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# On the Temporal Use of the Focus Particle *gerade*

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## Abstract

In this paper, we demonstrate that the analysis for the non-temporal uses of the German particle *gerade* developed in Schaden & Tovena (2008) applies to the temporal use of the particle as well. We also show that the non-temporal uses of *gerade* display a conventional association with focus (cf. Beaver & Clark (2007)), and explore the hypothesis that the same type of focus dependency is at stake with the temporal use, namely the ‘progressive’ and the ‘immediate anteriority’ readings. These readings are analysed as cases of association with Aspect-Phrase and Perfect-Phrase, respectively.

## 1 Introduction

### 1.1 Uses of *Gerade*

The German particle *gerade*, whose literal meaning is ‘straight’, often translates in English as *just* or *precisely*. *Gerade* is generally considered to be a focus sensitive particle (Altmann, 1978; König, 1991b). A first use, which nicely illustrates its focus sensitivity, is exemplified in (1) and is referred to hereafter as the ‘precisely’ use. Considering cars that are often stolen, (1a) says that red cars are prototypical instances of such a car type. The alternative values for red cars are, for instance, green cars, blue cars, yellow cars, etc. On the other hand, in (1b), considering red things that are often stolen, it is said that red cars are prototypical instances of such red things. In this second example, the alternatives to be considered would be red bikes, red ships, red planes, etc. In line with what observed in much research on the meaning of focus, a different focus assignment, therefore, changes the alternatives to be considered.

- (1) a. Gerade [ROTE]<sub>F</sub> Autos werden oft gestohlen  
Gerade red cars become often stolen.  
‘Precisely RED cars are often stolen.’  
b. Gerade rote [AUTOS]<sub>F</sub> werden oft gestohlen.  
Gerade red cars become often stolen.  
‘Precisely red CARS are often stolen.’

We have glossed above the meaning impact of *gerade* with ‘prototypical’. Note, however, that the information in focus is highly contingent, in the sense that it is not understood to be related with other structures such as a scale, be it expected/probable/culturally standard or other. Though the exact nature of the particle continues to elude us, we have provided in (Schaden & Tovena, 2008) some arguments against characterising it as scalar in itself. Nevertheless, *gerade* is compatible with scalar readings brought about by other elements, e.g. the adverb *oft* in (1).

*Gerade* also exhibits a temporal use, which comes in two variants, namely the so-called progressive and immediate anteriority readings. The progressive reading arises with simple tenses (i.e., the *Präteritum*, *Präsens* and simple future), as illustrated in (2).

- (2) a. Otto isst Schokolade.  
       O. eats chocolate.  
       (i) ‘Otto eats chocolate (in general).’  
       (ii) ‘Otto is eating chocolate (now).’  
     b. Otto isst gerade Schokolade.  
       O. eats gerade chocolate.  
       (i) \*‘Otto eats chocolate (in general).’  
       (ii) ‘Otto is eating chocolate (now).’

In (2a), we see that a sentence with a verb in the present form can be interpreted as describing an enduring generic property, as well as an ongoing action or a (very) temporary habit. But when *gerade* is added, only the latter reading remains available, as is shown in (2b).

The second temporal reading is the so-called immediate anteriority reading, exemplified in (3). It resembles very closely the effect of English *just* when combined with a perfect tense.

- (3) a. Kunigunde hat einen Brief geschrieben.  
       K. has a letter written.  
       ‘Kunigunde has written a letter.’  
     b. Kunigunde hat gerade einen Brief geschrieben.  
       K. has gerade a letter written.  
       ‘Kunigunde has just written a letter.’

In (3a), the verb in the perfect form indicates that the action took place at some time in the past. When *gerade* is added, the location in time is constrained insofar as the action is understood as having taken place in the very recent past.

Contrary to what we have seen for ‘precisely’ *gerade*, in sentences with temporal *gerade*, the association pattern with focus is not quite clear. Indeed, in such sentences, there is not necessarily a clear-cut, accent-marked associate like in sentences with ‘precisely’ *gerade*. One might wonder, however, if focus marking is really absent in such sentences, or if it is merely ‘hidden’ under other patterns of accent placement. If *gerade* associated in some way with the VP, a focus accent on the last VP constituent might be confounded with the default accent in unfocussed sentences. An obvious question to ask is then, whether the ‘precisely’ and the temporal uses are manifestations of the same

focus sensitive particle. It is worth trying to make more precise the type of sensitivity to focus marking that *gerade* displays.

