

How to manage something in Bavarian German: the verbal prefix *der-*¹

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Abstract. The intuitive semantic contribution of the Bavarian German verbal prefix *der-* is usually paraphrased with either *manage* or *be able to* (e.g., *Pia der-zieht den Wagen*, ‘Pia {manages / is able} to pull the cart.’). While existing work has emphasized the relation of *der-* to its ability-paraphrase (Sonnenhauser 2009, 2012), we show that its semantic properties are much closer (though not identical) to that of *manage*: (i) *der-* gives rise to inference patterns that mirror those of *manage* and (ii) like *manage* but unlike *be able to*, predicates build from verbs prefixed by *der-* interact with temporal adverbials in the same way as *achievement*-predicates. We take these results at face value and propose that *der-* introduces an event-boundary to the event described by its semantic argument, thereby creating an *achievement*-predicate. We argue that *der-* contributes projective content regarding the agent’s commitment to and the difficulty of performing the event described by its argument.

Keywords: Bavarian German, verbal prefix *der-*, *manage*, aktionsart, projective content.

1. Introduction

This paper investigates the semantic properties of a verbal morpheme found in Bavarian German: the verbal prefix *der-*.² The intuitive semantic contribution of this prefix is often paraphrased either with an ability modal such as *be able to / can* (German ‘können / in der Lage sein’) or *manage* (German ‘schaffen’), as illustrated in (1).

- (1) Der Alex hat das Schnitzel auf-der-essen.
the Alex has the schnitzel up-DER-eaten
(≈ ‘Alex managed to eat the schnitzel.’)
(≈ ‘Alex was able to eat the schnitzel.’)

So far, there has been little theoretical interest in this prefix: apart from it being mentioned in the dialectological literature (e.g., Ahlden 1953; Bauer 1999; Eichinger 1999; Merkle 1976; Schmeller 1872), the only systematic investigation of the semantic properties of *der-* has been conducted by Sonnenhauser (2009, 2012). One central observation in that literature is that the subjects of the verbs that can be prefixed with *der-* must have the thematic role *AGENT*. We will implement this observation as a requirement *der-* imposes on its thematic-role argument (see Section 3). Most of our analysis, however, departs from previous proposals. While Sonnenhauser’s discussion focuses on the (supposed) ability meaning of *der-*, it is a major goal of this paper to show that the semantic contribution of *der-* is in fact much closer to that of *manage*.

In German, verbal *prefixes* form a class that have to be morphologically distinguished from verbal *particles*. Unlike verbal particles, verbal prefixes attach to the verbal root directly and

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²The data discussed in this paper are based on the judgments of our consultants and on our own native speaker intuitions and represent the Middle- and Southern-Bavarian varieties as spoken in Austria (see Lameli 2019). Our examples are based on the Southern-Bavarian variety.

do not allow for any other elements to intervene. They cannot be iterated, and they undergo head-movement together with their verbal host (see Section 3 for a syntactic representation). Clearly, *der-* is a verbal prefix: it always appears closer to the root than any other pre-verbal morpheme; it does not occur together with other verbal prefixes and is taken along wherever its verbal host moves. This distributional pattern is illustrated in the following example; in verb-final contexts, as in (2a), the verbal particle (here: *auf*), the prefix *der-*, and the verb appear adjacent to each other in that order. In (2b), the prefix and the verb appear in verb-second position while the particle remains in sentence-final position.³

- (2) a. ... dass die Pia die Suppe ohne Probleme **auf der-isst**.
 ... that the Pia the soup without problems up DER-eats.
 b. Die Pia **der-isst** die Suppe ohne Probleme **auf**.
 the Pia DER-eats the soup without problems up.
 ‘(... that) Pia manages to eat up the soup easily.’

Besides its *manage/ability*-function illustrated in (2), *der-* can also take on meanings that are identical to those expressed by the Standard German verbal prefixes *er-*, *ver-*, and *zer-*.

- (3) a. er-arbeiten \rightsquigarrow der-arbeiten ‘acquire (by working)’
 ER-work DER-work
 b. ver-faulen \rightsquigarrow der-faulen ‘rot (completely)’
 VER-rot DER-rot
 c. zer-stechen \rightsquigarrow der-stechen ‘prick all over’
 ZER-sting DER-sting

Whatever the reasons for this overlap in meaning (we believe it is due to historical reasons), this paper is concerned exclusively with the meaning *der-* contributes in (2), that is, its *manage/ability*-function. In that function, *der-* has no prefixal counterpart in Standard German.

The structure of this paper is as follows. In Section 2, we show that, contrary to the picture drawn in existing work on *der-*, the semantic contribution of *der-* is not that of an ability modal. Instead, a *manage*-paraphrase approximates its meaning more adequately. In Section 3, we set forth our proposal for how this *manage*-like meaning arises. We propose that *der-* composes with a predicate of events of variable aktionsart and forms an achievement predicate. Furthermore, we propose that *der-* contributes projective content regarding the relative difficulty of the action described by the argument of *der-*, as well as regarding the agent’s commitment to performing that action. Section 4 concludes the paper and highlights some open questions.

2. *Der*-verbs: ability modal or *manage*?

In this section, we present data showing that the contribution of *der-* is distinct from that of ability modals and that it contributes a meaning that is closer to that of *manage*. We show that *der-* is related to *manage* by its aktionsart-properties and by the inference patterns it gives

³The combination of *der-* with verbal particles does not seem to be available in all varieties of Bavarian. While all our consultants accepted the combination of *der-* with verbal particles, speakers from Vienna, for example, have pointed out to us that they do not accept such constructions.

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rise to. They differ, however, in their (in-)compatibility with *unintentionality*, indicating that *manage* is only an approximation of the semantic contribution of *der-*.

2.1. Aktionsart: predicates containing *der-*verbs are not atelic

Modals, in general, and ability modals like *can / be able to* or German *können*, in particular, have *stative* aktionsart. In contrast, based on their interaction with time-point adverbials, it can be shown that predicates built from *der-* are clearly telic: If *manage* or *der-* combine with a predicate describing an eventuality with no inherent endpoint (e.g., *pull the box*), a co-occurring time-point adverbial is obligatorily interpreted in a way where it describes the *beginning* of the respective eventuality. With states or activities, on the other hand, *any* point in time within the runtime of the eventuality can be understood to be localized by a time-point adverbial.⁴ This contrast is shown in the following examples. In both (4a) and (4b), the time-point adverbial *at 12 sharp* can only be understood as localizing the starting point of the pulling-the-box-event.

