Reichenbach meets underspecification

A novel approach to the perfect-past-cycle in German (and elsewhere)

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This paper investigates the long-term diachronic development of the perfect and preterite tenses in German and provides a novel analysis by supplementing Reichenbach’s (1947) classical theory of tense by the notion of underspecification. Based on a newly compiled parallel corpus spanning the entire documented history of German, we show that the development in question is cyclic: It starts out with only one tense form (preterite) compatible with both current relevance and narrative past readings in (early) Old High German and, via three intermediate stages, arrives at only one tense form again (perfect) compatible with the same readings in modern Upper German dialects. We propose that in order to capture all attested stages we must allow tenses to be unspecified for R (reference time), with R merely being inferred pragmatically. We then propose that the transitions between the different stages can be explained by the interplay between semantics and pragmatics.

Keywords: tense - preterite - perfect - underspecification - German - semantics - pragmatics

1. Introduction

Following Reichenbach (1966 [1947]), the function of grammatical tenses is to express the mutual relationships between three temporal anchors:

1. S = Speech Time
   E = Event Time
   R = Reference Time

Under this view, in languages that distinguish two tenses referring to past events (usually called ‘past’/‘preterite’ vs. ‘perfect’/‘present perfect’), the semantic dif-
ference between the two lies in the position of R (Reichenbach 1966 [1947]: 289–290). In fact, the difference must lie in the position of R. S is always the origo. E takes place before S, therefore the position of E cannot be the source of the contrast, either.

(2) Preterite: E=R>S
Perfect: E>R=S

The perfect, as opposed to the preterite, is characterized by R=S, meaning that “the past events are seen, not from a reference point situated also in the past, but from a point of reference which coincides with the point of speech” (Reichenbach 1966 [1947]: 289). In the typological literature, the perfect is defined with reference to the concept of ‘current relevance’. According to Comrie (1976: 52), “the perfect indicates the continuing present relevance of a past situation.”

What exactly current relevance means in practice, however, is subject to some amount of crosslinguistic variation. Comrie (1976: 56–61), for example, discusses four different “manifestations” or “types of perfect” (viz., perfect of result, experiential perfect, perfect of persistent situation, perfect of recent past), not all of which need to be covered by the perfect gram of a particular language (Comrie 1976: 54).

The German perfect (Präsens-Perfekt), too, is often characterized as expressing current relevance, thereby contrasting with the preterite (Präteritum, Imperfekt). The Duden Grammar (2016: 518) states that “in its characteristic function, the perfect, like the present, is used deictically, i.e., the speaker’s now serves as the point of orientation. [...] The event described is attributed to the past, but current relevance is maintained in the sense that the time of orientation is identified with the now. Consequently, if nothing speaks against it, it may be assumed that the event, due to its consequences or the actors involved, is (still) relevant at the point of speech.”

At the same time, however, it is well known that the German perfect can also be used in cases in which no current relevance is being expressed, i.e., in cases tra-

1. Note, however, that Comrie assumes that R only plays a role in absolute-relative tenses, where it coincides with neither S nor E (as, for example, in the case of the English pluperfect, E>R>S). Thus, he rejects the idea of using R to capture the contrast between the preterite and the perfect: “According to Comrie, both tenses just locate a situation as prior to the present moment and do not involve a reference point at all” (Declerck 1986: 309).

2. Original in German: “In seiner charakteristischen Funktion wird das Präsensperfekt wie das Präsens deiktisch gebraucht, d.h., das Sprecher-Jetzt dient als Orientierungspunkt. [...] Das beschriebene Geschehen wird zwar der Vergangenheit zugewiesen, der Gegenwartsbezug bleibt jedoch insofern erhalten, als die Orientierungszeit mit dem Jetzt identifiziert wird. Wenn nichts dagegen spricht, darf denn auch davon ausgegangen werden, dass das Geschehen aufgrund seiner Folgen oder der an ihm beteiligten Aktanten im Sprechzeitpunkt (noch) von Belang ist.”
ditionally reserved for the preterite. Unlike, e.g., the English present perfect, the German perfect may even be combined with definite past time adverbials such as gestern ‘yesterday’ (Karl hat gestern den ganzen Tag gearbeitet ‘Karl worked all day yesterday’, lit. ‘Karl has yesterday the whole day worked’, König & Gast 2012: 87, our translation). Consequently, at least in cases like those, the perfect has been labelled an “analytic preterite” (analytisches Präteritum) (Bäuerle 1979; Hennig 2000). Moreover, in southern (Upper German) dialects, the synthetic preterite has been given up, either almost pervasively (leaving just residual preterite forms of be, want etc.), or entirely pervasively (as e.g., in Swiss German) (e.g., Reis 1891; Jacki 1909; Lindgren 1957; Rowley 1983; Dentler 1997, 1998; Fischer 2018), leaving the perfect as the only tense available to refer to past events. Obviously, the perfect must have lost its current relevance semantics in those dialects.

