In this paper I argue for a unified account of causative constructions in German. The approach rests on assumptions for case assignment and subcategorization which will be independently motivated by an analysis of passive constructions. It will be shown that the difference between standard causatives and what I call causative passives should be analyzed as a special case of optional subcategorization: causative lassen optionally subcategorizes for an external argument of the embedded verb, the non-realization of which leads to a causative passive. The adoption of a (synthetic) passive bare infinitive, as advocated for in the literature, can thus be dispensed with. Instead, causative passive can be shown to function like a combination of causative and passive, thereby creating a “passivelike” structural context.\(^1\)

1. Introduction

Causative constructions in German come in two types, each of which is formed with the verb lassen and a bare infinitive. A construction such as (1a) I shall call a causative. In contrast, a construction such as (1b) exemplifies what will be called a causative passive.\(^2\)

1) a. Ich lasse Karl die Blumen gießen.
   I-NOM have/let Karl-ACC the flowers-ACC water-INF
   ‘I have/let Karl water the flowers.’\(^3\)

\(^1\) I am grateful to Stefanie Eschenlohr and Renate Raffelsiefen for helpful comments.

\(^2\) The following abbreviations are employed in the glosses: NOM: nominative, ACC: accusative, INF: bare infinitive, ZINF: zu-infinitive (both modal and non-modal), PART2: participle 2, PART1: participle 1, ZPART1: zu-participle 1, REFL: reflexive.

\(^3\) If the embedded verb is agentive, causatives allow both a causative (‘have’/‘make’) and a permissive (‘let’) reading. However, in semantically ambiguous cases like this the permissive reading will be neglected throughout this paper.
b. Ich lasse die Blumen (von Karl) gießen.
'I have the flowers watered.'

Causatives are AcI constructions. This means that the subject argument of the embedded infinitival verb, the so-called causee, is syntactically realized as an accusative NP. In causative passives, in contrast, the causee is either omitted or optionally realized as an agentive PP headed by *von or *durch. Causative passives thus show a striking resemblance to canonical passive constructions in that both allow the suppressed logical subject of the embedded verb to optionally appear as an agentive PP (cf. (1b), (2)). Moreover, the formation of a causative passive is restricted to just those verbs that can form a regular passive (cf. Reis 1976, 20). In German, these are, as a rule, verbs whose subject argument qualifies as a proto-agent in the sense of Dowty (1991). For example, the verb *aufheulen (‘to roar’) in (3a) is non-agentive. Thus it can neither appear in a passive (cf. (3b)) nor in a causative passive (cf. (3c)).

(2) Die Blumen werden (von Karl) gegossen.
'The flowers are being watered (by Karl).'

(3) a. Ich lasse den Motor aufheulen.
'I cause the motor to roar.'

'The motor was roaring.'

c. *Ich lasse (von dem Motor) aufheulen.
'I cause (by the motor) to roar.'

In what follows I will propose a unified analysis of both types of causative construction. The analysis is couched in the HPSG framework (cf. Pollard and Sag 1987, 1994; Sag 1997) but may be carried over to any other constraint-based approach. I will show that the difference between both types of construction can be treated as an instance of optional subcategorization.5

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4 Note that I will call ‘causee’ any subject argument of the embedded verb irrespective of its thematic role.

5 A similar proposal can be found in Höhle (1978, 72), who adopts a lexical entry for causative-passive lassen according to which lassen does not subcategorize for
The basic idea is that lassen optionally subcategorizes for an external argument of the embedded verb, which is omitted in causative passives. The analysis therefore contrasts with alternative approaches that postulate a special kind of passive infinitive for causative passives.\(^6\)

The paper is organized as follows: In section 2 I will discuss and finally dismiss an alternative approach to causative passives in German. Section 3 introduces some basic assumptions regarding the argument structure of finite and non-finite verb forms. Section 4 deals with the argument structure of causative and causative-passive lassen and presents a single lexical entry that accounts for both construction types. Some remarks on reflexivization in causative constructions are given in section (5). Finally, in section 6 I will show that this analysis is not only consistent with a unified analysis of passive in German, but also makes transparent the nature of causative passive as a combination of passive and causative.

2. The passive bare infinitive – proposals and problems

The analysis to be discussed in this section is the most prominent and widely accepted one, which has a long tradition starting with Reis (1973, 1976). It rests on the assumption that causative passives involve a special type of “synthetic” passive infinitive that is formally identical with the normal bare infinitive (cf. (4a)) but exhibits a passive argument structure (cf. (4b)), just like the analytic passive infinitive formed with the passive auxiliary werden (cf. (4c)).\(^7\)

(4) a. Active infinitive essen (‘eat’)

\[
\begin{array}{l}
\text{CAT} | \text{SUBCAT} \\
\quad \langle \text{NP}[\text{nom}]_1, \text{NP}[\text{acc}]_2 \rangle \\
\text{CONTENT} \\
\quad \text{essen} \\
\quad \text{AGENT} \quad [] \\
\quad \text{PATIENT} \quad []
\end{array}
\]

a causee. However, this analysis fails to account for the fact that causative passive is restricted to verbs having an external argument.