- (4) a. At 12 sharp, Alex managed to pull the box.
b. Der Alex hat die Kiste um Punkt 12 der-zogen.
the Alex has the box at point 12 DER-pulled

This is not what we find with the examples in (5)–(6), which involve states and activities and which are compatible with interpretations where some other slice of the eventuality-runtime is localized by the adverbial.

- (5) ?Der Alex hat den Wagen um Punkt 12 ziehen können.
the Alex has the cart at point 12 pull can
'?Alex was able to pull the cart at 12 sharp.' (state)
- (6) a. ?Lui was happy at 12 sharp. (state)
b. ?Lui drank/was drinking water at 12 sharp. (activity)

By that diagnostic, *manage* and predicates built from *der-*verbs denote neither states nor activities. That is, their aktionsart is *telic*. In Section 3, we will show that *der-* in fact creates *achievement* predicates.

2.2. Entailment pattern of sentences containing *der-*verbs

Another difference between ability modals, on the one hand, and *der-*verbs and *manage*, on the other, concerns the inferences they give rise to in different (pseudo-)aspectual environments.

In languages with aspectual morphology, ability modals in the past tense with *perfective* aspect trigger the inference that the event described by the argument of the modal has in fact obtained while there is no such inference with *imperfective* aspect. That is, perfective aspect leads to an *actuality entailment* (Bhatt 1999). A similar pattern obtains in languages without aspectual morphology. Nadathur (2019) observes that certain adverbials induce actuality *implicatures*: adverbials like *yesterday* favor an episodic reading of the ability modal where the prejacent proposition is understood as having been actualized. Adverbials describing a longer period of time (e.g., *during his time in school*) favor a 'pure ability' reading. Accordingly, the

⁴Note, however, that for activity predicates that combine with time-point adverbials, *inchoative* interpretations (i.e. interpretations that describe the beginning of an event) are favored (see Dölling 2014).

interpretation of (7a) is silent about whether Alex actually ran the distance in question. The most prominent reading of (7b), by contrast, is understood as implicating that Alex, in fact, ran the distance. Due to this inference pattern, (7a) but not (7b) is acceptable if followed by a continuation denying the actualization of the eventuality described by the prejacent proposition.

- (7) a. **In seiner Schulzeit** konnte Alex die Strecke laufen.
in his school-time could Alex the way run
‘**When he was in school**, Alex was able to run the distance.’ (no actuality impl.)
(✓... but he didn’t actually run the distance.)
- b. **Gestern Abend** konnte Alex die Strecke laufen.
yesterday evening could Alex the way run
‘**Yesterday evening**, Alex was able to run the distance.’ (actuality impl.)
(??... but he didn’t actually run the distance.)

By contrast, the eventuality in the scope of *manage* or *der-* is obligatorily interpreted as having been actualized, regardless of the type of adverbial used. The following two examples differ from those in (7a-b) only minimally: the ability modal *können* / *be able* is replaced by *manage* and *der-* in (8)–(9). Neither the sentences in (8), which contain the adverbial *when he was in school* / *in seiner Schulzeit*, nor those modified by *yesterday* / *gestern* in (9) can be true if the subject never actually ran the distance in question. This is demonstrated by the fact that none of the sentences in (8)–(9) can be felicitously continued with the negation of its *manage-* or *der-*less equivalent.⁵

- (8) a. **When he was in school**, Alex managed to run the distance.
b. **In seiner Schulzeit** ist der Alex die Strecke der-laufen
in his school-time is the Alex the way DER-run
... but he did not actually run the distance.
- (9) a. **Yesterday**, Alex managed to run the distance.
b. **Gestern** Abend ist der Alex die Strecke der-laufen
yesterday evening is the Alex the way DER-run
... but he did not actually run the distance.

Hence, both *manage* and *der-* semantically entail the proposition corresponding to their respective semantic argument.

As (10)–(11) illustrate, *manage* and *der-* mirror this behavior in negative contexts: the negation of a sentence containing *manage* or *der-* semantically entails the negation of its *manage-* or *der-*less equivalent proposition.

- (10) a. Alex didn’t manage to pull the box. ⊢ Alex didn’t pull the box.
b. Der Alex hat die Kiste nicht der-zogen. ⊢ Alex didn’t pull the box.
the Alex has the box not DER-pulled

⁵Note that the varieties of Bavarian differ in their choice of the perfect auxiliary with unaccusative verbs (*sein* ‘be’ vs. *haben* ‘have’). As we have already noted, our examples reflect the Southern-Bavarian variety.

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- (11) a. No one managed to pull the box. ⊢ No one pulled the box.
 b. Niemand hat die Kiste *der-*zogen. ⊢ No one pulled the box.
 no.one has the box DER-pulled

The inference pattern emerging from (8) – (11) is schematized in (12). Since Karttunen 1971, this inference pattern is known in the literature as the *two-way implicative* pattern of (so-called) *implicative* verbs. When a verb satisfying this pattern, such as *manage*, occurs in a sentence, the proposition expressed by that sentence entails the proposition expressed by the CP-complement of the verb and, if these verbs occur in the scope of negation, its negation. The prefix *der-* gives rise to an equivalent pattern: propositions expressed by positive sentences containing *der-* entail the proposition expressed by the positive *der-*less equivalent sentence, and if *der-* occurs in the scope of negation, that proposition entails the proposition expressed by its negated *der-*less equivalent. For reasons of simplicity, the entailment pattern in (12) is stated with respect to syntactic labels. As will be discussed in Section 3 in greater detail, we assume that *der-* takes a VP as its syntactic argument; the argument of *manage* is a CP. The labels ‘*der*-(VP)’ and ‘*manage*(CP)’ in the premise stand for the propositions expressed by sentences containing *der-/manage*. ‘VP’ and ‘CP’ in the conclusion stand for those expressed by the *manage-/der-*less equivalents of *manage-* or *der-* sentences.

