The Attributive Past Participle: Structure and Temporal Interpretation

Irene Rapp

1. Introduction

In this paper I investigate the behaviour of attributive past participle constructions like the following:

(1) a. der von Maria geschobene Wagen
    the by Maria pushed cart

b. der zum Bahnhof begleitete Junge
    the to-the station accompanied boy

c. der eingeschlafene Hase
    the fallen-asleep hare

It is commonly assumed that attributive participles are of a mixed categorial status. As they are part of the inflectional paradigm of the verb, they have to be verbal at some lexical level; as they combine with adjectival inflection, they have to be adjectival at some phrasal level. The attributive participle is always identical to its verbal counterpart and shows the same kind of allomorphy; hence, it makes sense to assume that in German – as in English – adjectival participles are derived from verbal participles by zero affixation (cf. Lieber 1980, Levin & Rappaport 1986, Kratzer 1994). It is, however, less clear at what level adjectivization takes place. To account for the occurrence of the negation affix un- with the adjectival participle, we obviously have to assume that the empty adjective morpheme combines with a V_{0}-category (cf. Kratzer 1994, Lenz 1993, Rapp 1996, 1997). However, I will argue that besides this lexical affixation we need two kinds of phrasal affixation. It can be shown that in the attributive past participle construction the empty adjective morpheme either selects VP or AspP (=Aspect Phrase). Following Rapp & von Stechow (1999), I assume that the aspect node introduces the event argument. Its complement is VoiceP, a projection taken from Kratzer (1994). Voice introduces the subject argument in its specifier position and takes VP as its complement. It follows that only the AspP-adjectivization has an eventive reading and preserves the argument structure of the base verb.
The structural ambiguity of the attributive construction is already mentioned in von Stechow (1996). In section 2 I will provide some further arguments for von Stechow's position and accommodate it into the framework presented in Rapp & von Stechow (1999).

In section 3 I will be concerned with the temporal properties of the attributive past participle. Kratzer (1994) and von Stechow (1996) both claim that its temporal interpretation is determined by the *Aktionsart* of the underlying verb. According to von Stechow, the past participle has a target state reading if formed from a telic verb (2) and an imperfective event reading if formed from an atelic verb (3):

(2) der reparierte Raupenschlepper  
the repaired power-carrier  
'The power carrier that is/was in the target state of being repaired'

(3) die verfolgten Füchse  
the persecuted foxes  
'The foxes that are/were being persecuted'

It can, however, be shown that the interpretation of the attributive participle does not depend on lexical but on structural properties. Participle constructions containing an aspect phrase always assume an event reading. If the structure furthermore includes a VoiceP, we are free to choose between a perfective and an imperfective reading for this event. For sure, the *Aktionsart* of the base verbs gives us a prevailing reading, but it is always possible to "shift" this reading by the use of time adverbials or specific contexts. On the other hand, if a VP is adjectivized, we can only get the target state reading. It can be shown that this generalization holds for both the attributive construction and the adjectival passive.

In section 4 I try to combine my approach with the analysis given for the adverb *fast* 'almost' in Rapp & von Stechow (1999). I show that *fast* occurring prenominally provides further evidence for the structural ambiguity of the attributive construction. We need the AspP-adjectivization to account for the counterfactual reading of *fast* (4), and we need the VP-adjectivization to explain why a pseudo-resultative reading of *fast* is possible as well (5):

(4) die bei dieser Gelegenheit fast verkauften Tickets  
the at this opportunity almost sold tickets  
'At this opportunity there was almost an event of selling the tickets'

(5) der fast gemähte Rasen  
the almost mown lawn  
'The lawn was almost in the target state of being mown'

The temporal interpretation of the *fast*-data follows the principles already outlined. As counterfactual *fast* requires the embedment of AspP, the participle phrase assumes an
event reading. Pseudo-resultative fast needs the VP-embedding structure; hence, the target state reading is obligatory.

I conclude that the structural ambiguity assumed in section 2 is necessary to account for the specific possibilities of temporal interpretation and adverbial modification found in attributive past participle constructions.