b. Passive infinitive *essen* ('be eaten')


\[
\text{CAT} \mid \text{SUBCAT} \quad \left\langle \text{NP[nom]}_1 \right\rangle \\
\text{CONTENT} \quad \text{essen} \\
\quad \text{AGENT} \quad 2 \\
\quad \text{PATIENT} \quad 1
\]

c. Analytic passive infinitive *gegessen werden* ('be eaten')


\[
\text{CAT} \mid \text{SUBCAT} \quad \left\langle \text{NP[nom]}_1 \right\rangle \\
\text{CONTENT} \quad \text{essen} \\
\quad \text{AGENT} \quad 2 \\
\quad \text{PATIENT} \quad 1
\]

However, this proposal is problematic for a number of reasons. First it is theoretically doubtful, since it assumes a passive verb form that lacks the appropriate passive morphology. As we have seen, both infinitives are formally identical. This would be a highly marked phenomenon, as universally there is a strong tendency for passives to be morphologically or periphrastically distinguished from their active counterparts (cf. Keenan 1985; Haspelmath 1990).

Note that two other infinitival verb forms in German, viz. the modal *zu*-infinitive and the participle 2, can appear in active and in passive constructions as well. However, as shown in (5) and (6), each construction makes use of a different auxiliary. As was already demonstrated in Haider (1984, 1986), there is no need to assume more than one lexical entry for modal *zu*-infinitives or participles 2 either. We will return to this issue in section 3.2 and 6.

(5)  

a. Sie hat die Tür zu öffnen.

she has the door to open-*ZINF*

'She has to open the door.'

b. Die Tür ist zu öffnen.

the door is to open-*ZINF*

'The door has to be opened.'

(6)  

a. Sie hat die Tür geöffnet.

she has the door opened-*PART2*

'She has opened the door.'

b. Die Tür wird geöffnet.

the door is (being) opened-*PART2*

'The door is (being) opened.'
However, there is another type of construction that appears to involve a synthetic passive infinitive. This is the so-called lassen middle, where an obligatorily reflexivized form of lassen exhibiting a modal ("dispositional") meaning subcategorizes for a bare infinitive, cf. (7).\(^8\)

\[(7)\] Der Wein lässt sich trinken.

\[\text{the wine-NOM let REFL drink-INF}\]

'The wine can be drunk.'

Note that the patient argument of the embedded verb appears as the subject of the reflexive lassen. In this respect, the construction resembles a canonical passive construction. However, the apparent passive effect is to be attributed to the reflexive lassen, which acts as a kind of modal auxiliary (cf. Höhle 1978, 65). Therefore, this type of construction gives no evidence for a passive infinitive either.

A further problem with the assumption in question is that the occurrence of such a passive infinitive would be entirely restricted to constructions involving lassen. For example, when governed by a modal verb, a passive infinitive must be realized analytically, as in (8a). A sentence like (8b), in contrast, can only have an active meaning.

\[(8)\]

\[(8a)\] Der Rasen muss gemäht werden.

\[\text{the lawn must mown-PAR2 be}\]

'The lawn must be mown.'

\[(8b)\] ? Der Rasen muss mähen.

\[\text{the lawn must mow-INF}\]

'\text{the lawn must mow}'

Note also that the adjectival participle 1, which is morphologically derived from the bare infinitive, always possesses an "active" argument structure corresponding\(^9\) to the paradigmatically related finite verb form, cf. (9a). This can be seen from examples (9b) and (9c).

\[\text{See especially Höhle (1978, 61ff.), Kunze (1996), and Zifonun, Hoffmann, and Strecker (1997, 1854ff.) for a description and analysis of the lassen middle construction.}\]

\[\text{This means that the subject argument will lose any particular case specification (i.e. the value of its CASE feature becomes case), whereas any other argument will keep its constraints. Since participles 2 and modal zu-infinitives both have a "passive" argument structure, the derivation of their corresponding adjectival participles affects the argument structure in the same way. Cf. also Jacobs (1992, 118, Fn. 24).}\]

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\(^9\) This means that the subject argument will lose any particular case specification (i.e. the value of its CASE feature becomes case), whereas any other argument will keep its constraints. Since participles 2 and modal zu-infinitives both have a "passive" argument structure, the derivation of their corresponding adjectival participles affects the argument structure in the same way. Cf. also Jacobs (1992, 118, Fn. 24).
Moreover, almost all proponents of the analysis in question assume object promotion if the embedded verb is transitive.\textsuperscript{10} That is, they claim that in structures like (1b) the NP \textit{die Blumen} is the “subject” of the embedded verb. Clearly, the NP cannot be understood as a subject in any morphosyntactic sense, for it is neither nominative nor does it agree with anything. Being marked as accusative, the simplest assumption is that it just remains an object of the embedded verb.

However, one may ask whether it exhibits any “structural” subject properties that are usually related to phenomena such as control and binding. As for binding, it has been pointed out by Primus (1987, 130) and others\textsuperscript{11} that it is not restricted to subjects in German. Hence, no conclusive evidence can be drawn from the binding data.

In German, the controller of the implicit subject of an infinitival adjunct introduced by \textit{ohne} (‘without’) must be a subject, cf. (10). As was pointed out in Höhle (1978, 71f.) and likewise in Grewendorf (1989, 150), there appears to be a significant asymmetry between causatives and causative passives with respect to the potential of controlling such an infinitival adjunct. While in causatives the causee may act as a controller (cf. (11 a)) – thus qualifying as a kind of “subject” – the accusative in a causative passive does not (cf. (11 b)).

\begin{exercise}
(10) \begin{quote}
Er wurde bezahlt, ohne gearbeitet zu haben.
he was paid without worked to have
‘He was paid without having worked.’
\end{quote}
\end{exercise}

\textsuperscript{10} Exceptions are Fanselow (1987, 131ff.) and Grewendorf (1989, 97ff.).