- (12) a. *der*-(VP) → VP c. *manage*(CP) → CP
 b. \neg *der*-(VP) → \neg VP d. \neg *manage*(CP) → \neg CP

Because certain predicates are ambiguous with respect to their aktionsart-properties, it is important to note that (12) is only valid if the aktionsart-reading of the predicate described by the complement of *manage/der-* is kept the same in the premise and the conclusion. For example, it is possible to interpret the predicate *eat the pizza* in two ways. On its canonical accomplishment reading, the internal argument is interpreted as an *incremental theme* of the predicate, and since it is semantically definite, an accomplishment reading arises. Informally speaking, *eat the pizza* construed as an accomplishment truthfully applies to the subject only if an eating event has resulted in the pizza having been eaten entirely. The other available reading, which could be called its “activity reading”, does not say anything about whether the pizza has been eaten completely. Informally, it applies as soon as some part of the pizza has been eaten. Those predicates remain ambiguous in that way also when they are in the scope of *manage* or *der-*. We sketch this in (13) with *manage*.

- (13) Alex managed to eat the pizza.
 a. accomplishment: \approx *Alex managed to eat the entire pizza.*
 b. activity: \approx *Alex managed to eat at least some part of the pizza.*

In German, accomplishments with incremental themes can be interpreted as activities quite generally (see, e.g., Bott 2010). In English, where the availability of activity readings for such accomplishments is more restricted (plausibly due to pragmatic competition between progressive and non-progressive forms), certain adverbials are needed for a ‘non-culminating accomplishment’-interpretation to be available (see Martin 2019).

For any predicate that is ambiguous between an accomplishment reading and an activity reading, a sentence construed on the accomplishment-reading asymmetrically entails the activity

reading. Hence the accomplishment reading of a negated *manage* or *der-* claim does not entail the activity reading of its *manage/der-*less (but still negated) equivalent.

- (14) a. Alex did not manage to [eat the pizza.]_{accom.}
b. ↗ Alex did not manage to [eat the pizza.]_{act.}

This means on the indicated reading, (14a) is compatible with Alex having eaten a non-maximal part of the pizza, which underlines the necessity to keep the aktionsart-reading of the predicates in the premises and conclusions in (12) fixed.

2.3. *Der-* and *manage* differ in meaning: unintentionality

It has been noted by Coleman (1975) that *manage* can be used also if the eventuality described by its CP-complement has been brought about unintentionally (see also Baglini and Francez 2016). This is illustrated by the sentences in (15), where the propositions embedded by *manage* describe events that are not performed purposefully by the subject on their prominent readings. This is not what we find with the prefix *der-*.

- (15) a. Alex stumbled and managed to knock over the table.
b. Harry managed to insult Ursula without even trying.
- (16) #Der Alex ist gestolpert und hat den Tisch um-der-worfen.
the Alex is stumbled and has the table over-DER-thrown
Intended: ‘Alex stumbled and managed to knock over the table.’

Unlike (15a), (16) is not felicitous on its most prominent reading where Alex’ knocking over the table obtains as a result of him stumbling. The only way (16) can be felicitously interpreted is one where those two events happened independently of each other, and Alex knocked over the table intentionally.

We argue in Section 3.2.1 that the incompatibility of *der-* with unintentionality is due to a component of the projective content of *der-* requiring that there be a plan or commitment of the agent to perform the described event.

Based on the observations in this section, we conclude that *manage* and *der-* are similar but not identical in meaning. This calls for an independent semantic analysis of predicates containing verbs prefixed with *der-*.

3. Analysis: the semantics of predicates containing *der-*verbs

In the previous section, we established that Bavarian sentences with verbs that are formed using the verbal prefix *der-* are more similar in their semantic behavior to sentences with *manage* than to sentences with an ability modal. The goal of this section is to provide an initial proposal for how the meaning of these sentences arises. Extending the observation from the last section that predicates formed with *der-*verbs are telic, we argue that *der-* is used to form achievement predicates (*pace* Sonnenhauser 2009, 2012). In addition, we argue that the *manage*-like meaning is the result of projective content contributed by *der-*, which restricts the type of situations *der-*verbs can be felicitously used to describe.

3.1. Predicates built with *der-*verbs describe boundaries of events

As shown in Section 2, time-point adverbials that occur in sentences with *der-*verbs temporally localize the moment at which the subject referent manages to perform the action described by the verbal root and its internal argument (i.e., pulling the box in (17)).

- (17) Der Alex hat die Kiste um Punkt 12 *der-zogen*.
the Alex has the box at point 12 DER-pulled
(≈ ‘At 12 sharp, Alex managed to pull the box.’)

This finding suggests that predicates built from *der-*verbs do not describe either activities or states (i.e., atelic eventualities). So, predicates built from *der-*verbs describe either achievements or accomplishments.

One possible test to distinguish achievement predicates from accomplishment predicates is by looking at their interaction with temporal *in-*adverbials ‘*in X time*’. As is well-known, *in-*adverbials that co-occur with accomplishment predicates in the present tense may express the time until the accomplishment starts (*prospective reading*) or the duration of the accomplishment (*time-span reading*), see (18).⁶

- (18) Der Alex liest den Brief in zwei Minuten.
the Alex reads the letter in two Minutes.
(*Prospective reading*: ‘In 2 min, Alex will read the letter.’)
(*Time-span reading*: ‘It takes Alex 2 min to read the letter.’)

In combination with achievement predicates in present tense, in contrast, the available readings of *in-*adverbials are different. And, as Zybatow (2004, 2008) observes, how the available readings differ depends on whether the achievement predicate describes a *left boundary achievement* or a *right boundary achievement*.⁷ Adopting the view on event structure proposed by Piñón (1997), Zybatow takes achievements to be *boundary happenings*. That is, achievement verbs like German *weggehen* ‘go away’ or *gewinnen* ‘win’ describe a punctual boundary of an (inferred) eventuality with temporal extension (or, in Piñón’s terms, a *happening*). Depending on which boundary is described, right and left boundary achievement predicates (or verbs) are distinguished: *weggehen* ‘go away’ describes the initial boundary of a distancing event, a left boundary; *gewinnen* ‘win’ describes the final boundary of a playing/game event, a right boundary. *In-*adverbials that co-occur with left boundary achievement predicates only have a prospective reading. So, (19) can only describe when Alex will go away, but not how long the going away takes, which is instantaneous.