## 1.2 On the type of association with focus

In their recent monograph, Beaver & Clark (2007) identify different types of sensitivity to focus. In particular, they characterise additive, e.g. *also*, exclusive, e.g. *only*, and intensive particles, e.g. *exactly*, all as items that show CONVENTIONAL ASSOCIATION to focus. These items are to be distinguished from adverbials such as *always*, that perform quantification over an implicit domain recovered from context and whose degree of association they argue is less strong. So, does *gerade* display a conventional association to focus, or not?

Building on an observation by Krifka (1992), Beaver & Clark (2007) demonstrate that *always* does not share the type of focus sensitivity of *only*. Their argument goes as follows.<sup>1</sup>

- (4) a. Mary always took [FRED]<sub>F</sub> to the movies.  
b. Mary only took [FRED]<sub>F</sub> to the movies.

(4a) means that if Mary took someone to the movies, it was always Fred; (4b) can be paraphrased as “the only person such that Mary took him to the movies is Fred”. Now, what would happen if the focus-marked element were extracted? Could the focus sensitive element associate with the trace left behind? The answer of Beaver & Clark (2007) is that it depends. *Always* can, but *only* cannot. The relevant contrast is reproduced in (5) and (6).

- (5) We should thank the man<sub>i</sub> whom Mary always took t<sub>i</sub> to the movies.  
a. ‘We should thank the man such that, if Mary took someone to the movies, it was always him.’ [association with trace]  
b. ‘We should thank the man such that Mary has always taken him to the movies (and nowhere else).’ [association with “to the movies”]
- (6) We should thank the man<sub>i</sub> whom Mary only took t<sub>i</sub> to the movies.  
a. \*‘We should thank the man such that, Mary took only HIM to the movies.’ [association with trace]  
b. ‘We should thank the man such that Mary has only taken him to the movies (and nowhere else).’ [association with “to the movies”]

As we can see, the relevant reading is impossible with *only*, but remains possible with *always*. How does *gerade* fare with respect to this test? First consider (7).

<sup>1</sup>Actually, their argument exploits several tests. We use the test on extraction because it is easy to replicate for *gerade*. Although we cannot elaborate on it here, as far as we have checked, the results of the other tests that can be applied to German concur with the extraction test with respect to the class of association with focus that *gerade* falls into.

- (7) ... weil Maria gerade [DIESEN MANN]<sub>F</sub> zum Essen eingeladen hat.  
 ... because M. gerade this man to eat invited has.  
 a. '... because Maria invited precisely THIS MAN for dinner.'  
 b. '... because Maria has just invited THIS MAN for dinner.'

A few remarks are in order with respect to (7). It is generally assumed that in German subordinate clauses, the constituents are in base position, which is SOV. With an intonation pattern like the one indicated in (7), the sentence may be interpreted in two ways: as containing either 'precisely' *gerade* focalising on *diesen Mann*, or as an immediate anteriority temporal *gerade*. Notice furthermore that, if the accent were on *zum Essen*, and if *gerade* remained where it occurs in (7), as is illustrated in (8), a 'precisely to dinner' interpretation is not possible.<sup>2</sup>

- (8) ... weil Maria gerade diesen Mann [ZUM ESSEN]<sub>F</sub> eingeladen hat.  
 ... because M. gerade this man to eat invited has.  
 '... \*because Maria invited this man precisely FOR DINNER.'

Therefore, unlike English *only*, *gerade* has to precede directly its associate, without the intervention of any non-focalised material.

Now, let us come back to the extraction test and check what happens when *diesen Mann* in (7) is extracted from its base position.

- (9) Wir sollten diesem Mann<sub>i</sub>, den<sub>i</sub> Maria gerade t<sub>i</sub> zum Essen eingeladen hat,  
 We should that man, whom M. gerade t<sub>i</sub> to the eating invited has,  
 danken.  
 thank.  
 a. \*'We should thank the man such that Maria has invited precisely HIM for dinner.' ['precisely' *gerade*, association with trace]  
 b. 'We should thank the man such that Maria has just invited him for dinner.'  
 [temporal *gerade* – VP association?]