Crucially, the interchangeability between the perfect and the preterite in Modern German is asymmetrical (e.g., Rödel 2007: 61; Schaden 2009:135; Hentschel & Weydt 2010: 94). Whereas the perfect may virtually always replace the preterite (and, at least in Upper German, has in fact completely replaced it), the opposite does not hold: In contexts involving current relevance, usually only the perfect is possible, its replacement by the preterite typically leads to ungrammaticality (see Section 2.1).

The theoretical issue to be solved in the present paper is the observation that, without a minor manipulation, the original Reichenbachian system is not able to account for the semantic properties of the German perfect and the preterite that are responsible for their distribution. Intuitively, it seems that the perfect is not so much an overt expression of current relevance. Rather, it merely seems compatible with such contexts. The preterite, on the other hand, seems to overtly suppress any current relevance interpretation.

Moreover, from a grammaticalization perspective, the semantic shift from present perfect meaning to simple past meaning is often seen as an instance of semantic bleaching or simplification (e.g., Dik 1987: 77). However, given the Reichenbachian system, it is not obvious why E=R>S (simple past meaning) should be less rich semantically than E>R=S (present perfect meaning). Thus, the idea of bleaching is as yet to be implemented into that system. We will propose such an implementation based on underspecification.

Another issue related to the semantic bleaching story is the fact that the German preterite has become much more restricted contextually compared to both the contemporary perfect and the preterite of Old High German. Therefore, we need not only an explicit theory of semantic impoverishment (i.e., bleaching), but also a theory of semantic enrichment (i.e., anti-bleaching). We will propose that both, impoverishment and enrichment, can be motivated on the basis of pragmatic inference.
Thus, the present paper has the following aims: In the following section (Section 2), we will briefly describe the preterite-perfect-contrast in German and propose a novel, simple analysis of it on the basis of the Reichenbachian system – but supplemented by the concept of underspecification. In Section 3 we will present new empirical evidence for the diachronic spread of the perfect and the retraction of the preterite in a historical parallel corpus. Based on that evidence, we will propose a sketch of the long-term diachronic development from Old High German to modern Upper German dialects (this will, by the way, be the first empirical longitudinal study covering the whole timespan of attested German language history, including dialects; cf. Fischer’s 2018: 147–153 overview). We will account for the individual stages in terms of our underspecified Reichenbachian system. It will turn out that despite the differences in morphological exponence, the semantics of the Old High German preterite and the perfect of modern Upper German are identical in the sense that they are both unspecified pasts. Thus, in the long term, the development of the perfect and the preterite is a cyclic one. In Section 4 we will propose pragmatic explanations for the relevant transitions, in particular the semantic enrichment of the preterite and, later, the semantic impoverishment of the perfect.

As for terminology: In the remainder of this paper, the terms preterite and perfect will be used as terms referring to the purely formal side, i.e., as terms referring to morphological exponents. The term preterite refers to the synthetic form cognate to the English simple past. The term perfect refers to the analytic form consisting of an auxiliary (have or be) in the present tense plus a past participle. On the semantic level, we will distinguish between what we call narrative past and current relevance past. Applying Reichenbach’s S, E and R, narrative past encodes E=R>S; current relevance past encodes E>R=S.3

2. Preterite vs. perfect in German

2.1 Distribution, “preterite decay” and “perfect expansion”

Traditionally, the preterite is analyzed as a narrative past (E=R>S), and the perfect is analyzed as a current relevance past (E>R=S). When it comes to German, however, the situation is complicated by the fact that the two tenses are characterized

3. Please note that our usage of the term ‘past (tense)’ thereby diverges from the way it is used by Klein (e.g., 1992: 538). Following Klein, temporal relations are based on the relation between S and R rather than S and E. That way, a form characterized by S=R or by a complete lack of R (see Section 2.3) could not be considered a past tense.
by asymmetrical interchangeability (cf. e.g., Hentschel & Weydt 2010: 94): In nar-

rative contexts (3), the preterite (3a) can practically always be replaced by the per-

fect (3b), but in current relevance contexts (4), the perfect (4a) cannot be replaced 

by the preterite (4b). Following Schaden (2009: 133–135), we therefore conclude 

that the perfect is the unmarked member of the pair; the preterite is the marked 

one.