- (19) Der Alex geht in zwei Minuten weg.
the Alex goes in two minutes away
(*Available*: ‘In 2 min, Alex will go away.’)
(*Unavailable*: ‘It takes Alex 2 min to go away.’)

In contrast, *in-*adverbials that co-occur with right boundary achievement predicates have not only a prospective reading, but also a time-span reading that expresses the duration of the

⁶The prospective reading disappears when the predicate is in the past tense: *Alex read the letter in two minutes* can only express that the reading event lasted two minutes.

⁷Zybatow (2008) shows that this also holds for durative temporal adverbials (e.g., *for-*adverbials ‘*for X time*’), which we will not present here for reasons of space.

(inferred) event connected to the achievement. For instance, (20) can be used to describe how long it will be until Alex wins (e.g., as a statement close to the end of a game that has been going on for a while), or it can be used to describe the duration of the game (which will end in Alex's victory).

- (20) Der Alex gewinnt das Spiel in zwei Minuten.
 the Alex wins the game in two minutes
 (Available: 'In 2 min, Alex will win the game.')
- (Available: 'It takes Alex 2 min to play [and win] the game.')

The interaction between predicates built from *der*-verbs and *in*-adverbials reveals that they pattern with either (19) or (20) but never with (18). However, unlike with *weggehen* 'go away' or *gewinnen* 'win', the type of achievement built with *der*- depends on the verbal root, the internal arguments, and other modifying material low in the VP—in particular, which type of eventuality this material describes: If it describes an activity or a left boundary achievement, the predicate built from the *der*-verb describes a left boundary achievement, see (21a) and (21b). If the material describes an accomplishment or a right boundary achievement, the result is a right boundary achievement predicate, see (21c) and (21d).

- (21) a. Die Ida der-zieht die Kiste in zwei Minuten.
 the Ida DER-pulls the box in two minutes
 (≈ 'Ida manages to pull the box in 2 min.')
- b. Die Ida der-haut in zwei Minuten ab.
 the Ida DER-beats in two minutes PART
 (≈ 'Ida manages to leave in 2 min.')
- c. Der Alex der-liest den Brief in zwei Minuten.
 the Alex DER-reads the letter in two minutes
 (≈ 'Alex manages to read the letter in 2 min.')
- d. Der Alex der-löst den Gutschein in zwei Minuten ein.
 the Alex DER-solves the voucher in two minutes PART
 (≈ 'He manages to redeem the voucher in 2 min.')

The relevant material that determines the type of achievement in (21a) and (21b) is *die Kiste ziehen* 'pull the box' (activity) and *abhauen* 'leave' (left boundary achievement). For both of these sentences, the *in*-adverbial can only get a prospective reading as is expected for left boundary achievement predicates: (21a) can only express that Ida will manage to pull the box after two minutes, and (21b) can only express that Ida will manage to leave after two minutes. For (21c) and (21d), the relevant material that determines the type of achievement is *den Brief lesen* 'read the letter' (accomplishment) and *den Gutschein einlösen* 'redeem the voucher' (right boundary achievement).⁸ Here, *in*-adverbials can be interpreted in two ways: They have a prospective reading that describes how long it will be until Alex manages to read the letter in (21c) and to redeem the voucher (21d). They also have a time-span reading that measures how long the process takes that ends in Alex's managing: how long reading the letter takes for (21c), and how long the action that ends in redeeming the voucher takes for (21d).

The dependence between the aktionsart of the predicate denoted by the verbal root, the internal

⁸Example (21c) also has an atelic interpretation that is based on an interpretation of *reading the letter* as 'deciphering/understanding the words'. In that case, the predicate built with *der*- describes a left boundary achievement.

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arguments, and other modifying material low in the VP and the type of achievement described by the predicate containing the *der*-verb is schematically summarized in (22).

- (22) a. $der-$ + $\left\{ \begin{array}{l} \text{activity} \\ \text{left boundary achievement} \end{array} \right\} \rightarrow \text{left boundary achievement predicate}$
 b. $der-$ + $\left\{ \begin{array}{l} \text{accomplishment} \\ \text{right boundary achievement} \end{array} \right\} \rightarrow \text{right boundary achievement predicate}$

So far, we have not addressed the dependence of the type of achievement on material besides the verbal root directly, although (21c) already implicitly shows the effect of a direct object: *lesen* ‘read’ by itself describes an activity whereas *den Brief lesen* ‘read the letter’ describes an accomplishment. The predicate *den Brief derlesen* describes a right boundary achievement based on the accomplishment. Example (23) shows explicitly that adverbials that have an effect on the aktionsart of the event described by the verbal root and its internal arguments also affect the predicate built with *der-*.

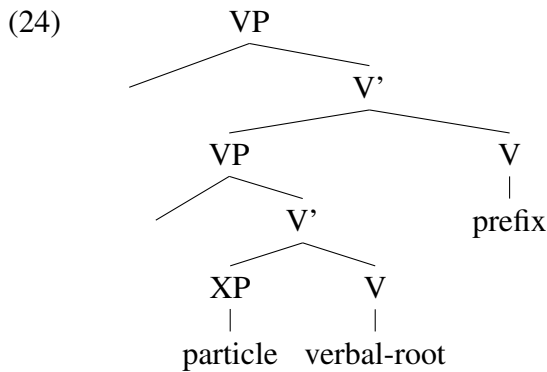
- (23) a. Die Pia hat die Kiste *(in zwei Minuten) der-zogen.
 the Pia has the box in two minutes DER-pulled
 ‘Pia managed to pull the box.’ (left boundary achievement)
 b. Die Pia hat die Kiste (in zwei Minuten) drei Meter der-zogen.
 the Pia has the box in two minutes three meters DER-pulled
 ‘Pia managed to pull the box three meters.’ (right boundary achievement)