As we can see, *gerade* cannot associate with the trace of the extracted element *diesen Mann* in (9).<sup>3</sup> This piece of data, therefore, provides evidence that *gerade* behaves like *only* and qualifies as conventionally associated to focus — at least in what we have qualified as the 'precisely' reading.

The question is whether the temporal *gerade* is also conventionally associated to focus. Examples like (10-a) might cast doubt about that, since the particle seems to associate with a trace here. Notice, however, that extremely similar phenomena have been

<sup>2</sup>(8) has an immediate anteriority interpretation, which we leave aside for the moment.

<sup>3</sup>A sentence corresponding to (9) has a 'precisely' reading, where *gerade* focalises on *zum Essen*. But then, if our conclusion from example (8) is correct, *gerade* should directly precede *zum Essen*, and not the trace t<sub>i</sub>, so that we obtain the structure in (10):

- (i) den<sub>i</sub> Maria t<sub>i</sub> gerade [ZUM ESSEN]<sub>F</sub> eingeladen hat.  
 whom M. t<sub>i</sub> gerade to the eating invited has.

observed with rather unproblematic exclusive particles of German where no polysemy has ever been considered (at least as far as we know).

- (10) a. Maria tanzt<sub>*t<sub>i</sub>*</sub> gerade *t<sub>i</sub>*.  
 M. dances gerade *t<sub>i</sub>*.  
 ‘Maria is dancing.’
- b. Maria küsst<sub>*t<sub>i</sub>*</sub> ihn nur *t<sub>i</sub>*.  
 M. kisses him only *t<sub>i</sub>*.  
 ‘Maria only KISSES him.’

Beaver & Clark (2007) consider several different possibilities in order to account for (10-b), while still allowing a particle like *nur* to be within the realm of conventional association with focus. In this paper, we do not want to commit ourselves to any specific possibility. The only point we want to make with the examples in (10) is that there is no need to postulate two different homonymous *gerades* on the basis of different focus association properties. We also want to point out that (potential) problems for the account of Beaver & Clark (2007) arise in German when focus on the verb (or elements encoded on the verb) are involved.<sup>4</sup> Our account of the temporal readings of *gerade*, as developed in section 3 (p. 491ff.) will assume an association with the Aspect-Phrase of a clause.

In order to account for the temporal interpretation that is available in (9), we can hypothesise that it arises when *gerade* scopes right above the functional projection Aspect-Phrase. Pitch accent may signal a lower attachment to the DP node, which results in the particle scoping only over the object in a sentence like (7a), although the endresult is the same as in (7b) in terms of linear order.

This hypothesis is compatible with the fact that *gerade* preposed to the focus marked subject DP allows only for a ‘precisely’ reading, as shown in (11).

- (11) Gerade [MARIA]<sub>F</sub> hat diesen Mann zum Essen eingeladen.  
 gerade M. has that man to the eating invited.  
 ‘Precisely Maria invited this man to dinner.’

We assume thus that the temporal reading can be analysed as involving the same item *gerade*, with the same semantics that gives also rise to the ‘precisely’ reading. This seeming case of polysemy would be a case of multi-typed element, typical of additive and exclusive particles, and the readings should be linked to the nature of the focused element. Therefore, tackling first things first, in this paper we set ourselves the task of showing that it is possible to extend to the temporal uses the analysis of *gerade* that we presented in (Schaden & Tovina, 2008), according to which it is a focus sensitive element that sharpens the perception of adequacy of the description provided by the associate.

The rest of this paper is organised as follows. In section 2, we briefly recall the main tenets of our proposal. Then in section 3, we show that it can cover the temporal use. We discuss the progressive reading and we show how temporal progression is blocked and that the state of affairs is contingent. We then examine the immediate anteriority reading, which arises with perfects. The discussion of the case where perfects give rise to progressive readings closes the section. Finally, section 4 concludes the paper.

<sup>4</sup>In (10-b), the exclusive seems to be either associated with a trace or to be non-contiguous postpositional.