\textsuperscript{11} Cf. Grewendorf (1988, 57ff.), Eisenberg (1994, 192), and the references cited in Primus (1987, ibid.).
(11) a. Ich ließ ihn gehen, ohne sich verabschiedet zu haben.
I let him go without himself said goodbye to have
‘Ich let him go without him having said goodbye.’

b. ?? Ich ließ ihn wegbringen, ohne sich verabschieden zu dürfen.
I had him taken away without himself say goodbye to may
‘I had him taken away without him being allowed to say goodbye.’

To sum up, there is no evidence for object promotion in causative passives. However, in German, as well as in many other languages, direct object promotion is obligatory in passive constructions, witness the ungrammaticality of a sentence like (12). For this reason too, the causative passive would be a fairly marked construction type if it involved a passive infinitive.

(12) * Den Käse wurde gegessen.
The cheese-ACC was eaten-PART2
‘The cheese was eaten.’

3. On the argument structure of finite and non-finite verb forms

3.1 External arguments

The analysis of causative constructions rests on two basic assumptions concerning the argument structure of finite and non-finite verb forms. Both assumptions can be independently justified with respect to other infinitival constructions, in particular the personal and impersonal passive in German. First, I assume that certain arguments are specified as external, bearing a feature called EA (EXTERNAL-ARGUMENT). An argument is external if it possesses a sufficient amount of proto-agent properties in the sense of Dowty (1991). Thus, being an external argument is supposed to be a lexical-categorial feature of verbs which is directly related to lexical-semantic properties.


13 In this respect, the concept of an external argument employed here resembles that one envisaged in Jacobs (1994, 119, Fn. 31). – For an alternative view, see Grimshaw (1990).
Example (13) shows feature structure descriptions of finite verb forms (\texttt{VFORM fin}) with the list-valued features \texttt{EA} and \texttt{SUBCAT(EGORIZATION)}. In (13a) the subject argument of \textit{prüfen} ('examine') is the external argument being an element of the list-valued feature \texttt{EA}. In contrast, in (13b) the value of \texttt{EA} is the empty list because \textit{verwelken} ('shrivel') is unaccusative and therefore lacks an external argument.

(13) a. \textit{prüfen} ('examine')
\begin{align*}
\text{HEAD} & | \text{VFORM} & \text{fin} \\
\text{EA} & & \langle [] \rangle \\
\text{SUBCAT} & & \langle \text{NP[nom]}, \text{NP[acc]} \rangle
\end{align*}

b. \textit{verwelken} ('shrivel')
\begin{align*}
\text{HEAD} & | \text{VFORM} & \text{fin} \\
\text{EA} & & \langle [] \rangle \\
\text{SUBCAT} & & \langle \text{NP[nom]} \rangle
\end{align*}

3.2 Case alternation and underspecification

3.2.1 Structural vs. alternating case

In Generative Grammar, the concept of structural case is widely employed to account for case alternations in passives, causatives, and other infinitival constructions. For example, in (5) and (6) the patient argument of the modal \textit{zu}-infinitive and the participle 2 is accusative, if the verb is governed by (a finite form of) \textit{haben}, and nominative otherwise.

Although the key motivation for employing the notion of structural case is to account for case alternations, it is also clear that historically and conceptually the notion of structural case goes beyond these phenomena. Taken in its literal (and original) sense, structural case means that case is determined by phrase structure configurations. For example, it was claimed that an NP is nominative if governed by INFL/AGR-S and accusative if governed by V (cf. Chomsky 1981, 170; Haider 1986, 9).

Now it should be clear that structural and alternating case do not always coincide, which shows that they are basically distinct phenomena. This holds for all instances of structural case where the verbal head is finite, since case alternation is entirely restricted to infinite verb forms.\textsuperscript{14}

\textsuperscript{14} Note that the so-called \textit{inchoative-causative alternation} such as \textit{er zerbrach die Vase} vs. \textit{die Vase zerbrach} is not an instance of \textit{syntactic} case alternation, since both verbs differ in meaning and semantic structure. They are thus different lexical words.
However, the more relevant question is whether there remains any good reason for applying case in the syntax at all rather than in the lexicon. For if case assignment depends on syntactic phrase structure positions, there is no other possibility than to let it take place in the syntax. But if case assignment only depends on the order of argument positions of subcategorization lists, as it is usually assumed in HPSG, there appears little reason for not handling it in the lexicon. The exception and only true instances of syntactic case assignment are then case alternating phenomena as they occur most prominently in passive and causative constructions (cf. Primus 1999, 154).

The conclusion to be drawn is to restrict case underspecification to just those verb forms that are susceptible for case alternating processes, i.e. non-finite verb forms. Accordingly, I will eschew the notion of structural case and speak of (syntactically) alternating case instead. A case that is not alternating is called (syntactically) invariant or lexical.