The predicates in (23a) and (23b) describe different types of achievements even though both are built from the same verbal root *zieh-* ‘pull’ (activity). In (23a), *die Kiste ziehen* ‘pull the box’ is an activity, and the resulting predicate with *der-* behaves like a left boundary achievement predicate; since the prospective reading is not available for a predicate in the past/perfect tense, the ungrammaticality of adding the *in*-adverbial means that there is no time-span reading. In (23b), *die Kiste drei Meter ziehen* ‘pull the box three meters’ is an accomplishment, so the resulting predicate behaves like a right boundary achievement predicate; the *in*-adverbial has a time-span reading that measures how long Pia’s pulling-the-box-three-meters takes. So, unlike what has been described for other German prefixes, *der-* does not directly change the aktionsart of the verbal root (see, e.g., Stiebels 1996; Stiebels and Wunderlich 1994).⁹

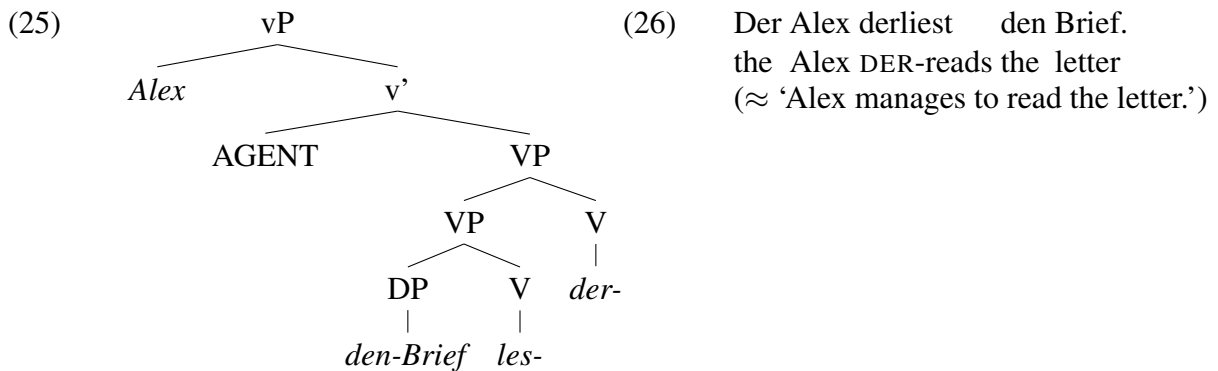
Since more than just the verbal root determines the semantic behavior of the predicate formed from the *der*-verb, we believe *der*-prefixation involves a complex syntactic structure. We adopt the syntactic structure proposed by Wurmbrand (1998), who assumes that all complex verbs in German are built in the syntax. Prefixes are introduced by a verbal head that takes the VP projected from the verbal root as its complement. Particles, on the other hand, form their own phrase (here: XP), which is the sister of the verbal root. Hence, a complex verb built with a particle and a prefix has the general structure in (24).¹⁰

⁹This behavior of *der-* is reminiscent to the external/superlexical prefixes of Slavic languages, which also do not affect the aktionsart of the verbal roots with which they combine, see, e.g., Gehrke 2008.

¹⁰For a similar proposal, see Zeller 2001. Zeller proposes that German verbal prefixes are overt realizations of the head of a TransP, which sits right above VP and is only present with transitive verbs. As it is not clear to us whether *der*-verbs are obligatorily transitive (as claimed by Sonnenhauser (2009, 2012)), we adopt Wurmbrand’s more permissive account.



For the *der*-predicate *den Brief derlesen* ‘DER-read the letter’, we assume the VP to have the structure in (25).¹¹



When forming a sentence with *den Brief derlesen* ‘DER-read the letter’, like (26), the verbal root raises to combine with *der-* before the complex verb is moved further up in the tree and into the C head. We assume that these movements are fully reconstructed and that the structure in (25) determines how the lexical elements are composed. Combined with the assumption that the external argument is introduced into the composition by a functional head (Kratzer 1996), this allows us to capture that *der-* combines with a predicate of eventualities for which the aktionsart depends on the verbal root, its internal arguments, and any modifiers that are adjoined to the lower VP. In the case of (26), the verbal root *les-* ‘read’ first combines with its internal argument *den Brief* ‘the letter’ forming a predicate of eventualities that describes an accomplishment. The result of this composition in (27) is the first argument *P* of *der-*, a predicate of eventualities (type $\langle v, t \rangle$).

(27) $\llbracket \text{the-letter read} \rrbracket = \lambda e'. \text{read}(e') \ \& \ \text{THEME}(e', \text{the-letter})$ (type $\langle v, t \rangle$)

Since boundary happenings in Piñón’s (1997: 290) proposal cannot have participants and *der-* introduces such a boundary happening, *der-* needs to relate the external argument and its thematic relation to the eventuality described by its first argument, the predicate of eventualities *P*. This means that *der-* does not simply output a predicate of eventualities after combining with *P*. *Der-* also combines with both (i) the content *Q* (type $\langle e, vt \rangle$) contributed by the functional head that introduces the thematic relation linking the external argument to an eventuality and (ii) the

¹¹Since *derlesen* ‘DER-read’ does not contain a particle, there is no XP.

individual denoted by the external argument. For (26), the former is the AGENT-relation given in (28), the latter is the individual Alex.

$$(28) \quad \lambda x. \lambda e. \text{AGENT}(e, x) \quad (\text{Kratzer 1996: 121})$$

While the predicate P and the denotation of the subject x do not underlie any restrictions, we have mentioned in the introduction that *der-* only combines with agentive predicates. We capture this restriction by requiring the content Q to be the function in (28). Combining all of the above, our final proposal for *der-* is given in (29).

$$(29) \quad \llbracket \text{der-} \rrbracket = \lambda P_{vt}. \lambda Q_{evt} : [Q = \lambda x'. \lambda e'. \text{AGENT}(e', x')]. \lambda x_e. \lambda e_v. \text{BOUNDARY}(e, \lambda e'. P(e') \ \& \ Q(x)(e'))$$

The output of *der-* after combining with P , Q , and x is a predicate of eventualities (type $\langle v, t \rangle$) that describes a boundary of a P -event in which the individual x denoted by the external argument participates in the AGENT-role contributed by Q .