2. The Structural Representation of Attributive Past Participle Constructions

In this section, I assume the following D-structure for German (cf. Rapp & von Stechow 1999:162):

(6)

The nominative case is checked at TP (=AgrS), the accusative at AgrO. The Voice Phrase (VoiceP) is due to Kratzer (1994), who claims that D-structure subjects do not occur inside VP but are generated in the specifier position of a projection immediately dominating VP. In Rapp & von Stechow (1999) it is assumed that above this VoiceP there is another functional projection called the Aspect Phrase (AspP), which introduces the event argument.

Now, phrases with the past participle obviously possess neither an accusative nor a nominative position. Hence, I conclude that they do not contain TP and AgrOP. It is less clear, however, whether they include AspP and VoiceP. Kratzer argues that the main difference between the German adjectival passive (Zustandspassiv) and the at-
The Attributive Past Participle: Structure and Temporal Interpretation

tributive past participle is that only the latter contains a VoiceP.¹ Let us first have a closer look at the Zustandspassiv. Von Stechow (1996:113ff.) explicitly builds on Kratzer (1994) in his analysis of the German adjectival passive:²

(7) (Der Raupenschlepper ist) repariert.
    (the power-carrier is) repaired

The empty adjectival morpheme selects a VP with an embedded result phrase XP. As there is no VoiceP, the adjectival passive never contains an implicit subject argument:

In verbal passives, the verb’s external argument is implicit, in adjectival passives, it is truly gone. (Kratzer 1994:5)

This analysis is supported by facts of possible coreference. Whereas in (8b) – a verbal passive which contains an implicit agent – a reflexive interpretation is excluded by the Binding Theory (cf. Baker, Johnson & Roberts 1989), no such constraint holds for (8a):³

(8) a. Das Kind war gekämmt. (Kratzer 1994:4)
    the child was combed (stative)

b. Das Kind wurde gekämmt. (Kratzer 1994:4)
    the child was combed (eventive)

Let us now turn to attributive past participles. Kratzer (1994:47ff.) claims that these participle constructions are “reduced relatives”. Similarly, in Rapp (1997) I argue that – in contrast to the adjectival passive – the attributive construction is purely verbal in the sense that the semantic properties of the underlying verb are not modified. In particular, the subject argument is only suppressed but not gone. It can always be taken up by a von-phrase:

(9) das von Maria gemalte Bild
    the by Maria painted picture

According to Kratzer’s system, (9) must contain a VoiceP as there is an implicit subject argument. Following von Stechow (1996) and Rapp & von Stechow (1999) I assume the following structure:⁴

¹ A similar analysis for the adjectival passive is proposed in Rapp (1996, 1997).
² Von Stechow’s structure contains a position for restitutive wieder, which, however, can be neglected in the present context.
³ Cf. von Stechow’s (1996) analysis of the verbal passive that combines Kratzer’s approach with Sternefeld’s (1995) case theory.
⁴ In this paper I do not want to address the question of at what position agentive von-phrases are located.
The adjectival inflection is represented by the I-node, which selects an AP with an empty head. Note that like the adjectival passive the attributive construction involves an adjectivization process; hence, we may call both constructions *adjectival past participle constructions*. However, in the case of the attributive construction the empty adjective not only embeds VP but also AspP and VoiceP. Hence, the event argument and the thematic arguments of the base verb are preserved. Following Sternefeld (1995) and von Stechow (1996), I assume that the implicit subject at SpecVoiceP bears the accusative.

There might be two questions concerning the structure in (10). First: Does the occurrence of agentive *von*-phrases really justify an embedment of VoiceP – whereas the adjectival passive just contains a VP? Second: Even if we need a VoiceP, do attributive participle structures contain an AspP as well?