3.2.2 Underspecification of non-finite verb forms

Bare infinitives

Since bare infinitives (vform inf) may be governed by causative or perceptive verbs, their subject position is to be underspecified bearing the case value alt(ernating-case). Note that not all verbs are equally acceptable in this type of construction. For instance, as shown in (14), unaccusative verbs are strongly dispreferred if they select an optional dative (cf. Zifonun, Hoffmann, and Strecker 1997, 1422). However, it remains unclear whether the restriction at work is syntactic or semantic in nature (or both). I leave this question open and do not rule out these examples for syntactic reasons. Therefore, with all types of non-finite forms the subject position will be underspecified, cf. (15).

(14) Ich sah (??ihre) das Experiment misslingen.
I saw (her) the experiment fail
'I saw that she failed the experiment.'
Participles 2

As for participles 2 (VFORM part2), I assume – following an analysis originally proposed by Haider (1984)\textsuperscript{17} – that the external argument (if there is one) is lexically blocked and can be deblocked only by the perfect auxiliary haben. In this sense, participles 2 have a “passive” argument structure. This accounts for the fact that in so-called participial constructions the participle 2 occurs without any auxiliary but clearly exhibits a passive argument structure, cf. (16a). The same holds for the attributive use of the participle, cf. (16b). As expected, participles 2 of unaccusative verbs behave in the same way, cf. (17a) and (17b).

(16) a. Das Blumenbeet, vom Wind völlig verwüstet,  
the flowerbed by-the wind completely destroyed\textsuperscript{PART2}  
machte einen traurigen Eindruck.  
made a sad impression  
‘Being completely destroyed by the wind the flowerbed gave a sad impression.’  
b. das vom Wind völlig verwüstete Blumenbeet  
the by-the wind completely destroyed\textsuperscript{PART2} flowerbed  
‘the flowerbed that is completely destroyed by the wind’

(17) a. Aufgeblüht sahen die Blumen großartig aus.  
blossomed\textsuperscript{PART2} the flowers looked great  
‘Having blossomed the flowers looked great.’  
b. die aufgeblühten Blumen  
the blossomed\textsuperscript{PART2} flowers  
‘the blossomed flowers’

There is another type of construction where only participles 2 of transitive and unaccusative verbs are possible. These are structures such as

\textsuperscript{17} See also Heinz and Matiasek (1994, 217ff.) and Zifonun, Hoffmann, and Strecker (1997, 1790 et passim.).
(18a)–(18c), which are similar to Acl constructions except for the embedded verb, which is realized as a participle 2.

(18) a. Ich sah das Fenster geöffnet.
   I saw the window-ACC opened-PART2.
   'I saw the window being opened.'

b. Ich sah die Blume verwelkt.
   I saw the flower-ACC shriveled-PART2.
   'I saw the flower shriveled.'

c. * Ich sah Aladin gearbeitet.
   I saw Aladin-ACC worked-PART2.
   'I saw Aladin having worked.'

To account for case alternations in these as well as in canonical werden-passive constructions, the subject argument of unaccusative and transitive participles 2 is lexically specified as bearing the case value alt. Thus, for participles 2 we arrive at lexical entries such as (19a)–(19c).

(19) a. geöffnet ('opened')
   \[
   \[
   \text{CAT} \quad \text{CONTENT} \\
   \quad \text{HEAD} \mid \text{VFORM} \quad \text{part2} \\
   \quad \text{EA} \quad \langle \text{NP}[\text{nom}]_1 \rangle \\
   \quad \text{SUBCAT} \quad \langle \text{NP}[\text{alt}]_2 \rangle \\
   \quad \text{öffnen} \\
   \quad \text{AGENT} \quad 1 \\
   \quad \text{PATIENT} \quad 2 \\
   \]

b. verwelkt ('shriveled')
   \[
   \[
   \text{CAT} \quad \text{CONTENT} \\
   \quad \text{HEAD} \mid \text{VFORM} \quad \text{part2} \\
   \quad \text{EA} \quad \langle \rangle \\
   \quad \text{SUBCAT} \quad \langle \text{NP}[\text{alt}]_2 \rangle \\
   \quad \text{verwelken} \\
   \quad \text{PATIENT} \quad 1 \\
   \]

c. gearbeitet ('worked')
   \[
   \[
   \text{CAT} \quad \text{CONTENT} \\
   \quad \text{HEAD} \mid \text{VFORM} \quad \text{part2} \\
   \quad \text{EA} \quad \langle \text{NP}[\text{nom}]_1 \rangle \\
   \quad \text{SUBCAT} \quad \langle \rangle \\
   \quad \text{arbeiten} \\
   \quad \text{AGENT} \quad 1 \\
   \]

\(^{18}\) The subject argument is defined as the first argument on a verb's SUBCAT list.
**Zu-infinitives**

