As an argument against this, it has to be said, that [...]' [9]

        c. *Fest*   scheint auch *zu stehen*, daß ...[10]
           PART(solid) seems also to stand   that

           'It seems to be certain that ...'

To explain these sentences Ackerman and Webelhuth would have to assume extraction out of words.

They do not deal with resultative constructions in their book at all. But if they assume a lexical rule for resultative constructions the impossibility of particle verbs to appear in resultative constructions would have to be enforced by the stipulation of the value of PART as the empty list in the lexical rule for resultative constructions. But this stipulation does not help in the case of verb last particle verbs, since the history of the particle verb, i.e., the fact that the verb is complex, is not contained in lexical entries of verb final verbs. The lexical rule for resultative predicates cannot see that the lexical

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[6]taz, 04.10.1999, p. 20

[7]Spiegel, 48/99, p. 305

[9]In the main text of (Heringer, 1973, p. 93).

[10]In the main text of (Engel, 1977, p. 219).

entry for *anruft* ('phones') in (8.19) has a complex internal structure. The only way to block the resultative rule from applying to particle verbs is the stipulation of a technical feature. The same problem arises with the iteration of particles.

Finally, it has to be remarked that with their use of a separate valence feature for particles, Ackerman and Webelhuth do not capture the similarities between verbal complexes and particle verb combinations. If they were consequent they would have to list the particles on their AUX list.

8.3   Constructions

Proponents of Construction Grammar argued that some utterances have a meaning that cannot be computed from the meaning of the individual words, but has to be attributed to the construction the words are used in. Goldberg (1995) argued for instance that the meaning of the caused-motion construction, the resultative construction and the *way* construction should be attributed to the phrasal configuration in which directional PPs, resultative predicates, and possesive + *way* appear.

In a talk 2000 in Leipzig Geert E. Booij suggested treating particle verbs as constructions (Booij, 2000). In what follows I will show why I consider Goldberg's analysis problematic and not compatible with general assumptions made in HPSG.

Goldberg (1995) provides a hierarchy of "constructions" that mention grammatical functions, but does not make explicit her assumptions about syntax. On page 152 she gives a structure for the *Caused-Motion Construction*.

(8.22)   SUBJ [V OBJ OBL]

(8.22) has internal structure: A VP node and a subject NP. On page 192 she suggests a ternary branching structure for resultative predicates that also corresponds to (8.22). This means that Goldberg's constructions are trees. She relates these trees via inheritance links that are also organized in hierarchies. Since sentences with resultative predicates may be passivized, Goldberg has to have another "construction"that accounts for passivized resultative constructions. The inheritance link that relates the "active resultative construction" to the "passive resultative construction" is equivalent to a meta rule in GPSG or to a transformation that maps one tree onto another tree. If one would transfer Goldberg's account to the fragment for German that was developed in this book, the structure assigened to resultative constructions would be:

(8.23)   [SUBJ OBJ OBL V]

Alternatively one could assume binary branching structures, but such an assumption would in no way simplify the grammatical system. As we have seen in chapter 6, there is considerable freedom in constituent order: Subject and object can be permuted, adjuncts can appear at any place in the *Mittelfeld*, the verb can appear in verb initial position, and the subject, the object, an adjunct, or the resultative predicate can be fronted. The consequence is that one had to have constructions for all these possible combinations:

(8.24)   a.   [OBJ SUBJ OBL V]

          b.   [SUBJ OBL OBJ V]

          c.   [OBJ OBL SUBJ V]

          d.   [V SUBJ OBJ OBL]

          e.   [V OBJ SUBJ OBL]

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    f. [V SUBJ OBL OBJ]

    g. [V OBJ OBL SUBJ]

    h. [V SUBJ OBL] (OBJ extracted)

    i. [V OBJ OBL] (SUBJ extracted)

    j. [V SUBJ OBJ] (OBL extracted)

A further problem is that it is not trivial to account for adjuncts in such a system: Adjuncts can be inserted anywhere in the *Mittelfeld*. To account for (8.25) one would need a construction like the one in (8.26).

(8.25)   daß er den Teich schnell leer   fischt.
            that he the pond quickly empty fishes

(8.26)   [SUBJ OBJ Adjunct OBL V]

Since the number of adjuncts per head is not limited, one would get infinitely many constructions unless one introduces devices like the Kleene star and assumes that this abbreviation is expanded when the rule is actually applied to input. Goldberg (1995, p. 74) explicitly states that she assumes her constructions to be static, i.e., constructions are not created on the fly. Since she allows for default specification and non-monotonic inheritance relations between different constructions, she has to assume that each construction is fully specified and that the relation between constructions is not computed online (p. 98). Therefore she has to assume infinitely many constructions.