E=R>S (narrative past)

   Schiller wrote The Robbers in=the year 1781
b. Schiller hat Die Räuber im Jahre 1781 geschrieben.
   Schiller has The Robbers in=the year 1781 written
   ‘Schiller wrote The Robbers in 1781’.
   (Hentschel & Weydt 2010: 94, our glosses, our translation)

E>R=S (current relevance past)

(4) a. Guck mal, es hat geschneit.
   Look it has snowed
b. *Guck mal, es schneite.
   Look it snowed
   ‘Look, it has snowed’.
   (Hentschel & Weydt 2010: 94, our glosses, our translation)

German is characterized by an ongoing change whereby the perfect is increasingly 

being used to replace the preterite (e.g., Reis 1891; Jacki 1909; Lindgren 1957; 

Rowley 1983; Dentler 1997, 1998; Amft 2018; Fischer 2018). Traditionally, this 

process is known as “preterite decay”. More recently, the term “perfect expansion” 

has become more popular (see further below in this subsection for a discussion 

of the two terms). As the diachronic corpus study by Dentler (1997: 152; Dentler 

1998: 138) shows, the narrative use of the perfect is still rare in the 11th century; 

only 1.2% of all perfect tokens are found in narrative contexts at this point. By the 

16th century, however, their share has risen to over 20%, with the steepest increase 

taking place between the 14th and 15th century (from 7.3% to 18.2%).

Up until today, the extent to which the perfect is used to replace the preterite 

varies according to a range of factors, including, among others, region/dialect, 

style/register and a number of intra-linguistic factors. As for region/dialect: The 

use of the perfect instead of the preterite is most characteristic of southern 

(Upper) German dialects; so characteristic, in fact, that the term ‘preterite decay’ 

is most frequently found as part of the more specific designation ‘Upper German

4. See Nilsson (2016) for (fairly restricted) exceptions to this generalization. We briefly discuss 

Nilsson’s (2016) findings in Section 4.2.4.
preterite decay’. The southernmost dialects do indeed stand out in that they have gone so far as to completely give up the preterite in favour of the perfect. The further north we move, the more common the preterite becomes (cf. Rowley 1983; Sperschneider 1959; Fischer 2015, 2018).

As for style/register: The replacement of the preterite by the perfect is particularly characteristic of spoken, colloquial registers. The preterite is typical of written, narrative texts (Hennig 2000). Hentschel and Weydt (2010: 95) go so far as to state that in colloquial German, the perfect has largely replaced the preterite in the entire German-speaking area. The genre-specific distribution causes speakers to perceive the preterite as being part of a higher stylistic level. In line with this, Hentschel and Weydt (2010: 95) and Fischer (2018: 211–214) report occasional cases of hypercorrect usage of the preterite, presumably meaning the use of the preterite in current relevance contexts. Helbig and Buscha (2011: 134) describe the contrast between the preterite and the perfect by means of the feature ±Colloqu (= colloquial).

Finally, as for intra-linguistic factors: Even within the same variety, the replacement of the preterite by the perfect typically varies according to a number of internal factors such as the type of verb that is involved. For example, as shown by Fischer (2015) for present-day Hessian dialects, a modal verb such as wollen (‘want’) is more likely to occur in the preterite than lexical verbs such as kommen (‘come’) and wohnen (‘live’/’reside’); see also Amft (2018) for an extensive quantitative corpus-study investigating a large number of factors influencing the choice between preterite and perfect in Early New High German pamphlets.

Strictly speaking, what we have been calling “replacement” of the preterite by the perfect has to be broken down into two processes: For a given context, we observe the retraction of the preterite from that context and the expansion of the perfect into that context. The relative chronology of these two processes has been the subject of some debate, reflected in the existence of the two competing terms, viz., “preterite decay” vs. “perfect expansion” (Nübling 2006: 247; Fischer 2018: 1–2). The older term “preterite decay” is associated with the assumption that the retraction of the preterite precedes the expansion of the perfect. The traditional explanation (Reis 1891) holds that, due to apocope of word-final schwa, present and preterite forms of weak verbs, i.e., the majority of verbs, were no longer distinguishable (er spielte ‘he played’ became er spielt, which also means ‘he plays’), which led speakers to give up the preterite. Implicitly, this explanation entails that as a reaction to the purely formal loss of the preterite, the semantics of the perfect must have expanded from past events with current relevance to all past events. “Perfect expansion”, on the other hand, assumes that it is the other way round: First, the perfect developed a reading identical to that of the preterite, which then allowed speakers to give the preterite up.
As is shown by Dentler (1997, 1998) and, more recently, by Fischer (2018), there are a number of arguments to recommend the latter view. First, as shown by Dentler (1997: 6), the replacement of the preterite was not, as would have to be expected, led by ambiguous forms. Second, even in Upper German, preterite forms have not, strictly speaking, been lost. Rather, what has happened is that they have receded from the past indicative (only in this function have they been replaced by the perfect) and have been reanalyzed as subjunctive forms (Schrodt & Donhauser 2003: 2519; Petrova 2008: 9–10). Third, perfect expansion can, albeit to different extents, be observed in all regional varieties of German. Based on a large number of dialect grammars from the Central and Low German regions, Fischer (2018: 394) shows that the perfect has expanded semantically even in those varieties that preserve a complete inventory of preterite forms. The same, we may add, applies to the standard language, at least in its spoken form (Hennig 2000). Fourth, the expansion from current relevance past to narrative past is by no means specific to German. In fact, according to Bybee and Dahl (1989) it constitutes a universal grammaticalization path,5 and it is robustly attested in several (in particular) European languages (Bertinetto & Squartini 1996; Squartini & Bertinetto 2000; Thieroff 2000; Dahl & Velupillai 2013). We therefore follow Fischer (2018: 395) in concluding that “the expansion [of the perfect] precedes the loss of [preterite] forms.”6