With *zu*-infinitives it is necessary to distinguish two forms differing in meaning and argument structure: first, the "normal" *zu*-infinitive (\texttt{VFORM zu-inf}) usually occurring in infinitival complements and adjuncts and having the same meaning and argument structure as the bare infinitive. Second, there is a modal *zu*-infinitive (\texttt{VFORM mod-zu-inf}) which has the same argument structure as the participle 2 and conveys a modal meaning (possibility or deontic necessity). It is often assumed\(^{19}\) that the modal meaning is to be attributed to the auxiliaries *haben* and *sein* that govern the modal *zu*-infinitive in constructions like (5a) and (5b). This proposal is problematic insofar as the *zu*-participle 1, which is morphologically derived from the *zu*-infinitive, bears a modal meaning as well.\(^{20}\) It is thus reasonable to attribute the modal meaning to the *zu*-infinitive rather than to the auxiliary. We then arrive at the two lexical entries given in (21) for the non-modal and modal *zu*-infinitive, respectively.\(^{21}\)

\begin{align*}
\text{(20)} \text{ die zu öffnende Tür} & \quad \text{the to open-zpARTl door} \\
& \quad \text{‘the door to be opened’}
\end{align*}

\begin{align*}
\text{(21)} \quad \text{a. zu öffnen (‘to open’)} \\
\begin{array}{c}
\begin{array}{c}
\text{CAT} \\
\text{HEAD | VFORM zu-inf} \\
\text{EA \{3\}} \\
\text{SUBCAT \{NP \text{[nom]}_1, \text{NP[alt]}_2\}} \\
\text{CONTENT} \\
\text{open} \\
\text{AGENT [1]} \\
\text{PATIENT [2]}
\end{array}
\end{array}
\end{align*}


\(^{20}\) Cf. also Maier (1987, 14). – The *zu*-participle 1 will be derived from the modal *zu*-infinitive by the same derivation process that relates the participle 1 to the bare infinitive (cf. *öffnend* (‘opening’) vs. *öffnen* (‘open’)).

\(^{21}\) I neglect the modal meaning component in the lexical entry of the modal *zu*-infinitive, since I want to eschew any discussion as to its proper representation.
4. On the argument structure of lassen

4.1 Monoclausal vs. biclausal structures

Causative and causative-passive lassen belong to the class of so-called coherently constructing verbs (in the sense of Bech 1983), which means – among other things – that they form monoclausal structures. In particular, coherently constructing verbs do not subcategorize for a VP, but rather for a simple verb form and its complements (cf. section 4.2). In contrast, incoherently constructing verbs embed a VP. Evidence for such a VP is given by data from extraposition (22a), pied piping (22b), and movement within the middle field (22c).

(22) a. weil ich ihn bat, [VP das Buch zu lesen]  
   because I him asked the book to read  
   'because I asked him to read the book'

b. das Buch, [VP das zu lesen] ich ihn bat  
   the book that to read I him asked  
   'the book that I asked him to read'

c. weil ich ihn [VP das Buch zu lesen] oft gebeten habe  
   because I him the book to read often asked have  
   'because I have often asked him to read the book'

Significantly, these types of construction are not possible with coherently constructing verbs like lassen:

(23) a. weil ich ihn lasse das Buch lesen  
   because I him have the book read  
   'because I have him read the book'

b. *das Buch, das lesen ich ihn lasse  
   the book that read I him have  
   'the book I have him read'
On the other hand, evidence for a biclausal structure has often been sought in data from reflexivization. Thus it has been claimed that causatives are biclausal while causative passives are monoclausal. In section 5 I will return to this issue arguing that phrase structure is not the relevant parameter in an explanation of the relevant distinctions.

The question now arises as to what kind of phrase structure we shall adopt for coherent constructions. There are indeed several possibilities, which are all consistent with my analysis of causative constructions. So nothing hinges on the particular phrase structure analysis as long as coherently constructing verbs are assumed not to embed a VP. Following Eisenberg (1994, 102ff., 384), Nerbonne (1994), and Bouma and van Noord (1998) I assume a thoroughly flat structure for coherent constructions, that is, a structure where the matrix verb and its (verbal and non-verbal) complements are coconstituents (cf. figure 1).

A consequence of this approach is that we have to adopt different phrase structure principles for finite and non-finite head complement phrases respectively, which is justified by the fact that subject arguments are saturated only in finite phrases. In this sense, all non-finite phrases are "unsaturated".

---

22 In particular, the analysis is fully compatible with the assumption of a so-called verbal complex along the lines of Hinrichs and Nakazawa (1994).

23 Verb first structures can be licensed by using an appropriate linearization rule, cf., for instance Pollard (1996). Verb second structures are then accounted for in terms of a standard UDC ("unbounded dependency construction") mechanism. An account of partial VP fronting is given in Meurers (1999). Note that on the current approach a separate phrase structure principle will be needed in order to capture partial VPs.
(24) Phrase structure principle for finite head-complement phrases
(fin-hd-comp-ph)$^{24}$

\[
\begin{array}{c}
\text{SYNSEM} | \text{LOC} | \text{CAT} | \text{SUBCAT} (\emptyset)\\
\text{HD-DTR} | \text{word} | \text{SYNSEM} | \text{LOC} | \text{CAT} | \text{SUBCAT} (\Pi + 2)
\end{array}
\]

(25) Phrase structure principle for non-finite head-complement phrases
(non-fin-hd-comp-ph)

\[
\begin{array}{c}
\text{SYNSEM} | \text{LOC} | \text{CAT} | \text{SUBCAT} (\Pi)\\
\text{HD-DTR} | \text{word} | \text{SYNSEM} | \text{LOC} | \text{CAT} | \text{SUBCAT} (\Pi + 2)
\end{array}
\]

4.2 Lexical entries for lassen

Let us turn now to the lexical entry for lassen. The basic idea is that lassen does not only subcategorize for the embedded verb but also for the complements of the embedded verb. The relevant mechanism, which has in its current form been proposed by Hinrichs and Nakazawa (1994: 21), is variously dubbed argument attraction, argument inheritance or argument raising in the HPSG literature (cf. Pollard 1994, Kiss 1994, Meurers 1999, among others). Argument attraction can be considered the defining characteristic of the group of coherently constructing verbs in German (cf. Kiss 1994, 76).