As desired, the semantics we propose for *der-* in (29) does not change the eventuality described by P . The prefix introduces a new eventuality e , which is passed along to be existentially closed by AspP. Hence, ignoring tense, the truth-conditional content of (26) comes out as (30).¹²

$$(30) \quad \exists e [\text{BOUNDARY}(e, \lambda e'. \text{read}(e') \ \& \ \text{THEME}(e', \text{the-letter}) \ \& \ \text{AGENT}(e', \text{Alex}))]$$

In our current analysis, the predicate $\text{BOUNDARY}(\cdot, \cdot)$ is a primitive predicate. While we do not have the space in this paper to fully spell out the contribution of $\text{BOUNDARY}(\cdot, \cdot)$, we briefly summarize what its effect has to be. Based on the preceding discussion, $\text{BOUNDARY}(\cdot, \cdot)$ has to be sensitive to the Aktionsart of its second argument, the predicate P . If P describes an activity, $\text{BOUNDARY}(\cdot, \cdot)$ picks out the initial boundary of such an activity; if P describes an accomplishment, $\text{BOUNDARY}(\cdot, \cdot)$ picks out the final boundary of such an accomplishment; and if P describes an achievement, $\text{BOUNDARY}(\cdot, \cdot)$ picks out the boundary happening described by such an achievement.

The proposal above allows us to capture the two-way implicative inference pattern described for sentences containing *der-*verbs in Section 2: the propositions expressed by positive and negative sentences with *der-*verbs entail the propositions expressed by the respective positive and negative sentences without *der-*. We first address the positive and then the negative part of the pattern. The truth-conditional content of the positive sentence in (31a) is given in (31b).

- (31) a. Der Alex hat den Brief derlesen.
 the Alex has the letter DER-read
 (\approx ‘Alex managed to read the letter.’)
 b. $\exists e [\text{BOUNDARY}(e, \lambda e'. \text{read}(e') \ \& \ \text{THEME}(e', \text{the-letter}) \ \& \ \text{AGENT}(e', \text{Alex}))]$

Example (31a) expresses that there is a (past) boundary of a reading-the-letter-eventuality for which Alex is the agent. The existence of a boundary of such an event entails the existence of such an event. Hence, the positive sentence in (31a) entails the positive sentence without *der-*: *Der Alex hat den Brief gelesen* ‘Alex read the letter.’ In order to show that the negative variant of (31a) in (32a) also entails the negative sentence without *der-*, we first have to address the derivation of its truth-conditional content, (32b).

¹²Compare Piñón’s analysis of the achievement verbs *recognize* and *reach* in Piñón 1997: 291.

- (32) a. Der Alex hat den Brief nicht derlesen.
 the Alex has the letter not DER-read
 (\approx ‘Alex did not manage to read the letter.’)
 b. $\neg\exists e[\text{BOUNDARY}(e, \lambda e'.\text{read}(e')) \& \text{THEME}(e', \text{the-letter}) \& \text{AGENT}(e', \text{Alex})]$

We assume, following Penka (2007) among others, that sentential negation negates the existence of the event that is existentially closed by Asp. Given our proposal in (29), Asp can only compositionally access the boundary. Hence, Asp existentially closes the variable for the boundary, and the effect of sentential negation is to negate the existence of a boundary of a reading-the-letter-event by Alex, resulting in (32b). This is exactly how the sentence in (32a) is interpreted: it expresses that Alex did not manage to read through the entire letter (assuming an accomplishment reading for *den Brief lesen* ‘read the letter’). This sentence entails the sentence without *der*: *Der Alex hat den Brief nicht gelesen* ‘Alex didn’t read the letter’ (again assuming an accomplishment reading). This is captured by the formula in (32b) because if the existence of a boundary is negated, either the event did not begin (in the case of a left boundary) or it was not finished (in the case of a right boundary). Thus, our proposal also captures the second part of the inference pattern.

Finally, the complex structure for prefixed verbs in (24) provides two potential attachment points for temporal adverbials and other modifiers. There is evidence that both positions are, in fact, needed. As Sonnenhauser (2012: 75) observes, sentences with *der*-verbs may contain durative temporal adverbials of the form *X Zeit lang* ‘X time long’, which are, in principle, incompatible with telic predicates and, thus, achievements. She provides the example in (33).

- (33) Eine Stunde lang hat er die schwere Tasche dertragen.
 one hour long has he the heavy bag DER-carried
 (\approx ‘He managed to carry the heavy bag for an hour.’) (Sonnenhauser 2012: 75)

At first glance, Sonnenhauser’s example looks like a counterexample to our analysis. However, the Bavarian sentence, just like the approximate English translation, is ambiguous, and both interpretations arise as expected based on where in the structure the durative adverbial is interpreted. The more prominent reading for (33)—plausibly due to the sentence-initial placement of the adverbial—is that the subject referent for an hour over and over managed to carry the heavy bag. That is, the predicate *die schwere Tasche dertragen* ‘manage to carry the heavy bag’ gets an iterative interpretation as a result of aspectual coercion (see, e.g., Dölling 2014). For this reading to arise, the durative adverbial has to be interpreted as adjoined to the higher VP projected by *der-*. The second, less prominent reading of (33) is that the subject referent managed to do something, namely carry the heavy bag for an hour. Here, the durative adverbial straightforwardly measures the duration of a carry-the-heavy-bag event, an activity. For this reading to arise, the durative adverbial has to be interpreted inside the lower VP projected by the verbal root *trag-* ‘carry’.¹³ So, while Sonnenhauser’s example looks like a counterexample, our proposal can account for its available interpretations.

¹³When the adverbial does not occur in the Vorfeld, as in (33), but inside the Mittelfeld between the direct object and the non-finite verb, the two readings are also available, but their relative prominence switches.

3.2. Predicates built with *der-* verbs contribute projective content

So far, we have only addressed the change *der-* effects on the truth-conditional content of the predicate with which it combines. As stated in the beginning of this section, the *manage*-like meaning contributed by *der-* is the result of projective content. In particular, sentences containing a *der-* verb require (i) that the agent signalled a commitment regarding the action described by the predicate combining with *der-*, and (ii) that the speaker takes this action to be difficult for anyone tasked with performing it.

Note that we will not try to identify which class of projective content the contents discussed in the following subsections fall into since this is not central to our inquiry at this point. We will also not provide a formalization of the content for reasons of space.

3.2.1. *Der-* verbs require a plan/commitment by the agent

The first projective content contributed by *der-* in (34) restricts the contexts of use for *der-* verbs to contexts in which the agent has committed to the action described by the complement of *der-*.