    The approach that I suggested in chapter 6 is a valence based approach. The information about dependent elements is encoded in the lexicon and the actual surface realization is governed by general principles that hold for all predicates in German: The verb is either serialized in the left or in the right sentence bracket, elements in the *Mittelfeld* may be permuted. Lexical rules for English resultatives will be very similar to the ones that I suggested for German, but the surface syntax of English is entirely different. The construction-based account cannot explain this, the resultative construction that was stipulated for English has not very much in common with the structures that would be needed for German. What it does have in common are the grammatical functions and this is exactly what is captured in the lexical rule-based approach.

    Figure 8.1 on the next page shows the Construction Grammar analysis and the analysis that I suggested in chapter 6.2 for sentences like (6.5a)—repeated here as (8.27).

(8.27)   Die Jogger liefen den Rasen platt.
            the joggers run   the lawn flat

The figure shows that the two analyses are quite similar: In the Construction Grammar approach one lexical predicate that is plugged into a syntactic construction exists. The construction integrates the meaning of the lexical entry into the parts of the meaning that is contributed by the construction. Something similar happens in the lexical rule-based approach. A lexical entry licenses another lexical entry that has extended valence specifications and according to the valance information it has additional meaning components. Goldberg argues that the *become* part should not be part of lexical entries since it is only present in the resultative construction. Note that the become part is not contained in the lexical entry for *laufen* in the lexical rule-based approach. There is just the basic form listed in the lexicon. This lexical entry licenses another lexical entry that has an additional object and an additional predicate. Only when these dependents are realized in syntax one gets the resultative meaning.

	Construction Grammar	Lexical Rule-Based Approach (HPSG)

Syntax   [SUBJ [V OBJ OBL]]   [NP[*nom*] [NP[*acc*] [Pred V]]]
         laufen(X) &
         become(pred(Y))

- -

Lexikon $V[\text{SUBCAT} \langle \text{NP}[str]_{\boxed{1}}, \text{NP}[str]_{\boxed{2}} \rangle ,$
                                     $\text{VCOMP} \langle \text{PRED} \rangle ,$
                                     $\text{CONT laufen}(\boxed{1}) \ \& \ \text{become(pred}(\boxed{2})) \ ]$

listed   laufen(X) $V[\text{SUBCAT} \langle \text{NP}[str]_{\boxed{1}} \rangle ,$
                                     $\text{VCOMP} \langle \rangle ,$
                                     $\text{CONT laufen}(\boxed{1}) \ ]$
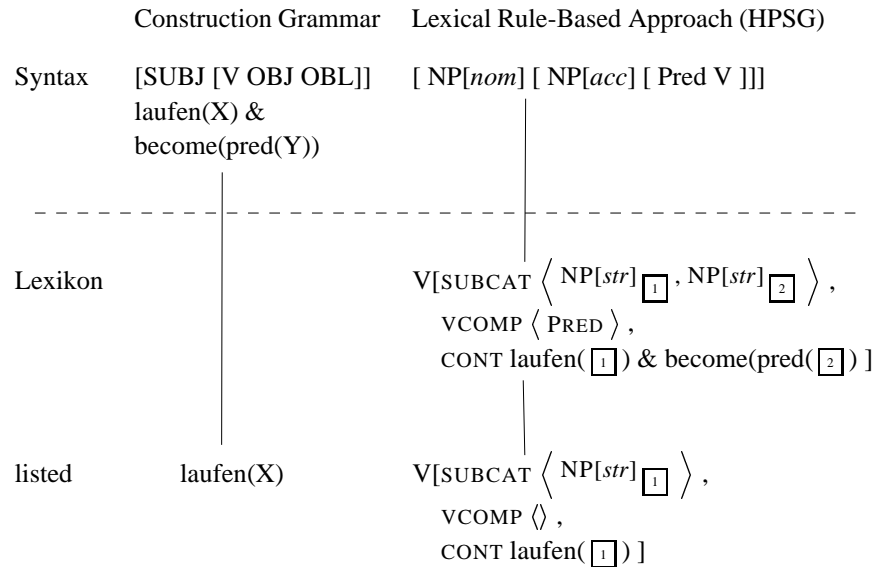
Figure 8.1: Constructions vs. Lexical Rules

In Chapter 1.4.5 of her book Goldberg argues against lexical rule-based approaches on the basis of experimental data from sentence processing. It has been observed that there are differences in processing times when real lexical ambiguity in comparison to usage of two verbs with the same core meaning is involved.

(8.28)   a.   Bill set the alarm clock onto the shelf.
         b.   Bill set the alarm clock for six.