(26) \textit{lassen}_1 \text{(causative)}

\[
\begin{array}{c}
\text{PHON} \langle \text{lassen} \rangle\\
\text{HEAD} | \text{VFORM inf}\\
\text{EA} \langle \text{NP[alt]} \rangle\\
\text{S} | \text{L} | \text{C}\\
\text{SUBCAT} (1 + 2 + 3 + )\\
\text{LEX} + \langle \text{HEAD} | \text{VFORM inf} | \text{EA} | \text{L} | \text{C} | \text{SUBCAT} (2 + 3) \rangle
\end{array}
\]

The (partial) lexical entry in (26) says that lassen subcategorizes for a bare infinitive ($\text{VFORM inf}$) which has to be non-phrasal, i.e., a lexical form ($\text{LEX} +$). Hence lassen does not embed a VP. Moreover, lassen

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$^{24}$ I follow Sag (1997) in assuming a hierarchical ordering of phrasal types. In particular, $\text{fin-hd-comp-ph}$ and $\text{non-fin-hd-comp-ph}$ are subtypes of $\text{hd-comp-ph}$ (head-complement-phrase).
subcategorizes for a subject-NP ([]) as well as for all complements of the embedded verb (\[2, 3\]). If the verbal complement of *lassen* is transitive or unaccusative, feature structure descriptions such as (27) and (28) arise. Notice that with unaccusative verbs the EA value being attracted will always be the empty list, as indicated by the expression '\[2\]' in (28).\(^{25}\)

(27) (weil) er mich den Rasen mähen lässt
(because) he-NOM me-ACC the lawn-ACC mow-INF have
‘(because) he has me mow the lawn’

(28) (weil) ich die Blumen verwelken lasse
(because) I-NOM the flowers-ACC shrivel-INF let
‘(because) I let the flowers shrivel’

\(^{25}\) Concatenating an empty list \(l\) with another list \(l'\) yields \(l'\) itself and is therefore pointless. However, the point of the feature structure description given in (28) is to show that it involves the same lexical entry, i.e. *lassen*, as the one in (27).
4.3 The Case Principle

As we have seen, arguments bearing the case value \textit{alt(ernating-case)} can be discharged by nominative as well as accusative NPs. Thus we have to make sure that an underspecified argument cannot be filled with a complement having "the wrong" case value, cf. (29).

\begin{align*}
(29) & \quad \text*{weil er ich den Rasen mähen lässt} \\
& \quad \text{because he-NOM I-NOM the lawn-ACC mow has} \\
& \quad \text{‘because he has me mow the lawn’}
\end{align*}

To this end I adopt a version of the so-called \textit{Case Principle}, which was originally formulated in Heinz and Matiasek (1994, 209f.). The Case Principle serves as a constraint on head-complement phrases in spelling out underspecified case values. Intuitively, it says that the first underspecified argument must be a nominative NP (cf. (30a)), whereas any subsequent underspecified arguments must be accusative NPs (cf. (30b)).

\begin{align*}
(30) & \quad \text{Case Principle} \\
& \quad \text{a. } [\text{\textit{fin-hd-comp-ph}}] \\
& \quad \text{[\text{\textit{HD-DTR}} | S | L | C | \text{\textit{SUBCAT}} \langle \text{\textit{NP[alt]} \oplus \mathbb{I}} \rangle] } \\
& \quad \text{[\text{\textit{HD-DTR}} | S | L | C | \text{\textit{SUBCAT}} \langle \text{\textit{NP[nom]} \oplus \mathbb{I}} \rangle]} \\
& \quad \text{b. } [\text{\textit{hd-comp-ph}}] \\
& \quad \text{[\text{\textit{HD-DTR}} | S | L | C | \text{\textit{SUBCAT}} \langle \text{\textit{synsem}} \oplus \mathbb{I} \oplus \langle \text{\textit{NP[alt]} \oplus \mathbb{I}} \rangle \rangle } \\
& \quad \text{[\text{\textit{HD-DTR}} | S | L | C | \text{\textit{SUBCAT}} \langle \text{\textit{synsem}} \oplus \mathbb{I} \oplus \langle \text{\textit{NP[acc]} \oplus \mathbb{I}} \rangle \rangle]}
\end{align*}

The first implication, (30a), comes into play in raising-to-subject constructions such as (31), where the embedded verb is a bare infinitive. (30a) then specifies that in structures like (31) the subject must be a nominative NP:

\begin{align*}
(31) & \quad (\text{weil}) \quad \text{er arbeiten muss} \\
& \quad \text{(because) he work must} \\
& \quad \text{‘(because) he has to work’}
\end{align*}

\textsuperscript{26} See also Müller (1999, 280f.). Note that for the sake of simplicity I neglect the formally necessary distinction between the case values \textit{syntactic-nominative/-accusative} and \textit{lexical-nominative/-accusative}. See Heinz and Matiasek (1994, 207) for a discussion on the relevant distinctions.
The second implication, given in (30b), applies – inter alia – to finite structures such as (32), specifying the case value of any non-first underspecified arguments as accusative. These are just the arguments to be filled by the lower subject (mich) and object (den Rasen). Note that because of (30b) structures such as (29) are correctly ruled out as ungrammatical.