- (34) **Plan/commitment:** The agent must have signalled either verbally or via an action that they would (attempt to) do the action described by the predicate denoted by the complement of *der-*.

This requirement on the use of *der-* captures the observation that negated *der-* verbs cannot be used to describe just any action that was not performed.¹⁴ Consider the negated clause in (35).

- (35) Der Alex hat das Schnitzel nicht deressen.
the Alex has the schnitzel not DER-eaten
(≈ ‘Alex didn’t manage to eat the schnitzel.’)

In a context in which the speaker put a left-over schnitzel into the fridge and notices the next day that Alex did not eat it, (35) cannot be used. In this context, it is only possible to state the sentence without *der-* (i.e., *Alex didn’t eat the schnitzel*). A context in which the required commitment is present is the following: Alex told the speaker that he would eat all of the left-overs, but in the end, Alex eats only some of the left-overs and leaves the schnitzel. Here, the speaker could use (35) when noticing the schnitzel in the fridge the next day.

Our formulation of the restriction (34) is indebted to the discussion regarding the presuppositions of *manage* (see Nadathur 2019: 80–92). *Manage* has been variably proposed to presuppose an intention to perform the action described by its sentential complement or an attempt to do so on the part of the agent. As we have reported in Section 2, Coleman (1975) observes that

¹⁴Nina Haslinger (p.c.) observes that requiring the agent to be sentient (i.e., capable of planning and commitments) might be too restrictive because of examples like (i).

- (i) Der Kran hat die 2000 Kilo nicht derhoben.
the crane has the 2000 kilos not DER-lifted
(≈ ‘The crane didn’t manage to lift the 2000 kilos.’)

We argue that cases like (i) always involve subjects that can be conceptualized as acting independently (e.g., heavy machinery, computers, or natural phenomena). Furthermore, the use of *der-* in negated sentences is only felicitous if there was an active “attempt” involving the subject. For instance, (i) is only felicitous if the person operating the crane tried to use it to lift an object weighing 2000 kilos. If the crane is conceptualized as acting independently, this attempt can be ascribed to the crane.

manage can be used to report accidental actions, calling into question both proposed presuppositions, see (36).

(36) Harry managed to insult Ursula without even trying. (=15b))

In the course of the discussion of Coleman’s example, we have shown that *der*-verbs cannot report accidental actions. *Der*-verbs also require more than the agent’s actions being intentional. This is shown by the negated sentence in (35): if intentional action on the part of the agent were enough, (35) should be able to simply express that Alex did not eat the schnitzel since Alex is the (intentional) agent of the non-existent eating-the-schnitzel event.

Der- and *manage* pattern together, however, in not presupposing an attempt by the agent. Sentences with *der*- do not require a conscious attempt at performing the action described by the complement of *der*-. The context presented above for the felicitous use of (35) shows this: if Alex ate everything besides the schnitzel but did not even touch it because he was already full, there was no conscious attempt to eat the schnitzel. This point is supported by the fact that (35) can be followed up by the explanation in (37).

(37) ... because he ate everything else in the fridge and was too full.

So, if the agent is kept from realizing their plan/commitment in such a way that they cannot even attempt to realize it (by their internal or external circumstances), the use of a *der*-verb is not blocked. The formulation of Plan/commitment in (34) captures this.

3.2.2. Sentences with *der*-verbs express difficulty

The second projective content contributed by *der*- in (38) restricts the contexts of use for *der*-verbs to ones in which the speaker takes the action described by the complement of *der*- to be difficult to perform for either the agent or someone who could have been in the agent’s position (i.e., the individuals in the agent’s contextual comparison class for the purpose of the action). Crucially, we do not take “difficulty” to mean “requires the agent more effort than usual”. We take it to mean that it is not clear for the speaker at the outset that the action described by the complement of *der*- could be successfully performed by anyone; that is, the speaker has to judge the action to be so difficult that the agent or someone who is comparable to the agent would fail to perform the action if they were tasked with it.

(38) **Difficulty:** The speaker believes that someone in the agent’s contextual comparison class is unable to perform the action described by the predicate denoted by the complement of *der*-.

For instance, (39) is a felicitous description of a situation for which the speaker judges the schnitzel to (at least potentially) pose a challenge for Alex such that he might not have been able to finish eating it.

(39) Der Alex hat das Schnitzel auf-der-essen.
the Alex has the schnitzel up-DER-eaten
(≈ ‘Alex managed to eat the schnitzel.’)

This (potential) challenge can have different sources. For instance, if the speaker knows that Alex already ate a soup and another schnitzel, then even a regular-sized schnitzel could be

judged to be a potential challenge.¹⁵ Alternatively, the schnitzel could be so big that even a hungry person would struggle to finish eating it. Example (39) is infelicitous, though, if eating the schnitzel does not provide any potential challenge at all given the circumstances. For instance, (39) is not felicitous in a context in which Alex is hungry and eats a regular-sized schnitzel.¹⁶

These considerations are reminiscent of another presupposition that has been proposed for *manage*: performing the action described in the complement clause is difficult for the agent and requires effort from them (see Nadathur 2019: 80-92). Just like the other presuppositional contents proposed for *manage* (see Section 3.2.1), this presupposition has been shown to be too strict. For instance, it has been observed that *manage* can be modified with the subject-oriented adverb *easily*, see (40).

(40) Gun manufacturers had easily managed to bypass the laws. (Nadathur 2019: 90)

The adverb *easily* in (40) signals that bypassing the laws was not difficult or effortful for the gun manufacturers. So, maybe *manage* requires that the action must be effortful or difficult for someone, but not necessarily the agent? Coleman's example in (36) shows that even this weaker requirement is too strict: (unintentionally) insulting Ursula does not have to be difficult.

As the discussion surrounding (39) showed, *der-*verbs differ from *manage* in this point. The use of *der-* requires the action to be a potential challenge according to the speaker. But, just as was shown for *manage* in (40), the action does not *actually* have to be effortful or difficult for the agent because *der-*verbs can also be combined with the adverb *leicht* 'easily', see (41).

(41) Der Alex hat das Schnitzel leicht auf-der-essen.
the Alex has the schnitzel easily up-*DER*-eaten
(≈ 'Alex easily managed to eat the schnitzel.')