(8.29)   a.   Bill loaded the truck onto the ship.
         b.   Bill loaded the truck with bricks.

Misinterpreted lexical ambiguity creates a more marked processing load increase than misinterpreted uses of the same verb. In the experiments there was a bigger difference in answering times for the sentences in (8.28) than there was in (8.29). However, there was a difference in reaction times for (8.29a) and (8.29b). In Goldberg's system one would explain this by different preference values for the constructions. In the lexical rule-based approach one would explain this by assuming that one valance representation is basic and the other one is the licensed by a lexical rule. The application of the lexical rule is time consuming, but since the lexical entries are related, the processing load is not as high as it is with two totally unrelated verbs. This argumentation shows that the lexical rule-based approach can explain the data as well, and therefore the construction based approach does not have any advantages over it.

On page 107 Goldberg argues against lexical rule-based accounts for the locative alternation since these have to assume that one form of the verb is more basic.

(8.30)   a.   He loaded hay onto the wagon.
         b.   He loaded the wagon with hay.

She observes that this is problematic for some other verbs since there is no clear intuition about what is the basic form and what is derived. She argues that an advantage

of constructions is that one can relate the constructions without making claims about which one has to be assumed to be basic. However, this argument is not sound. In a lexical rule based approach one can assume a representation of the verb stem that is listed in the lexicon. Furthermore one assumes a pair of lexical rules that map the stem entry onto lexical entries that can actually be used in syntax. These two lexical rules can inherit from a common supertype and therefore their commonalities are captured. We thus have the very same situation as we have with constructions where a lexical entry can be plugged in into one of two related constructions, the only thing that is different is that everything happens one level deeper, namely in the lexicon.

8.3.1 Domain-Based Construction Grammar

Kathol (1995, 2000) suggested that the linearization domain is important for a particular construction. He derives the clause type from the order of elements in the domain list. Such an approach does not extend to the resultative constructions since constituent order domains represent lists of objects that are combined by immediate dominace schemata. The schemata combine heads and complements, heads and adjuncts, heads and fillers, sentences and relative phrases and so on, but they do not introduce new elements in Kathol's system. Therefore such a version of construction grammar could not handle resultative constructions or particle verb constructions with additional NPs without stipulating additional dominance schemata that license these additional NPs.

8.4 Small Clauses

Many authors have suggested small clause analyses for some or all phenomena handled in chapters 3.2.8, 6, and 7 (Kayne, 1985; Hoekstra, 1988; Grewendorf, 1990; Wilder, 1991; Williams, 1997; and others). The assumption of these small clause analyses is that a certain predicate combines with its subject to form a (small) clause. This small clause is embedded by a higher head. The subject may or must later move to positions in domains of higher heads.

   Such analyses are problematic for several reasons that have been discussed in the literature (Hoeksema, 1991a; Neeleman, 1994, 1995; Stiebels, 1996, Chapter 10.2.3; Winkler, 1997, Chapter 2.1). Many arguments for small clauses either do not apply to a theory like the one suggested in this book or are empirically wrong (see for instance page 82). I will not repeat the arguments against small clauses here, but instead focus on interactions such an analysis would have with the analyses of phenomena that were discussed in this book so far.

8.4.1 Constituent Order: Movement vs. Base Generation

In chapter 2, I showed how the order of constituents can be analyzed in the HPSG framework. What I suggested was a linearization based analysis of the German clause. The positioning of the elements in the *Mittelfeld* is, in certain respects, similar to a base generation approach in GB, the similarity being that the ordering of the elements in the *Mittelfeld* is assumed to be different from processes that describe fronting. For fronting I suggested an extraction analysis modeled by the nonlocal feature mechanism. This is what comes closest to movement in GB, although there are important differences. The information about extracted elements is present at every intermediate node between the filler and the gap and therefore it can be explained why certain languages have elements

that show different inflection when they are in the middle of a nonlocal dependency
(Bouma, Malouf and Sag, Erscheint).[11]

In all examples in (8.31) complex predicates are formed. The arguments of the
lower predicates are attracted by the higher one and can be serialized according to the
linear precedence constraints, since they are dependents of the same head and therefore
members of the same head domain.