However, what still seems to be unclear is the question of why the perfect expands in the first place. In other words: While perfect expansion may well offer an explanation for preterite decay (and not the other way round) (Fischer 2018: 360, 395), it is important to note that perfect expansion itself calls for an explanation. The existing literature has suggested a number of reasons why the perfect is superior to the preterite (see Fischer 2018: 361 for an overview), but it seems questionable to us whether they alone suffice to account for its historical spread. We will only briefly discuss two of those.

First, the perfect, in contrast to the preterite, is a periphrastic verb form. As such, its use leads to the formation of the verbal bracket, which has been attributed advantages with respect to parsing and the distribution of theme and rheme (Abraham & Conradie 2001). The argument is supported by the observation that complex forms (e.g., modal verbs with an infinitive), i.e., forms that already form a bracket, show a preference for the preterite (see Sieberg 2002). What is problematic, however, is that the bracket-argument is language-specific whereas perfect expansion is a much more general phenomenon. It also occurs e.g., in certain

5. See the end of this Section for critical remarks on the idea of a universal grammaticalization path.
varieties of Romance (cf. e.g., Waugh 1987; Bertinetto & Squartini 1996; Squartini & Bertinetto 2000), i.e., varieties that do not show the bracket structure.\(^7\)

Another advantage of the perfect has been seen in its greater morphological regularity in the case of strong verbs, i.e., verbs which form their preterite by means of ablaut. Again, a major problem is that we are looking at a language-specific argument while perfect expansion is a more general phenomenon. In addition, it seems questionable whether the argument applies even in the case of German: First, it must be noted that the use of the perfect by no means allows speakers to circumvent ablaut. After all, the past participle is an ablauted form, too. Second, as shown by Fischer (2015), irregular (strong) verbs actually show a greater tendency to preserve their preterite forms than regular (weak) verbs do.

Finally, both the verbal bracket and (ir)regularity are purely formal factors. They do not explain how the semantics of the perfect might change in such a way that it would lose its restriction to contexts involving current relevance. One may argue that the very existence of a cross-linguistically well-established perfect-to-past grammaticalization path constitutes an explanation in its own right: We know that across languages, a current relevance past tense may develop into a more general past tense, and what we are currently observing in German is one particular instantiation of this seemingly general pattern. However, we might then still want to know why the path in question exists, why it is the way it is and why apparently it is unidirectional. But crucially, the view that resultative > perfect > past/perfective constitutes a universal, unidirectional grammaticalization path has recently been challenged, for three reasons.

First, according to Drinka (2017), both the recruitment of a periphrastic perfect of the formal type have/be + past participle and the semantic shift from perfectal to preterital meaning are contact phenomena with unique historical origins. The historical origin of the periphrasis is, according to Drinka (2017), vernacular Late Latin form where the construction spread e.g., into OHG (Drinka 2017: 229). The historical origin of the preterital use of the construction is, following Drinka (2017: 257), 12th century vernacular Parisian French, from where it spread eastwards. Consequently, both recruitment of perfects and perfect expansion are far from reflecting any universal path, but they are unique historical events.