To answer the first question, let us have a closer look at agentive *von*-phrases. Against Kratzer, one might object that their occurrence with the attributive construction is not really a valid argument in favour of the VoiceP-analysis. Kratzer does not mention the fact that *von*-phrases which seem to refer to the verb’s subject argument are often possible with the adjectival passive, e.g., in a VP-structure:

(11) Das Bild ist von einem Künstler gemalt.
    the picture is by an artist painted

However, there is one important difference between the adjectival passive and the attributive construction. The adjectival passive allows for *von*-phrases that are characteristic of the result state (11), but not for those that just describe the event proper (12):

(12) *Der Wein ist vom Kellner eingeschenkt.
    the wine is by-the waiter poured

There is no such restriction on the attributive construction:
(13) a. das von einem Künstler gemalte Bild
    the by an artist painted picture
b. der vom Kellner eingeschenkte Wein
    the by-the waiter poured wine

Note that adverbial phrases behave in the same way. In adjectival passive constructions, they are only possible if they refer to the result state:

(14) a. Die Wiese ist mit der Sense / schlampig geschnitten.
    the lawn is with the scythe / sloppily cut
    the soup is with the spoon / slowly eaten
c. *Das Stilleben war heute morgen gemalt. (Kratzer 1994:49)
    the still-life was today morning painted

In the attributive construction, however, they are free to occur:5

(15) a. die mit der Sense / schlampig geschnittene Wiese
    the with the scythe / sloppily cut lawn
b. die mit dem Löffel / langsam gegessene Suppe
    the with the spoon / slowly eaten soup
c. das heute morgen gemalte Stilleben
    the today morning painted still-life

This difference can be explained by the assumption that only the attributive construction contains VoiceP and AspP – and here we are to answer the second question. While the implicit subject in SpecVoiceP licenses a von-phrase, the event argument introduced by AspP licenses adverbial modifiers. For the adjectival passive, which does not contain VoiceP and AspP, there is no such unrestricted licensing. Describing the target state of an event, the adjectival passive allows only for those adverbial modifiers that are somehow characteristic of this state.

I conclude that only the attributive construction provides a structure containing VoiceP and AspP. As it contains an event argument and an implicit subject, it is closely related to the verbal passive; hence, we may speak of a passive construction. Note that the adjectival passive – in spite of its name – does not possess any of these passive properties.

Let us now deal with the issue of whether the attributive construction always requires an embedment of VoiceP. Von Stechow (1996) argues that there are attributive past participle constructions without a passive meaning. The following example allows

for a coreferential reading. In this reading, no implicit subject argument can be involved:

(16) das sorgfältig gekämmte Kind (von Stechow 1996:118)

the carefully combed child

Von Stechow concludes that in the case of transitive verbs there are two possibilities of analyzing attributive past participle constructions: a passive construction containing a VoiceP and a VP-construction. The VP-construction is analyzed like the adjectival passive:

(17)

\[
\text{IP} \quad \text{PRO} \quad \text{AP} \quad \text{VP} \\
\text{a} \quad \text{A} \quad \text{V} \\
\]

Obviously, as soon as there are event modifying adverbials, the VP-embedding structure is excluded. Consider the following example:

(18) Er betrat das Badezimmer und erblickte das gerade mit einem goldenen Kamm gekämmte Kind.

He entered the bathroom and saw the child, which was just being combed with a golden comb

(18) does not allow for a coreferential reading. This is predicted by my approach. There is a manner adverbial referring to the event, hence the structure must include an AspP. As VoiceP is embedded under AspP, the structure contains an implicit subject. It follows that the coreferential reading is excluded.

Let us now consider unaccusative verbs in the attributive construction. As they are not embedded under Voice (cf. von Stechow 1996), they cannot assume a passive meaning. However, I will show that they are also structurally ambiguous. Again, the empty adjective may embed AspP or just VP:
The Attributive Past Participle: Structure and Temporal Interpretation

It is clear that we need the AspP-embedding structure to account for event modifying adverbials:

\[ \text{der abgestürzte Raupenschlepper (the crashed power carrier):} \]

\[ \text{IP} \quad \text{PROi} \quad \text{AP} \quad \text{ti} \quad \text{A'} \quad \text{AspP} \quad \text{VP} \quad \text{ti} \quad \text{V} \quad \text{A} \quad \text{I} \quad \text{IP} \quad \text{P} \quad \text{ROi} \quad \text{I'} \quad \text{AP} \quad \text{ti} \quad \text{A'} \quad \text{VP} \quad \text{ti} \quad \text{V} \quad \text{A} \quad \text{I} \]

But is there any evidence for the VP-embedding structure? Besides the fact that there is no way to exclude it, it can be shown that we really need it to explain the two different readings for \textit{fast} ‘almost’ in the attributive construction. This will be worked out in section 4.