(8.31) a. weil   ihn   niemand   singen hörte.
            because him-ACC nobody-NOM sing   heard

            'because nobody heard him sing.'

        b. daß ihn   (den Erfolg) uns   niemand   auskosten ließ.[12]
            that it-ACC the   success us-ACC nobody-NOM enjoy   let

            'that nobody let us make the most of it.'

        c. weil   ihm   niemand   helfen ließ.
            because him-DAT nobody-NOM help   let

            'because nobody had somebody help him'

        d. daß ihn   niemand   leer   fischt.
            that it-ACC nobody-NOM empty fishes

            'that nobody fishes it empty.'

        e. daß ihn   niemand   klug   findet.
            that him-ACC nobody-NOM smart finds

            'that nobody finds him smart.'

        f. daß ihn   niemand   anlacht.
            that him-ACC nobody-NOM PART (at).laughs

            'that nobody smiles at him.'

If one assumed a small clause analysis for these sentences one would have to explain
the orderings in (8.31) by the assumption of discontinuous maximal projections (see
chapter 3.3.1 for some discussion) or by some extraction-like movement process. Kiss
(To Appear) showed that movement based analyses of scrambling have problems in
accounting for German scope facts.

8.4.2 Passive

As we have seen in the discussion of the remote passive, the passive can access argu-
ments that are raised from deeper embedded heads. The passives in (8.32) are similar
to the remote passive in that an element that is raised from a deeper head is promoted
to subject.

(8.32) a. daß er leer   gefischt wurde.
            that he empty fished   was

            'that it was fished empty.'

---

[11] The analysis that Bouma, Malouf and Sag (Erscheint) assume for nonlocal dependencies differs from
those discussed in this book in that they assume a lexical amalgamation of SLASH elements. Such a treat-
ment is not necessary to capture the phenomena that were discussed by the authors and it has unwanted
side effects that make a change of the feature geometry necessary. See (Bouma, 1996a) on the latter point.
[12] Haider (1991, p. 5) attributes a similar example to Tilman Höhle. See also (Haider, 1990a, p. 136).

b. daß er klug gefunden wurde.
that he smart found was

'that he was found smart.'

c. daß er angelacht wurde.
that he PART (at).laughed was

'that he was smiled at.'

In an HPSG adaptation of the small clause approach this could not be captured, since passive is not analyzed as movement in constraint based theories. If extraction of small clause subjects were involved they would be represented in SLASH, a feature that does not play a role in passivization.

Chapter 9

Summary

In this book I presented analyses for auxiliaries, subject and object control verbs, subject and object raising verbs, copula constructions, subject and object predicative constructions, depictive predicates, resultative predicate constructions, and particle verbs.

The depictive predicates were analyzed as adjuncts. They share with control verbs the property that the semantic connection between the involved predicates is established via coindexing rather than identity of phrases: In control constructions the controller is coindexed with the controllee and in structures with depictive predicates the subject of the depictive predicate is coindexed with its antecedent.

For copula constructions, subject and object predicative constructions, resultative predicate constructions, and particle verbs I suggested a complex predicate analysis where the embedded predicate or the particle is selected via a special valence feature (VCOMP). An extensive discussion of data showed that these constructions behave similarly to coherent verbal constructions as far as fronting, scrambling, intraposition, extraposition, and passivization is concerned. This insight can be captured by suggesting a similar representation for these complex predicates. The difference of the constructions can be explained since the way such complex predicates are licensed differs: For copula constructions and subject and object predicative constructions, lexical entries that select for a predicate are provided in the lexicon. Resultative constructions involve lexical entries that are licensed by lexical rules. And particle verbs either have a lexical entry since they are non-transparent, or they are a combination of a lexical entry that is licencsed by a general lexical rule and the appropriate particle if they follow a productive pattern.

The verbal heads of resultative constructions and of particle verbs that follow a productive pattern are licensed by lexical rules. Since this formation is assumed to happen in the lexicon, it is explained why resultative constructions and particle verb combinations may drift semantically and later get lexicalized with an idiomatic non-transparent reading. Verbal heads of resultative constructions and of particle verbs that follow a productive pattern have a syntactic representation that is very similar to the one non-transparent particle verbs have. The only difference is that non-transparent particle verbs are further specified for the particle they select.

I showned that the discussed constructions can undergo derivations. There is a hierarchy of morphological activeness, but it is clear that verbal heads of particle verbs that belong to a productive pattern and verbal heads of resultative predicates can enter derivational morphology. I developed an analysis of inflection and derivation where all affixes are combined with the verbal stem before the particle or resultative predi-

cate is combined with the base verb or the stem that is derived from the base verb. I demonstrated that brackating paradoxes do not exist and that devices as powerful as rebracketing are not needed.

The analysis is partly implemented in two fragments of German. The first fragment is the Babel-System[1] grammar (Müller, 1996), and the second one is the grammar that was developed for Verb*mobil* and that is currently being used in the Whiteboard project at the DFKI.

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[1]http://www.dfki.de/~stefan/Babel/

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