(32) (weil) er mich den Rasen mähen lässt  
(because) he me the lawn mow has  
'(because) he has me mow the lawn'

Likewise, for non-finite structures such as (33), (30b) requires the case value of any underspecified arguments but the first to be acc(ussative).

(33) (um) mich den Rasen mähen zu lassen  
(in order) me the lawn mow to have  
'(in order) to have me mow the lawn'
4.4 A unified account of causatives and causative passives

The question to be addressed now concerns the argument structure of causative passives. I will assume the following lexical entry for lassen in causative passives, which differs from the above-mentioned one in two ways: First, the embedded verb is required to have an external argument. This ensures that causative passives can only be formed from verbs allowing a canonical werden passive. Second, the external argument is not being attracted. This, in turn, accounts for the expected passive effect in causative passives.

\[(34) \quad \text{lassen}_2 \text{ (causative passive)} \]

If we combine lassen\textsubscript{2} with a bare infinitive, we get structures such as (35).

\[(35) \quad \text{(weil) ich den Rasen mähen lasse} \quad \text{(because) I-NOM the lawn-ACC mow-INF have} \]

\[\text{‘(because) I have the lawn mown’} \]
The lexical entries for *lassen* and *lassen^* can now be collapsed into one by treating the external argument of the embedded verb as an optional argument of *lassen*. Thus we arrive at the following unified lexical entry for *lassen* in causative constructions.

(36) *lassen* (causative and causative passive)

\[
\text{PHON} \langle \text{lassen} \rangle \\
\text{HEAD} | \text{VFORM inf} \\
\text{EA} \quad \text{\( \llbracket \text{NP[alt]} \rrbracket \)} \\
\text{SUBCAT} \text{\( \llbracket \text{NP[nom]} \rrbracket \oplus \text{\( \llbracket \text{NP[acc]} \rrbracket \) } \oplus \langle \text{V[inf]} \rangle \)}
\]

Note that with unaccusative verbs causatives and causative passives coincide. Both construction types differ only with respect to the attraction of the external argument of the embedded verb, which will be attracted in causatives but not in causative passives. However, as unaccusative verbs lack an external argument, the relevant difference disappears.

5. **Some remarks on reflexivization**

As mentioned earlier, causatives and causative passives differ in their binding possibilities. In causatives like (37a) an anaphor cannot be coreferential with the causer-NP but only with the causee-NP. In contrast, the opposite is true if the lower object is a pronoun, as shown in (37b).

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27 Heinz and Matiasek (1994, 231f.) offer an analysis of Acl constructions in terms of object control structures. Suchsland (1987), in contrast, treats only causative-passive *lassen* as a control verb, but causative *lassen* as an ECM ("exceptional case marking") verb. However, it has already been shown in Reis (1973, 520) that an analysis of causative constructions in terms of control structures is inadequate. See also Fanselow (1987, 134ff.) for arguments against a control analysis of causative passives.
(37) a. Karl, ließ Franz ihn rasieren.
   Karl had Franz him shave
   ‘Karl had Franz shave him.’

b. Karl, ließ Franz ihn rasieren.
   Karl had Franz him shave
   ‘Karl had Franz shave him.’

However, this does not hold for causative passives, where an anaphor, but not a pronoun in the position of the lower object, can be bound by the causer, cf. (38).

(38) Karl, ließ sich ihn rasieren.
   Karl had himself/him shave
   ‘Karl had himself shaved.’

Such data from reflexivization have often been cited as evidence that causatives and causative passives differ in terms of phrase structure. The underlying assumption – derived from the binding theory of Chomsky (1981) – is that binding is restricted to certain local phrase structure domains also known as “governing categories”. Thus, Grewendorf (1983, 140ff.) assumes that causative lassen subcategorizes for an S'/S, which establishes a governing category of its own, thereby blocking reflexivization. In contrast, causative-passive lassen is assumed to select only for a VP, which allows binding from outside. More recently, Wunderlich (1997, 64) speaks of ‘different degrees of clausematehood’, implicating that causative passives form monoclausal structures while causatives form biclausal structures, a claim, that is also maintained by Webelhuth (1998) as well as Ackerman and Webelhuth (1998, 268ff.).

I do not want to go into any of these proposals in detail. One apparent disadvantage all (or at least most)\(^{28}\) of them share is that they have to adopt different lexical entries for lassen (differing with respect to their subcategorization properties) which cannot be reduced to one. In contrast, given the analysis of causative constructions proposed in this paper, a more simple solution suggests itself which need not take recourse to phrase structural

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\(^{28}\) Wunderlich (1997, 64) offers a single lexical entry claiming that ‘the different degrees of clausematehood result from the fact that the dependent verb can project onto different syntactic levels.’ However, this claim is hard to evaluate, since Wunderlich does not say how the projection might be (lexically or syntactically) constrained in each particular case.
differences. Informally, the relevant generalization can be formulated as in (39):^{29}

(39) For all coreferential arguments $X$, $Y$ of the same subcat list, $X$ preceding $Y$: $Y$ will be pronominalized\textsuperscript{30} if and only if there is an external argument $Z$ intervening between $X$ and $Y$. Otherwise, $X$ will be reflexivized.