In the next section I examine temporality in adjectival past participle constructions. Against von Stechow (1996) I argue that their temporal interpretation is determined by their syntactic structure. VP-embedding structures behave completely differently from those containing an AspP.

3. The Temporal Interpretation of Past Participle Constructions

Let us first have a look at the temporal interpretation of the adjectival passive. Kratzer (1994) assumes that the empty adjective morpheme is a perfectivizer assigning events their target state. She gives the following semantics for the empty adjective morpheme \textsc{PERF}:

\[ \text{\text{\textsc{PERF}}} = 1 \text{ if and only if } \exists e [P(e) = 1 \land s = f_{\text{target}}(e)] \], where \( P \) is any property of events with a target state and \( s \) is a state. (taken from von Stechow 1996:114)

When used with perfective predicates, “the kind of target state is characterized by the meaning of the verbs involved” (Kratzer 1994:39). However, Kratzer points out that the adjectival passive is not really bad with imperfective verbs if put in the right context – imagine, for example, a scenario in which it is someone’s task to caress cats or to juggle balls:

\[ \text{der mit einem großen Krach abgestürzte Raupenschlepper} \]

\[ \text{the with a big noise crashed power-carrier} \]
According to Kratzer, the target state of activity verbs can be derived via world knowledge. In the case of states, this is not possible. Hence, they exclude an adjectival passive.\(^6\),\(^7\)

Let us now turn to the temporal interpretation of the attributive past participle. If a VP is adjectivized, the interpretation absolutely corresponds to the adjectival passive; hence, we get a target state reading. This reading is the prevailing one if the construction just contains a participle formed from a telic verb (24a) – it is the only one if coreferentiality should not be excluded (24b):

(24) a. der gemähte Rasen
    the mown lawn
    ‘The lawn is/was in the target state of being mown’

    b. das gekämmte Kind
    the combed child
    ‘The child is/was in the target state of being combed’

The temporal interpretation of AspP-embedding constructions is much more interesting. Remember that we need this construction to account for the occurrence of event modifying adverbials. Furthermore, it is chosen if a target state reading is hard to obtain, as in the case of atelic base verbs. Now, following Wilmanns (1906:102ff.) and Paul (1920:79), Kratzer (1994) claims that the aspect of these “reduced relatives” matches the Aktionsart of the participle’s base verb. If the participle is formed from an imperfective verb, the whole construction is imperfective (25); if the participle is formed from a perfective verb, it is perfective (26):

---

\(^6\) In Rapp (1997) it is claimed that the adjectival passive is also possible with some stative verbs:

(i) Das Haus ist bewohnt.
    the house is inhabited

For the sake of simplicity, I will not treat these cases here. However, they could be captured by modifying the meaning rule of the adjectival affix: It could pick out just the stative component of any predicate.

\(^7\) Rapp & von Stechow (1999) claim that Kratzer’s notion of target state is too vague: “But why should the target state of the mowing of my lawn be that the grass is short? It could be very well that the gas tank of the lawn-mower is nearly empty, that I have finished my work etc.” (1999:194). Hence, it is proposed “that the adjectival perfectivizer PERF gives us the lexically determined result state and presupposes that an event generating this state occurs just before” (1999:194). This analysis, however, excludes an adjectival passive for imperfective verbs. Hence, I propose to take over Kratzer’s semantics for the adjectival passive – bearing in mind that in the case of perfective verbs the target state is always lexically given.
(25) ein von zwei Rappen gezogen -er Wagen
    a by two black-horses pulled -agr cart
    ‘A cart that is being pulled by two black horses’

(26) die heute morgen gemalt -en Stilleben
    the today morning painted -agr still-lives
    ‘The still lives that were painted this morning’ (Kratzer 1994:48)

Kratzer does not comment on the notions imperfective and perfective, but her examples clearly show the intended meaning: Imperfectivity means that the event described by the participle is taking place at the same time as the event introduced by the main clause (25); perfectivity means that it has already taken place before (26). Note, however, that in both cases the participle phrase refers to an event – and not to a target state. In the perfective example (26) this event reading is made clear by use of the time adverbial heute morgen ‘this morning’. Hence, Kratzer’s perfective reading of the attributive construction should not be confused with the target state reading (cf. 24).