## 2 A proposal for ‘precisely’ *gerade*

In this section, we summarise the analysis proposed in (Schaden & Tovena, 2008), where we have argued that *gerade* sharpens the perception of adequacy of a property for characterising a particular entity. Our proposal captures this identificational flavour, which seems to be the same intuition that König (1991a) expresses by saying that *gerade* is used to emphatically express identity between two values. However, it differs from König’s proposal in some crucial points. On the one hand, we have argued that it is not just plain identity between two equal values. The set characterised by the associate is said to provide the best match for the most prototypical part of the set characterised by the background. Furthermore, the correspondence holds between extensions, hence it is contingent and informative. For König, on the contrary, informativity comes from the dissonance between the two identified values.

We stated our idea within the foreground-background implementation of focus developed by von Heusinger (1999) inside the DRT framework and within an alternative-based approach to focus. In short, focus is assumed to induce the construction of two different and related representations of a sentence, namely the FOREGROUND, containing all material supplied by the host sentence, and the BACKGROUND, which is a way of representing the alternatives, as it corresponds to a representation like the foreground where the focus value has been abstracted away and replaced by a variable. This is illustrated, in a simplified version, in (12) for (1a).

(12) a. Background:

$x$
$\text{car}(x)$
<b><math>X(x)</math></b>
$\text{get\_often\_stolen}(x)$

b. Foreground:

$x$
$\text{car}(x)$
<b><math>\text{red}(x)</math></b>
$\text{get\_often\_stolen}(x)$

Background and foreground are related by a function  $h$  that corresponds to the assignment function for the designated variable  $X$  for the focus information, and which is an extension of function  $g$  that has fixed all values in the background. *Gerade* denotes conditions on assignment functions between background and foreground.

Reconsider example (1a). Given the background information  $B$  cars that are often stolen, *gerade* points at the subset of it which is viewed as the most prototypical one and tells us that this (nonempty) subset extensionally corresponds to the set characterised by the associate. The correspondence is computed via a measure function  $\mu$  that, when applied to the focussed property  $P$ , here ‘red’, returns a higher value than that returned by any other property  $P'$  considered to be a relevant alternative to  $P$  in the given context  $C$ . The function  $\mu$  establishes the match between the prototype of  $B$  and the associate as the best fit in  $C$ , although not necessarily unique in general. The definition is provided in (13), where AFV stands for ‘actual focus value’, and  $\phi[X]$  stands for a formula  $\phi$  containing a condition  $X$ .

$$(13) \quad \llbracket \text{gerade} \rrbracket = \exists h \exists g [ (\llbracket \phi[X] \rrbracket^{g,h} = 1) \wedge h(X) = \text{AFV} \wedge \exists \mu [ C(\mu) \wedge \forall h' [ h'(X) \neq h(X) \rightarrow \mu(h(X)) > \mu(h'(X)) ] ] ] ] ]$$

For example (1a), (13) amounts to saying that all alternative assignments *h'* for cars with some property *X* other than being red, are contextually lower valued for being often stolen cars, so cars that are most typically often stolen are the red ones. Hence, the effect of sharpening the descriptive power of a property is the result of a comparative instruction. *Gerade* expresses an evaluation of the associate, not a direct ranking among alternatives.

The next step is to show that this analysis can cover the temporal uses.

### 3 Analysing the temporal uses

#### 3.1 The progressive use

We call the first temporal reading the ‘progressive’ reading, since in Dahl (1985), *gerade* has been identified as the German expression of a progressive aspect. Notice, however, that the effect of *gerade* does not always correspond to a standard progressive like the English *be -ing*, cf. (Schaden, 2007, to appear). Rather, the progressive use appears when the particle is associated with aspectually neutral tenses, in the sense of Smith (1991). Such tenses—for instance, the German *Präteritum*, *Präsens* or simple future tense—display a systematic ambiguity between two readings, namely a causal, sequential reading, i.e. one event after the other, cf. (14-a), and an incidental reading, i.e. one event has already begun when the other takes place, cf. (14-b).

- (14) Als Maria das Zimmer betrat, pfiff Max.  
 When M. the room entered, whistled M.  
 a. ‘When Maria entered the room, Max whistled.’  
 b. ‘When Maria entered the room, Max was whisteling.’