In (41), it is established that there was no challenge for Alex via the use of *leicht*. This does not mean, though, that this sentence can be used to report any eating-the-schnitzel-event in which Alex is the agent. For instance, (41), just like (39), is infelicitous in a context in which Alex was hungry and ate a regular-sized schnitzel. It is only felicitous in a context in which the schnitzel might have been a challenge if someone else (comparable to Alex in the context) had been tasked to eat it.

Who exactly the speaker takes to be comparable to Alex is hard to pin down. Intuitively, speakers often take themselves and their addressees as points of comparison—unless they differ from the agent in some property relevant to the reported action (e.g., the agent is a child, the speaker and addressee are adults). This vagueness and context dependency regarding alternative agents is reminiscent of the vagueness and context dependency of the *comparison class* assumed to underlie the contextual standard of gradable adjectives, like *tall* or, indeed, *difficult* (see Morzycki 2015 for general discussion). So, while a more detailed understanding of this part of our proposal requires more work, we believe that adopting the idea of a comparison class for (38)

¹⁵Sonnenhauser (2012) claims that the challenge required for the use of *der-* is *always* based on a property of the direct object. Since a regular-sized schnitzel does not *per se* pose a challenge but can at least potentially be a challenge due to properties of the agent (i.e., being full), we judge Sonnenhauser's claim to be too strict.

¹⁶When testing the felicity of using *der-*verbs in different scenarios, a consultant rejected the use of *der-* for any action that could be performed by anyone in contexts that provided no other obstacle by saying "That wasn't difficult. Doing that is not an achievement."

is on the right track.

So, combining the results of the discussion of (39) and the compatibility of *der-* with *leicht* leads to the conclusion that the action must be difficult for someone, either the agent or someone else from the agent's comparison class, who could be in the agent's position (e.g., the speaker).

Given that (38) makes reference to ability, let us briefly address the ability-paraphrase for sentences with *der-*, which we rejected as an adequate paraphrase of the truth-conditional content of these sentences. Why are these paraphrases offered so consistently? We argue that the ability-paraphrase is an inference that easily arises from the truth-conditional content of sentences with *der-*. As we have shown, the proposition expressed by a sentence with *der-* entails the proposition expressed by its *der-*-less equivalent—both for positive and negative sentences containing *der-*. If a sentence contains a (negated) *der-*-verb in the past/perfect tense, the *der-*-less equivalent states that the agent did (not) perform the relevant action. This content generally permits the inference that the agent was (not) able to perform that action (see, e.g., Nadathur 2019). If a sentence contains a (negated) *der-*-verb in the present tense, the *der-*-less equivalent expresses that the agent will (not) perform the relevant action. Hence, a speaker who utters such a sentence can be taken to believe that the agent will (not) be able to perform the action. So, regardless of tense, the truth-conditional content proposed for predicates containing *der-*-trigger inferences that capture the ability-paraphrase. Crucially, these inferences do not clash with Difficulty. If a speaker utters a positive sentence with *der-*, they interact with Difficulty, and the addressee learns that the speaker believes that someone other than the agent is not able to perform the action.¹⁷

4. Conclusion

We have shown that sentences containing complex verbs formed with Bavarian *der-* can be used to express content that is similar to the statement that the agent managed to perform the action described by the predicate containing the complex verb. That is, even though sentences containing *der-*-verbs are often paraphrased using an ability modal, they do not primarily express an ability of the agent's. The closest possible paraphrase that reflects most of the semantic properties of *der-* uses the implicative verb *manage*.

Despite their similarities, sentences containing *der-*-verbs differ in their syntactic and semantic details from sentences formed with *manage*. *Manage*, on the one hand, is a verb with a sentential object and an individual subject and acts as a propositional operator (see Baglini and Francez 2016; Nadathur 2019). *Der-*, on the other hand, is a verbal prefix that takes the VP containing the verbal root, its internal arguments, and syntactically low modifiers as its argument and forms an achievement predicate that comes with projective content (that has been proposed but was ultimately rejected for *manage*): the agent of the action denoted by the VP-argument of *der-* has previously committed to performing the action, and the speaker believes that the action presents a challenge for someone in the agent's comparison class.

Many open questions remain. We will highlight two issues that, we believe, merit a closer look. The first concerns the interaction between *der-*-verbs and modals (in particular ability modals), as well as *der-*-verbs and *schaffen* 'manage'. *Der-*-verbs can occur in the scope of either of these proposition-embedding expressions, see (42).

¹⁷We thank David Müller for detailed comments on this point.

How to manage something in Bavarian German: the verbal prefix *der-*

- (42) a. Der Alex kann das Schnitzel deressen.
the Alex can the schnitzel DER-eat
(\approx ‘Alex is able to manage to eat the schnitzel.’)
- b. Der Alex schafft das Schnitzel zu deressen.
the Alex manages the schnitzel to DER-eat
(\approx ‘Alex will manage to manage to eat the schnitzel.’)

While the combination with an ability modal in (42a) results in an intuitively straightforward interpretation (i.e., Alex is able to finish eating the schnitzel, which is a difficult task), it is not clear whether the combination of a *der*-verb with *schaffen* gets a compositional interpretation, or whether the use of *der-* is redundant.

The second issue that we would like to present is the interpretation of *fast* ‘almost’ and *kaum* ‘hardly’ in connection with *der*-verbs. As Sonnenhauser (2012) observes, these two expressions can co-occur with *der*-verbs, including *der*-verbs for which the bare verb without *der-* cannot combine with *fast* ‘almost’.

- (43) a. Er hat den Koffer (#fast) getragen.
he has the suitcase almost carried
‘He (# almost) carried the suitcase.’
- b. Er hat den Koffer (fast) dertragen.
he has the suitcase almost DER-carried
(\approx ‘He (almost) managed to carry the suitcase.’) (Sonnenhauser 2012: 80)

Since the semantics of *fast* ‘almost’ is taken to be dependent on a scale (see Rapp and von Stechow 1999), Sonnenhauser interprets the contrast in (43) as evidence that *der-* contributes a scale. More work is needed to understand the effect *fast* and *kaum* have on sentences with *der-* and to adapt our proposal to capture Sonnenhauser’s observation.

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