Von Stechow’s (1996) interpretation rules for attributive past participle constructions do not entirely correspond to Kratzer’s approach. He claims that the empty adjective morpheme STATE involved in the attributive construction has the following semantics:

\[
\begin{align*}
\text{STATE}(P) &= \text{PERF}(P), \text{if } P \text{ is a property of telic events.} \\
\text{STATE}(P) &= P, \text{otherwise.}
\end{align*}
\]

According to this definition, telic events should always assume a target state reading while atelic events assume an imperfective reading. It is obvious that this definition does not include Kratzer’s perfective reading for telic events. My criticism, however, concerns the central idea of Kratzer’s and von Stechow’s approach. They both assume that the temporal interpretation of attributive participles depends on lexical properties of the underlying verbs: Atelic verbs create an imperfective reading, telic verbs a perfective reading or a target state reading. I do not deny that these are the prevailing interpretations for most cases. There are, however, quite a lot of counterexamples.

Let us first consider the event referring readings. In (28) the underlying verbs are telic, but clearly the prevailing interpretation is an imperfective one:

(28) a. In diesem Moment erblickte er den von zwei Wärtern
    in this moment saw he the by two guards
    abgeführten Gefangenen.
    off-marched prisoner
    ‘At this moment he saw the prisoner, who was being marched off by two guards’
b. Die bei diesem Vorgang freigesetzte Energie wird in Wärme umgewandelt.

‘The energy that is set free during this process is changed to warmth’

c. Während ihres gemächlich verzehrten Frühstücks hörte sie Radio.

d. Das von Firma Maier errichtete / finanzierte Haus wird bald fertiggestellt.

‘She was listening to the radio during her breakfast, which was being consumed slowly’

‘The house that is being built / financed by the Maier company will be finished soon’

On the other hand, there are also contexts which create a perfective interpretation for attributive constructions with an underlying atelic verb:

(29) a. Der von einem Betrunkenen angepöbelte Junge ging zum nächsten Polizeirevier.

‘The boy that had been abused by a drunken man went to the next police office’

b. Die von den Soldaten verfolgte Familie fand nach dem Krieg eine neue Heimat.

‘The family that had been persecuted by the soldiers found a new home after the war’

In particular, time adverbials referring to the event can shift the canonical temporal interpretation. If we use *in diesem Augenblick/Moment* ‘at this moment’ with a telic base, we get an imperfective meaning; if we use *gestern* ‘yesterday’ with an atelic base, we get a perfective meaning:

(30) a. Sie blickte voll Stolz auf den in diesem Moment gemähten Rasen.

‘Proudly she looked at the lawn, which was being mown at that moment’
b. Der gestern von einem jungen Mann gezogene Wagen stand im Eck.
   The cart that yesterday had been pulled by a young man was standing in the corner

In contrast to Kratzer’s and von Stechow’s claim, the temporal interpretation of the construction seems to be highly context dependent. Note however that the underlying verbs in (28), (29) and (30) all contain a VoiceP. If the attributive construction is based on an unaccusative verb, an imperfective interpretation is generally excluded:

(31) Er ging an einem eingeschlafenen Kind vorbei.
    he went at a fallen-asleep child past
    ‘He passed a child that had fallen asleep (before)’

Obviously, past participle constructions without a VoiceP can only have a perfective interpretation while those constructions with a VoiceP are temporally not fixed. This difference can be explained in the following way. The temporal interpretation of the attributive construction closely follows other constructions with the past participle. If the attributive construction contains a VoiceP with a suppressed argument, it takes over the meaning of other passive constructions. In this case, it is free to choose between the present tense and the perfect:

(32) Die gestreichelte Katze schläft.
    the caressed cat sleeps
    = Die Katze, die gestreichelt wird, schläft.
    ‘The cat that is being caressed is sleeping’
    = Die Katze, die gestreichelt worden ist, schläft.
    ‘The cat that has been caressed is sleeping’