\(^7\) The bracket-argument does, however, make some good predictions regarding the distribution of perfect expansion within Germanic: After all, perfect expansion seems to be restricted to the OV-type (i.e., Continental West Germanic), whereas the VO-type (North Germanic, English) does not display it. (An outlier might be Yiddish: Yiddish has completely given up the preterite in favor of the perfect (Jacobs 2005: 217) even though its status between OV and VO is controversial (cf. Schallert 2010)). Nonetheless, there remain further problems associated with the bracket-argument; on which, see fn. 25.
Second, Fløgstad’s (2016) study on Porteño Spanish (the vernacular variety of Buenos Aires) provides compelling counterevidence against the putative unidirectionality of the development from perfectal to preterital meaning. Instead of perfect expansion as found e.g., in French or German, we find expansion of the simple past into the former domains of the perfect (i.e., preterite expansion), leading to an almost complete replacement of the perfect by the simple past (perfect loss as the mirror image of German or French preterite loss). Fløgstad (2016) convincingly argues that the distribution of the tenses in Porteño Spanish cannot be explained away as an archaism but must be analyzed as a relatively recent phenomenon. Preterite expansion is not unique, as it can be observed in a few rather peripheral Old World Romance varieties (e.g., Asturian, Canarian), but mainly in a large variety of other Latin American Spanishes, in Brazilian Portuguese (see Fløgstad 2016: 74–76 for an overview) and, to a limited degree, in American English, too (Fløgstad 2016: 78, with reference to Elsness 1997). These developments are unexpected given classical grammaticalization theory. Thus, starting from a tense system where there is a relatively clear semantic contrast between a perfect tense and a preterite, any model of functional shifts between the two tenses must take into account that both perfect expansion and preterite expansion are possible further diachronic developments of that tense system.

Third, the idea of long-term, uniform grammaticalization paths itself has recently been challenged by Deo (2014) for principled reasons. Deo (2014) discusses the progressive-to-imperfective-cycle, a phenomenon that seems to nicely fit the general idea of long-term paths. However, Deo (2014) uses it as an example to demonstrate that even here no reference to any path whatsoever is necessary to model the cycle. Instead, Deo (2014) insists on looking at each transition from one stage to the next individually. Deo (2014) explains each transition as a specific interaction between semantics and pragmatics, more precisely between encoded featural content of grammatical forms and the contributions of pragmatic inference. A path, or even a cycle, may (but need not) result from a sequence of such developments, but each development by itself must be modeled as a specific interaction of semantic specifications and inferred information (see also Deo 2015a).

In the present paper, too, we aim to offer explanations for the developments found in the history of (Upper) German based on interactions of temporal semantics with pragmatic inference. Moreover, we will try to model the relevant transitions in a non-deterministic way such that not only the developments found in (Upper) German (involving perfect expansion) can be accounted for but, in principle, also alternative developments that are not found in our data but in other languages, such as preterite expansion or simply persistence of the semantic perfect-preterite contrast.
2.2 Previous analyses: Monosemous vs. polysemous

The observation that the German perfect is not restricted to current relevance contexts (4a) but also found in narrative contexts (3b) has led to different analyses in the previous literature. Very broadly, they may be distinguished into monosemous and polysemous approaches. Monosemous approaches assign a single uniform meaning to the perfect. Polysemous approaches assume the existence of different readings of the perfect, most importantly a “perfectal” and a “preterital” reading.

A representative of the monosemous approach is Rothstein (2008; a monosemous approach is also proposed e.g., by Fabricius-Hansen 1986; Klein 2000; Rathert 2004; Schaden 2009). Following von Stechow (1999), Rothstein (2008: 26) rejects the idea of a genuinely “preterital” perfect. He argues that “[i]f one of the meanings of the present perfect were identical to the meaning of the past tense, we would expect the present perfect to be able to replace the past tense in any context.” He then goes on to show that “[s]ubstitution is, however, not always possible.” His examples include, among others, the ones in (5) (from Hamburger 1957: 65) and (6) (from von Stechow 1999: 98). The forms at issue are highlighted in bold.

(5) a. *Aber am Vormittag hatte sie den Baum zu putzen. Morgen war Weihnachten.*
   But in-the morning had she the tree to decorate tomorrow was Christmas.
   ‘But in the morning she had to decorate the tree. Tomorrow was Christmas.’
   (Rothstein 2008: 26, his glosses, his translation)

b. *Aber am Vormittag hatte sie den Baum zu putzen. Morgen ist Weihnachten gewesen.*
   But in-the morning had she the tree to decorate tomorrow is Christmas been.
   ‘But in the morning she had to decorate the tree. Tomorrow was Christmas.’
   (Rothstein 2008: 26, his glosses, his translation)

(6) a. Fritz dachte, dass es 8 Uhr war.
   Fritz thought that it 8 o’clock was
   ‘Fritz thought that it was eight o’clock.’

b. Fritz dachte, dass es 8 Uhr gewesen ist.
   Fritz thought that it 8 o’clock been is
   ‘Fritz thought that it had (already) been eight o’clock.’
   (Rothstein 2008: 26, his glosses, his translations)