If *gerade* is added to the main clause of such a sentence, it blocks the normally possible sequential or causal reading and forces an incidental reading, even where the context strongly favours the sequential reading, cf. (15). Thus, *gerade* eliminates a reading, rather than introducing one.

- (15) a. Als der Polizist seine Papiere verlangte, rastete Otto aus.  
 When the policeman his documents demanded<sub>Prät</sub>, flipped<sub>Prät</sub> O. out.  
 (i) ‘When the policeman asked for his identity card, Otto flipped out.’  
 [extremely dominant reading]  
 (ii) ‘When the policeman asked for his identity card, Otto was flipping out.’ [extremely marginal reading]
- b. Als der Polizist seine Papiere verlangte, rastete Otto gerade aus.  
 When the policeman his documents demanded<sub>Prät</sub>, flipped<sub>Prät</sub> O. gerade out.  
 (i) \*‘When the policeman asked for his identity card, Otto flipped out.’  
 (ii) ‘When the policeman asked for his identity card, Otto was flipping out.’



Progressive *gerade* can combine in principle felicitously with states, but this only to the extent that these states are temporary and open to change. States that are not supposed to change are unacceptable (or acceptable only to the degree that they can be coerced into a temporary state), cf. (16).

- (16) a. ??7 ist gerade eine Primzahl.  
 7 is<sub>Präs</sub> gerade a prime number.  
 ‘7 is a prime number (for now/these days).’  
 b. ??Fred Sinowatz ist gerade tot.  
 F. S. is<sub>Präs</sub> gerade dead.  
 ‘Fred Sinowatz is dead (for now).’

(16-a,b) are perfectly acceptable in circumstances where the rules of mathematics change periodically, and in which Fred Sinowatz rises periodically from the death.

We assume that the temporal readings can be derived via a focus-background structure just like the non-temporal uses of *gerade*. In case of the progressive reading, we assume that the verbal predicate is part of the associate, and this holds in general for both temporal readings. More precisely the associate is formed by the Aspect-Phrase and the VP in (17).

- (17) a. Als Peter kam, ging Paul gerade.  
 ‘When Peter came, Paul was leaving.’

b. Background:

$x, n, i$	
named(Paul, $x$ )	
$i < n$	[Tense]
$\mathbf{X}(i)$	

c. Foreground:

$x, n, i, e$	
named(Paul, $x$ )	
$i < n$	[Tense]
$e \circ i^5$	[Aspect]
leave( $x, e$ )	[VP]

Here,  $n$  stands for the moment of utterance. The important thing to notice is that the interval  $i$ , which corresponds to the Reichenbachian moment of reference  $R$ , is part of the background. Therefore, it must be discourse-given. Narrative progression in DRT is achieved by the introduction of a new point  $R$  into the DRS. Since  $R$  is given here, it must be identified in the context, and one cannot introduce freely a new point of reference. In this way, we can block temporal progression, and thus eliminate the sequential reading. Note that, according to this analysis, *gerade* does not impact directly the admissible aspectual relations, contra what has been proposed in (Schaden, 2007, to appear).

The same move also enables us to correctly predict the oddity of sentences containing *gerade*, where  $R$  cannot be inferred from the context, as identical to the moment of utterance, or by discourse anaphora. For instance, assume (18) is uttered out of the blue.<sup>6</sup>

<sup>5</sup>We note the neutral aspectual configuration by ‘ $\circ$ ’. See Smith (1991), Pancheva (2003), Reyle et al. (2007) or Schaden (2008) for different definitions of the exact content of such a relation.

<sup>6</sup>An anonymous reviewer suggested to place  $R$  in the foreground. But example (18) provides good evidence for placing  $R$  in the background.

- (18) #Otto rastete gerade aus.  
 Otto flipped<sub>Prät</sub> gerade out.  
 ‘Otto was flipping out.’

Because of the past tense, we cannot identify R with the moment of utterance. At the same time, we cannot resolve R anaphorically either, since there is no context. Therefore, (18) cannot be felicitous.

So far, we have accounted for parts of the progressive effects. We need to derive one thing more, namely that the predicate must be open for change under the progressive reading. In order to see how this can be achieved, first recall that, as a focaliser, by definition *gerade* involves comparison amongst alternatives to the asserted focus value. Furthermore, the focus value at R needs to be contingent. Whenever this value is necessarily true or excludes relevant alternatives, we predict it to be infelicitous. This correctly excludes examples such as (16), at least in normal worlds.