On the other hand, attributive constructions based on unaccusative verbs do not contain a VoiceP with an implicit argument. Their interpretation has to follow the active perfect:

---

8 To express an imperfective event, the present participle would have to be used:

(i) Er ging an einem einschlafenden Kind vorbei.
    he went at a falling-asleep child past
    ‘He passed a child that was falling asleep’
(33) Er bemerkt die eingeschlafene Frau.
    he notices the fallen-asleep woman

    = Er bemerkt die Frau, die eingeschlafen ist.
    ‘He notices the woman who has fallen asleep’

Hence, my claim is that attributive past participle constructions with a passive meaning are temporally not fixed: They can assume both a perfective and an imperfective reading. This generalization already occurs in Rapp (1997). In this paper, however, it is described in terms of syntactic structure: Only if the attributive phrase contains a VoiceP with an implicit subject can it be temporally ambiguous.

What can we conclude? There are two structures that contain an adjectivized past participle: the adjectival passive and the attributive construction. I have found a generalization that is valid for both of them: Adjectivization of a VP always yields a target state reading. Whereas this is the only structural possibility for the adjectival passive, the attributive construction also allows for the adjectivization of AspP. Embedment of AspP creates an event reading. If the structure does not include a VoiceP – as in the case of unaccusatives – this event reading is necessarily perfective. If it contains a VoiceP – as in the case of transitive verbs – we are free to chose between a perfective and an imperfective event reading.

The differences between my analysis and Kratzer’s (1994) and von Stechow’s (1996) temporality rules should be clear by now. Kratzer (1994) and von Stechow (1996) claim that the temporal interpretation of the attributive construction is determined by the Aktionsart of the underlying verb. While their approach is lexical, my analysis is structure dependent. To be clear: It cannot be denied that without a specific context, the target state reading prevails for telic transitive base verbs, while the imperfective event reading prevails for atelic ones. The reason for this is quite simple: Attributive constructions with the past participle tell us a characteristic property of the underlying verb’s object. If the verb is telic, we automatically choose the target state for this purpose. If the verb is atelic, the object is only affected during the action but no more afterwards: hence the imperfective interpretation. However, as these prevailing interpretations can be overridden by the context, they should not be written into semantic rules.

As a conclusion to this section, I give the following syntacto-semantic description for the empty adjective morphemes STATE and PERF:

(34) PERF selects VP
    \[\langle\text{PERF} \rangle (P)(s) = 1 \iff \exists e[P(e) = 1 \land s = f_{\text{target}}(e)],\] where P is any property of events with a target state and s is a state.

(35) STATE selects AspP
    \[\langle\text{STATE} \rangle (P)(s) = 1 \iff \exists e[P(e) = 1], \text{if STATE embeds VoiceP}\n    \[\langle\text{STATE} \rangle (P)(s) = 1 \iff \exists e[P(e) = 1 \land t(e) < t(s)] \text{otherwise}.\]
The meaning rule for PERF is taken over from Kratzer (1994). The important thing is that PERF is strictly restricted to VP-complements while STATE attaches to AspP. Note that the description of STATE differs from von Stechow’s meaning rule in two respects. First, it does not relate the meanings of STATE and PERF: The target state reading is never available if the empty adjective morpheme embeds an AspP. Second, the temporal meaning is structure dependent. If there is no VoiceP, P refers to an anterior event. Otherwise, P describes an event that is not temporally anchored. Hence, if a VoiceP is embedded, the precise temporal interpretation of the participle must be deduced from the context.

4. Adverbial Modification: *Fast* ‘Almost’

I have shown that there are two different attributive structures with the past participle that have different temporal interpretations. In this section, I will argue that further evidence for this ambiguity is provided by the adverb *fast* ‘almost’.