In (5), according to Rothstein (2008), the replacement of the preterite by the perfect leads to ungrammaticality. Apparently, the future-in-the-past reading that is required for the sentence to work can be achieved by the preterite but not by the
perfect. In (6), the replacement of the preterite by the perfect is argued to lead to a change in meaning. Whereas the preterite in (6a) expresses simultaneity between the matrix clause predicate and the subordinate clause predicate, the perfect (6b) expresses anteriority of the latter. Rothstein (2008: 27) thus concludes:

[T]he present perfect and the past tense are not synonyms. I therefore follow accounts that assign a single uniform meaning to the present perfect, because a polysemous approach suffers in this respect from the shortcoming that one of the meanings of the present perfect is a past tense meaning and substitution between the past tense and the present perfect is therefore always possible.

A representative of the polysemous approach is Amft (2018; a polysemous approach has also been proposed e.g., by Reis 1891; Lindgren 1957; Dal 1960; Wunderlich 1970; Bäuerle 1979; Dentler 1997). Discussing Rothstein’s (2008) examples (5–6), Amft raises the objection that they constitute special functions of the preterite and do not, strictly speaking, have a “preterital function” (2018: 58), viz., the expression of E=R>S (2018: 59). In (5), we are looking at the so called ‘epic preterite’, a peripheral use of the preterite restricted to written, fictional, literary language. In (6), we are dealing with indirect thought; the preterite is here equivalent to a subjunctive form, which gives it a modal flavor (2018: 58). Amft therefore concludes that Rothstein’s examples do not challenge the assumption that there is a variant of the perfect that is semantically equivalent to the preterite – at least as long as we concentrate on the preterite’s main function, viz., the expression of E=R>S (2018: 58). Amft, then, assumes that the perfect has different meaning variants, the two most important ones of which are the “preterital” and the “perfectal” one (2018: 59).

The monosemous approach has the advantage of being very elegant: The two forms perfect and preterite are claimed to have invariant meanings each, and those meanings never fully coincide. On the other hand, there is little empirical support for that claim. Indeed, it seems to us that the monosemous approach is popular especially among theoretical semanticists whereas rather philological, i.e., empirically oriented work clearly favors the polysemous approach. Rothstein (2008: 25–26), too, acknowledges that the monosemous approach is favored for aprioristic rather than empirical reasons:

The analyses claiming that the present perfect only has one meaning seem to follow the more general assumption about language that total synonyms cannot exist. If the present perfect had exactly the same meaning as the past tense, these two tenses would be synonyms. […] Rathert [2004], for instance, exclusively motivates her monosemous approach by arguments such as elegance and simplicity. No attempt is made to motivate her analysis from an empirical point of view.
We see a major methodological flaw in much of the theoretically oriented work, namely circularity: Even Klein (2000: 371), who acknowledges two different readings of the perfect (a more ‘perfectal’ and a more ‘preterital’ one), claims that there is a meaning difference even between the ‘preterital’ reading of the perfect and the preterite itself:

But there is still a subtle difference between Perfekt and Präteritum. [...] They differ, however, in what is chosen as the time for which an assertion is made. This can be a time at which an interval with the described properties is over (Perfekt), or it can be a time which overlaps such an interval in the past (Präteritum). Thus, the choice is more an issue of how the situation in the past is presented: the Präteritum places the listener, as it were, in the midst of the situation in the past, as ongoing, processlike; whereas the Perfekt (under this reading) sees it from after the fact, as completed.

Thus, even in Klein’s (2000) ‘preterital’ reading of the perfect there is claimed to be a sense of completion or anteriority that is absent from the preterite. We cannot follow Klein’s intuition here and do not see any independent empirical support for it. We suspect that these semantic properties are being attributed to the perfect simply because otherwise the meanings of the preterite and the perfect in its ‘preterital’ reading would fully coincide. We do not understand why this should be problematic at all. On the contrary, we even believe that this coincidence explains much of the development of the tenses across varieties and registers (see below, Section 4.2).

We therefore follow Amft (2018) and the more philologically minded tradition in assuming that there is such a thing as a genuinely ‘preterital’ reading of the perfect. In other words, we assume that within its semantic core domain (E=R>S), the preterite may indeed always be replaced by the perfect. The polysemous approach appears to be much less problematic empirically. At the same time, however, it introduces quite a bit of descriptive complexity for the perfect because under this view the different meanings of the perfect must be enumerated. Recall that we consider the perfect the unmarked one of the two tenses (following Schaden 2009: 133). Consequently, it is undesirable to arrive at a relatively simple semantic representation of the more marked, contextually constrained tense (the preterite) and a relatively complex semantic representation of the less marked, contextually quite unconstrained tense (the perfect).