The contingent nature of the predicate is derived by requiring additionally that the predicate be able to evolve through time. Intuitively, sentences like (16) become felicitous if one can have moments of  $p$  and moments of  $\neg p$ . A sentence with progressive *gerade* is true at R, but as a contingent fact. This is the basic contribution of the particle. Facts that are contingent at one moment in time normally do not become necessary truths for other moments. Although nothing is explicitly asserted about whether the state of affairs expressed by the sentence is true or not for moments other than R, it is the case that such as a state of affairs must be able to be false at these other moments, in virtue of its being contingent.

Adding a specific constraint imposing  $\neg p$  at a time prior to R would be too strong, as can be illustrated with example (19).

- (19) Die Kinder, die gerade in diesem Krankenhaus waren, wurden alle mit  
 The children, which gerade in this hospital were, became all with  
 dem Virus infiziert.  
 the virus infected.  
 ‘The children who happened to be in this hospital were all infected with the virus.’

(19) can be paraphrased as follows, for any  $x$  such that  $x$  is a child and  $x$  was at the hospital at  $t$ ,  $x$  was infected with the virus at  $t$ . Crucially, (19) does imply that children who have never been at any other place than the hospital are excluded from contamination, e.g. new-born babies.

## 3.2 The immediate anteriority reading

### 3.2.1 Perfect forms and the immediate anteriority reading

Immediate anteriority readings arise with perfects, cf. (20-a), and double-compound perfects (20-b). A more detailed exposition of the data is provided in (Schaden, 2007, to appear).

- (20) a. Als Kunigunde gerade alle Beweise beseitigt hatte, stürmte die  
 When K. gerade all proof eliminated had, stormed the  
 Polizei ihre Wohnung.  
 police her flat.  
 ‘When Kunigunde had just eliminated all proof, the police stormed her flat.’
- b. Otto sagte mir, als er Herrn Meier angerufen habe, habe dieser seinen  
 Otto told me, when he Herrn Meier called had<sub>KI</sub>, had<sub>KI</sub> this his  
 Artikel gerade gelesen gehabt.  
 article gerade read had.  
 ‘Otto told me that, when he had called Meier, Meier had just finished read-  
 ing his article.’

There is a slight complication to this generalisation, however: *gerade*, when combined with perfects, also allows for *progressive* readings:

- (21) Als Maria das Zimmer betreten hat, hat Max gerade gepfiffen.  
 when M. the room entered has, has M. gerade whistled.
- a. ‘When Maria entered the room, Otto was whistling.’
- b. \*‘When Maria entered the room, Otto whistled.’<sup>7</sup>

In order to properly account for the behaviour of perfects, which allow for both progressive and immediate anteriority readings, we assume that *gerade* can scope either over the anteriority relation—contained in both double-compound and ‘simple’ perfects—, or the underdetermined aspectual relation—contained only in ‘simple’ perfects. As we will see below, in the latter case our analysis is identical to those of the progressive case with the *Präteritum*.

According to the literature, the anteriority relation might be encoded at two different levels, namely as an aspect, see e.g. de Swart (1998), or as a relative tense, see e.g. Pancheva (2003). Even if one assumes that in ‘simple’ perfects, the anteriority relation is encoded as a relative tense, the aspectual variant is required at least for double-compound perfects, see (Schaden, 2007) for an argument that German double-compound perfects are aspectually resultative. Thus, a sentence like (22) might be analysed either as in (23), which corresponds to the aspectual variant, or as in (24), which is the temporal variant.

- (22) Hans ist gerade angekommen.  
 Hans is gerade arrived.  
 ‘Hans has just arrived.’

In (23), the background contains tense, and the distinguished variable is a predicate over the moment of reference. The perfect semantics used here is the one of de Swart (1998). The perfect introduces a result state *s*, which temporally abuts the temporal trace of the eventuality *e*.

<sup>7</sup>The reading marked as unavailable would be possible if (21) did not contain *gerade*.