In Rapp & von Stechow (1999) it was shown that in verbal structures *fast* usually has a counterfactual reading which denies the event proper. This reading requires the subjunctive or the present perfect:

(36) Juliane hätte/hat den Rasen fast gemäht.
Juliane had the lawn almost mown
‘The event of mowing the lawn almost took place’

Furthermore, we found that – in contrast to *wieder* ‘again’ – *fast* never goes inside a VP. In particular, it is not able to modify the result state of a telic verb. The following

9 For the sake of simplicity, I have only discussed examples with a perfective or an imperfective meaning. Note, however, that a posterior reading can be chosen as well if the attributive structure contains a VoiceP (cf. Rapp 1997:239ff.):

(i) Um fünf schliefen die Bewohner des kurz darauf zerstörten Hauses.
at five slept the inhabitants the GEN shortly after destroyed,GEN house,GEN
‘At five o’clock the inhabitants of the house that would be destroyed some moments later were asleep’

For sure, without a time adverbial, the posterior reading is never the prevailing one. However, it is important to notice that this reading is not totally excluded. This is captured by my semantic rule for STATE: As the P-event is not temporally anchored in VoiceP-embedding structures, it can be interpreted as anterior, simultaneous or posterior.
example shows that a resultative reading is excluded. (37) cannot have the meaning that Juliane mowed the biggest part of the lawn.\footnote{The only interpretation we could give to this sentence is that Juliane did something that was almost a mowing of the lawn. We called this a \textit{scalar reading}. This reading seems odd with a non-gradable verb like \textit{mähen}. Note, however, that it is available if the action described opens a scale:}

(37) \textit{Juliane mähte den Rasen fast.}
\text{Juliane mowed the lawn almost}

Hence, there are two phenomena to be explained: Resultative \textit{fast} is generally excluded, and counterfactual \textit{fast} is only possible if the aspect node is lexically filled by an auxiliary. We accounted for these data by assuming that \textit{fast} can only attach to projections with a visible head. Obviously, the result phrase XP is not visible. AspP is only visible if lexically filled. Hence, the counterfactual reading is possible with the subjunctive II and the perfect indicative (\textit{hätte/hat} is located in Asp!), but never goes together with the preterit.

Now, my question is: What readings do we get if \textit{fast} figures with adjectival past participial constructions? Let us first consider the adjectival passive:

(38) \textit{Der Kuchen ist fast gegessen.}
\text{the cake is almost eaten}

The only possible reading for this example is that the biggest part of the cake is eaten. It is not surprising that we get this reading, given the assumption that the empty adjective morpheme is a perfectivizer. \textit{Fast} does not have to go inside the VP but modifies the target state of the event (cf. Rapp & von Stechow 1999):

(39) \begin{array}{c}
\text{AP} \\
\text{\textit{fast} AP} \\
\text{VP A PERF}
\end{array}

Hence, example (38) means that the cake is almost in the target state of being eaten. We call this reading a pseudo-resultative one. Counterfactual \textit{fast}, on the other hand, is excluded for structural reasons. The adjectival passive does not possess an AspP that could be modified. Hence, a reading which denies the existence of the event proper is not possible.
Now, what readings do we get with the attributive construction? Let us consider transitive and unaccusative base verbs:

\[(40)\]  
\[
a. \text{der fast gegessene Kuchen}  
\quad \text{the almost eaten cake}  
\]
\[
b. \text{das fast verdampfte Wasser}  
\quad \text{the almost evaporated water}  
\]

Both examples have a pseudo-resultative and a counterfactual reading. Consider \[(40a)\]. The pseudo-resultative reading means that the cake is almost in the target state of being eaten, the counterfactual reading means that the event of eating the cake almost took place. To explain this ambiguity, we need the structures proposed in section 2. Recall that the empty adjective morpheme either selects AspP or VP. Now, I assume that \textit{fast} always attaches to AP – obviously, this projection is visible for the adverb even if it is not lexically filled. If AP embeds an AspP, we automatically get the counterfactual reading (cf. 10). Embedding of a VP, on the other hand, yields a pseudo-resultative reading (cf. 17). Note that the \textit{fast}-modification proves that past participle constructions based on unaccusative verbs like \textit{verdampfen} ‘evaporate’ are in fact structurally ambiguous: The two readings of \[(40b)\] can only be explained if the prenominal construction allows for both VP-embedding and AspP-embedding.\[11\]

I conclude that we need the two different structures to account for the ambiguity of \textit{fast} in attributive constructions. Now, I have to check whether my system gives us the right temporal interpretations. This is trivial for the pseudo-resultative construction, where \textit{fast} always modifies the target state. But what about the event readings of the counterfactual construction?