In sum: Neither the monosemous nor the polysemous approach is at the same time empirically fully adequate and theoretically elegant. In what follows, we propose an analysis that attempts to unify the advantages of the two approaches without inheriting their problematic aspects.
2.3 Our proposal: Reichenbach meets underspecification

Reichenbach’s revolutionary idea was to supplement the two rather obvious temporal anchors S and E with a third one, R. The issue with the Reichenbachian system is that S, E and R must be specified. Surprisingly, the theoretical literature has hardly ever considered that some of the Reichenbachian temporal anchors E or R could be left unspecified by a tense (but see our discussion of Waugh (1987); Andersson (1989); Bertinetto (2010) and Zifonun, Hoffmann & Strecker (1997) below). In the following, we will propose an analysis in precisely this spirit.

The concept of underspecification holds that underlying representations are not necessarily fully specified. While originally developed within phonological and morphological theory (Kiparsky 1982; Archangeli 1988; Lahiri & Reetz 2002), it has successfully been adopted by semanticists, too (Egg 2010: 166). The central idea is to give a reduced representation of ambiguous sentences where the shared properties of the two readings are represented in a uniform way but those properties giving rise to ambiguity are not specified (i.e., they may become fully specified in different ways). According to Egg’s (2010, in particular pp.172–174) overview, however, semantic underspecification has not yet been applied within the domain of tense (but see below), as cited work is centered around issues of quantifier scope and the like.

Reyle, Rossdeutscher and Kamp (2007) propose modeling ambiguities in temporal-aspectual relations in German by an explicit use of underspecification, putting special emphasis e.g., on the interaction of tenses and temporal adverbials and quantifiers. Also, they discuss the inherent ambiguity of the German present tense between progressive, habitual, historical, and prospective readings. As for the perfect, they discuss (i) the ambiguity of perfectal vs. resultative readings in sentences like Heute ist Paulchen verreist (Reyle, Rossdeutscher & Kamp 2007: 595) (lit. ‘today is P. departed’, meaning either ‘today P. has departed’ (perfectal) or ‘today (all day) P. is absent’ [our paraphrase] (resultative)), and (ii) the ambiguity stemming from quantifier scope in sentences like Paulchen hat oft getrunken (Reyle, Rossdeutscher & Kamp 2007: 596) (lit. ‘P. has often drunk’, meaning either ‘before the utterance time there were many occasions when Paulchen drank’ or ‘it is repeatedly the case that P. has drunk’ [our paraphrase]). Crucially, however, Reyle, Rossdeutscher and Kamp (2007) do not, as far as we can see, discuss the German perfect’s ambiguity between what is traditionally called perfectal vs. preterital meanings (i.e., in our terms, current relevance vs. narrative past readings).

Analyses of the relationship between the perfect and the preterite (or comparable problems in Romance languages) in the spirit of an underspecification approach can, however, be found in Waugh (1987); Andersson (1989); Bertinetto
Waugh (1987), as presented by Fischer (2018: 264–266), investigates the development of the French *passé composé*, which used to show a deictic reference to the present but can now also be used as a perfective past, thereby ousting the *passé simple*. Rather than treating the *passé composé* as a “temps à deux visages” (Waugh 1987: 3; Fischer 2018: 267), Waugh attributes the form a single basic meaning. This meaning, however, is so general that, depending on context, it invites a continuum of different readings, ranging from (the older) retrospective present to (the newer) perfective past. Factors influencing its interpretation in a particular utterance include, among others, “extensive discourse and pragmatic considerations” (Waugh 1987: 5; Fischer 2018: 268), which, however, are not described in more detail (cf. Fischer 2018: 270). Andersson (1989: 41) develops the ideas (i) that a given tense need not specify R and (ii) that a tense that does not specify R may form a privative opposition with one that does. Specifically, he assumes that the German preterite only specifies E>S (i.e., R is unspecified), whereas the perfect adds R=S, which makes it a fully specified tense, E>R=S. The idea that a past tense may be specified simply as E>S is also put forth by Bertinetto (2010: 5–6). Bertinetto refers to this type of past tense as *aorist*, and he proposes that the cross-linguistically observable tendency for perfect tenses to develop into such an aoristic past may be conceptualized as a (gradual) “loss of the R component” (from E=R>S to simply E>S).