This accounts for the data given in (37) and (38) as well as such in (40), where the embedded verb is unaccusative and which show the binding properties of causative passives.

(40) a. Karl\textsubscript{i} lässt sich\textsubscript{i} im Wasser treiben.
    Karl let himself in-the water drift
    ‘Karl let himself drift in the water.’

b. Karl\textsubscript{i} lässt die Probleme auf sich\textsubscript{i} zukommen.
    Karl let the problems to himself come
    ‘Karl let the problems take its course.’

Note that the generalization given above does not exclude an external argument itself from being bound by some matrix subject. Thus, in causative constructions such as (41) the embedded external argument has to be reflexivized:

(41) In seiner Autobiographie ließ Karl\textsubscript{i} sich\textsubscript{i} das Spiel gewinnen
    In his autobiography let Karl himself the game win
    ‘In his autobiography Karl let himself win the game.’

I will not attempt any formalization of the generalization given in (39), since this would involve a more thorough account of reflexivization in German, which is beyond the scope of this paper. As far as causatives are concerned, such an account would also have to include a treatment of data such as (42). As was already noticed in Reis (1976, 27, 42), there are instances of causatives where a PP may be optionally reflexivized, even if the embedded verb does have an external argument, as shown in (42a) and (42c).^{31}

\textsuperscript{29} A similar proposal is given by Primus (1987, 158).

\textsuperscript{30} In the case of PPs, ‘pronominalization’ and ‘reflexivization’ refers to the embedded NP.

\textsuperscript{31} These data are still very poorly understood. Fanselow (1987, 148f.) speculates that some special properties of für-phrases might be responsible thereby neglecting data such as (42b) and (42c). Frey (1993, 128) claims that only sentential adjuncts allow
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(42) a. Sie ließ den Jungen für sich/ für sie arbeiten.
   She let the boy for herself/ for her work.
   'She let the boy work for her.'

b. Sie ließ den Jungen bei sich/ bei ihr wohnen.
   She let the boy with herself/ with her live
   'She let the boy live with her.'

c. Sie ließ den Jungen den Revolver auf sich/ auf sie richten.
   She let the boy the gun at herself/ at her aim.
   'She let the boy aim the gun at her.'

6. Causative passive and passive

The Case Principle and the feature structure descriptions for finite and non-finite verb forms allow for a unified analysis of the werden passive without requiring different rules for personal and impersonal passives. Following Heinz and Matiasek (1994) we may propose the feature structure description given in (43) for the passive auxiliary werden.

(43) Lexical entry for werden

As the external argument of the embedded verb will not be attracted, it cannot be realized as a subject. In addition, the participle 2 is required to have an external argument. Hence, verbs lacking an external argument cannot be passivized. If the SUBCAT list of a participle 2 includes an argument bearing alt, it will become the subject. Otherwise, an impersonal passive is formed. This accounts for the fact that passivization of transitive verbs always triggers object promotion in German.

reflexivization in causatives, which is also falsified by (42b) and (42c), where the PPs are complements. See also Grewendorf (1983, 178ff.) for some discussion. – My suggestion is that an approach in terms of logophoricity might be promising, especially when AcI constructions involving perception verbs are taken into consideration.
A comparison with (34), the lexical entry for *lassen*₂, shows why the causative passive can be viewed as simultaneously involving causativization and passivization: on the one hand, an external argument is being added (causativization) on the other, the external argument of the embedded verb is being blocked (passivization).

Moreover, passives and causative passives share a semantic characteristic as well, since in both cases an external argument – or, more precisely, its semantic equivalent – can be assumed to be existentially bound. As for passives, existential binding of the external argument might be considered a lexical property of the passive verb form, the participle 2 or the modal *zu*-infinitive, respectively (cf. Wunderlich 1993, 739). Alternatively, one could adopt a default principle to the effect that argument positions left undischarged in clause structure are interpreted as being existentially bound. A principle like this is likely to be needed anyway in order to interpret clauses including predicates with unrealized (optional) arguments. Significantly, the same semantic effect, viz. the existential binding of an external argument, is ultimately triggered by two different lexico-syntactic properties: passivization on the one hand and argument optionalization on the other.

Another typical feature of passive constructions to be found in causative passives are agentive PPs. However, the potential of licensing agentive PPs is not restricted to passive verb forms either (cf. Höhle 1978, 162ff.). Rather, what renders the structural context appropriate for the occurrence of agentive PPs, is the suppression of an external argument, a property shared by causative passives as well.

7. Conclusion

The analysis of the causative verb *lassen* developed in this paper allows for a unified treatment of German causative constructions. In particular, there is no need to adopt a special kind of (synthetic) passive bare infinitive to occur in causative passives. The analysis is fully consistent with a unified treatment of passive constructions along the lines of Haider (1984, 1986) and Heinz and Matiasek (1994). Crucially, the passive analysis as well as the causative analysis build on the same theoretical assumptions, which gain a firm empirical basis in this way.

Moreover, it could be shown that typical passivelike features exhibited by causative passives such as the occurrence of agentive PPs can be attributed
to the suppression of the embedded verb's external argument. However, unlike with passives, suppression of the external argument is not triggered by the embedded verb's argument structure or morphology but by that of the causative verb (optionalization), which explains the peculiar nature of causative passives.

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