As expected, we only get a perfective reading if AspP does not contain a VoiceP. This is the case with unaccusatives:

\[(41)\]  
\[
\text{das fast in den Armen seiner Mutter eingeschlafene Kind}  
\quad \text{the almost in the arms of his mother fallen-asleep child}  
\]
‘The child that had almost fallen asleep in the arms of its mother’

The situation is, however, less clear if AspP contains a VoiceP. My theory predicts that there should be a temporal ambiguity. Now, it is difficult to anchor an event that does not take place. However, consider the following contrast:

\[\text{As event modifying adverbials require an AspP, they should cooccur with counterfactual \textit{fast} but not with pseudo-resultative \textit{fast}. However, these adverbials seem to be rather odd with counterfactual \textit{fast} as well:}\]

\[
(i) \text{?der fast mit der Gabel gegessene Kuchen}  
\quad \text{the almost with the fork eaten cake}  
\]
‘The cake that was almost eaten with the fork.’

As a referee pointed out to me this is due to pragmatic reasons: It seems to be strange to modify an event that in the end has not taken place.

\[\text{As event modifying adverbials require an AspP, they should cooccur with counterfactual \textit{fast} but not with pseudo-resultative \textit{fast}. However, these adverbials seem to be rather odd with counterfactual \textit{fast} as well:}\]

\[
(i) \text{?der fast mit der Gabel gegessene Kuchen}  
\quad \text{the almost with the fork eaten cake}  
\]
‘The cake that was almost eaten with the fork.’

As a referee pointed out to me this is due to pragmatic reasons: It seems to be strange to modify an event that in the end has not taken place.
In both examples, Reich-Ranicki almost reviewed a certain book, but in the end he did not. Our world knowledge tells us that this should have happened at the occasion of a TV-discussion about literature. Now, (42a) tells us that Karasek reviewed the book instead of Reich-Ranicki. The prevailing interpretation is that this review replaced Reich-Ranicki’s review at the mentioned TV-discussion; hence, we have an imperfective reading. In (42b), however, the prevailing reading is the perfective one: We understand that some days after the TV-discussion someone bought the book that had almost been reviewed by Reich-Ranicki.

Of course, all this is very subtle. However, if AspP includes a VoiceP, the counterfactual reading seems to be compatible with both an imperfective and a perfective meaning of the participle phrase. This temporal ambiguity is predicted by my approach. Hence, the adverb fast not only provides evidences for the structural ambiguity of attributive past participle constructions, it also confirms the temporal interpretation rules given for each of the attributive structures.

5. Conclusion

Following von Stechow (1996) and Rapp (1997) I have proposed that there are two different structures for attributive past participles. An empty adjective morpheme selects either a VP or an AspP. The temporal interpretation of these adjectivized past participles is purely structure dependent. Whenever a VP is adjectivized, only a target state reading is possible. Otherwise, the structure assumes an event reading which needs to be perfective only in the case of unaccusatives. If the construction contains a VoiceP, the event’s temporal interpretation as perfective or imperfective is determined by the context. The different readings of the adverb fast when it occurs prenominally prove that my proposals are on the right track. As pseudo-resultative fast is a target state modifier, it requires the embedment of VP. On the other hand, counterfactual fast needs an AspP inside the attributive phrase. The temporal properties of the construction are as predicted.
My proposal builds on the syntactic structures given in Kratzer (1994), von Stechow (1996) and Rapp & von Stechow (1999). The data I have examined provide some further evidence for the existence of VoiceP and AspP and their relative hierarchical order. However, I have explicitly argued against Kratzer’s (1994) and von Stechow’s (1996) proposals for the temporal interpretation of attributive past participle constructions. Whereas they claim that temporality is lexically determined by the Aktionsart of the base verb, I have tried to show that the temporal meaning of the empty adjectival morpheme varies according to the syntactic level of its complement.

References