(23) a. Background:

$x, n, i$
Named(Hans, $x$ )
$n \subseteq i$
$\mathbf{X}(i)$

b. Foreground:

$x, n, i, e$
Named(Hans, $x$ )
$n \subseteq i$
$i \subseteq s$
$e \supset C s$
arrive( $x, e$ )

The temporal variant of (22) assumes that the perfect is a relative tense introducing a *perfect state*  $s$  (cf. Nishiyama & Koenig (2004)), under which there is an aspectual projection.

(24) a. Background:

$x, n, i$
Named(Hans, $x$ )
$n \subseteq i$
$\mathbf{X}(i)$

b. Foreground:

$x, n, i, i', e$
Named(Hans, $x$ )
$n \subseteq i$ [Tense]
$i \subseteq s$
$Q(s)$
$i' \prec i$ [relative T.]
$e \circ i'$ [Aspect]
arrive( $x, e$ ) [VP]

In (24), the two lines between what we have marked *Tense* and *relative Tense* concern the temporal location of the perfect state  $s$ , and its nature  $Q$ .  $Q$  is assumed to be a free variable, and has to be inferred by pragmatic means based on the context.

Though the formulæ in (23) and (24) are not identical, they are quite similar. The state  $s$  plays a crucial role in both cases. The explanation for the immediate anteriority effect will follow the following pattern in both cases. The effect of *gerade* is to establish a state  $s$  as best match for the interval  $i$ . Now,  $s$  is only very vaguely specified. Its characterization depends on the main eventuality  $e$  of the sentence, and possibly also on the relation of  $e$  with the preceding discourse-context, cf. Portner (2003). If  $s$  is determined by  $e$ ,  $e$  will play a role in the evaluation of the adequacy of  $s$ . In order for  $e$  to be maximally pertinent for  $s$ , and reciprocally, there need to be no other intervening event of the same type or of a type that could interfere in the relation between  $e$  and  $s$ . This will involve a certain degree of temporal proximity, though a rather vague one. What is not vague is the perception of a relevant type of proximity, and it is important to underscore that here what is taken into consideration are not only elements known to both speaker and hearer. It is not a question of (subjective) relevance, but an objective constraint of proximity.<sup>8</sup>

### 3.2.2 Accounting for the progressive reading of perfects

Under the assumption that the German Perfect encodes a relative-tense feature, we can tackle also the progressive readings that arise with such tenses. We only have to assume

<sup>8</sup>*Gerade* seems to be 'objective' in this sense in some of its non-temporal uses too, cf. Schaden & Tovena (2008).

that, in this case, *gerade* applies to an underspecified Aspect-Phrase below the Perfect-projection, as is illustrated in (26). Contrary to what has happened in all preceding examples, there is more structure in the background here than just the tense relation and presuppositional elements of the DRS.

- (25) Der Hans ist gerade angekommen, [als die Maria auf die Bühne gegangen ist.]  
 The Hans is gerade arrived, when the Maria on the stage went  
 ist.]  
 is.  
 ‘Hans was arriving, [when Maria went on the stage.]’

(26) a. Background:

$x, i, i', n$	
Named(Hans, $x$ )	
$n \subseteq i$	[Tense]
$i \subseteq s$	
$Q(s)$	
$i' \prec i$	[relative T.]
$\mathbf{X}(i')$	

b. Foreground:

$x, i, i', n, e$	
Named(Hans, $x$ )	
$n \subseteq i$	
$i \subseteq s$	
$Q(s)$	
$i' \prec i$	
$e \circ i'$	
arrive( $x, e$ )	

The remainder of the argument goes as for the progressive reading we have already seen.

## 4 Conclusion

In this paper, we have shown that *gerade* displays a conventional association with focus in its non-temporal use, and we have argued that nothing prevents the extension of this analysis to the temporal use.

Given this uniform type of focus dependency, we have proposed a unified semantic analysis. We have built on our previous proposal (Schaden & Tovena, 2008) that the different readings of *gerade* can be analysed as manifestations of a unique role of the particle, namely indicating the optimal match. Technically, this unique role is captured via a measure function that assigns the highest measure to the associate (via an evaluation of the focus). The indication of an optimal match is also at work in the temporal uses. The progressive and immediate-anteriority readings follow from the scope of *gerade* w.r.t. different temporo-aspectual relations.

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