Zifonun, Hoffmann and Strecker (1997), on the whole, present a fairly complex analysis of the German tense system (1997: 1711–1713). First, they operate with four instead of three temporal anchors: In addition to E (*Ereigniszeit* ‘event time’) and S (*Sprechzeit* ‘speech time’), they introduce what is called *Betrachtzeit* (roughly ‘time that is looked at’) and *Orientierungszeit* (‘orientation time’). Second, Zifonun, Hoffmann and Strecker (1997) advocate a compositional approach to periphrastic tenses such as the present perfect, which means that both the auxiliary and the participle each contribute their own set of temporal anchors. Crucially, however, Zifonun, Hoffmann and Strecker (1997) – just as Andersson (1998) and Bertinetto (2010) do – also assume that tenses need not specify all temporal anchors semantically, and it adds the idea that tenses can leave part of their interpretation to pragmatic inference (1997: 1695).

We do not follow Zifonun, Hoffmann and Strecker (1997) in their particular analysis: First, the two anchors *Betrachtzeit* and *Orientierungszeit* are not clearly defined. Second, we take issue with their compositional analysis. Although this approach is quite widespread in the literature (cf. Musan 2002; Portner 2011; Grønn & von Stechow, to appear, for an overview), as far as we can see, it only works for languages that have a contrast between a synthetic past and a periphrastic perfect. It will be shown, however, that both early Germanic and modern Zurich German do not possess such a contrast (Sections 3 and 4 below).
OHG’s synthetic preterite allows both narrative and current relevance readings, and Zurich German’s periphrastic perfect allows both readings, too. Obviously, the readings in both languages cannot be derived compositionally. Third, since both the auxiliary and the participle contribute their own Betrachtzeiten, the total number of temporal anchors needed to characterize the semantics of the perfect is as high as five – a degree of complexity which obscures the fact that the perfect is extensionally wider (and should therefore be represented as being intensionally poorer) than the preterite. We do, however, follow Zifonun, Hoffmann and Strecker (1997) in their principled idea that tenses may leave part of their interpretation to pragmatics.

Following Andersson (1989), we assume that the perfect-past-opposition in German is a privative one between a tense that does specify R and a tense that does not. However, the empirical evidence as well as theoretical considerations (see above) strongly suggest that – contra Andersson (1989) – it is the preterite rather than the perfect whose semantics is more specific: While the perfect is compatible both with current relevance contexts and with narrative contexts, the preterite is compatible only with the latter. Therefore, we assume (i) that the preterite is fully specified and (ii) that it is specified as in (7), i.e., just as in Reichenbach’s (1947) original analysis of narrative past tenses such as the English simple past.

(7) German Preterite: E=R > S

As for the perfect: The fact that it may occur in current relevance contexts as well as in narrative contexts suggests that it does not specify R=S. Instead, we assume that R is simply left unspecified. Precisely this analysis is also proposed by Bertinetto (2010: 6) for the perfect in varieties of Italian. Thus, we will be arguing that the same analysis applies to German, and, crucially, not only to those southern dialects where the perfect is the only remaining past tense but even to varieties where the preterite still exists. As mentioned above, Bertinetto (2010: 6) calls this type of past tense aorist or aoristic past. We will be referring to it by the term unspecified past.  

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8. See Nilsson (2016) for (fairly restricted) exceptions to this generalization. We briefly discuss Nilsson’s (2016) findings in Section 4.2.4. See also our discussion of the relevant verbs in Section 4.2.4.

9. As with the terms narrative past and current relevance past, this is in order to achieve a clear distinction between forms and functions. By adopting Bertinetto’s term aorist, we would be blurring this distinction as it often used to refer to a particular form within a given language.

10. The analysis of the perfect as simply E>R predicts yet another reading, namely E>R>S, i.e., anteriority in the past, i.e., the reading usually associated with the form referred to as pluper-
German Perfect: $E > S$

Even though R is not specified in the *abstract invariant semantics* of the perfect, we argue that it is nonetheless specified in *actual uses* of it. In the spirit of Waugh (1987:5) and Zifonun, Hoffmann and Strecker (1997:1695), we assume that where a tense does not specify R, R will be inferred pragmatically, and, in the spirit of Zifonun, Hoffmann and Strecker (1997:1695), we assume that there is a default-setting for R, namely $R=S$. That is, unless required by overt specifications (cf. the preterite) or by context (e.g., in a narrative sequence), there is no need for speakers to set an R dissociated from the origo. Implicitly, the idea that there is such a thing as a default setting of R and that this default setting is $R=S$ is already expressed by Andersson (1989:41), who speaks of the “structural strength of the point of speech as the preferred point of reference within the temporal orientation system.”

Our proposal has a number of advantages: First, in contrast to both Andersson (1989) and Bertinetto (2010), it explicitly accounts for the division of labor between encoded (overt) information and pragmatic inference and thus clearly distinguishes where their full interpretations come from (encoded by the tense form vs. inferred). Second, the proposal accounts for the partial functional

11. Original in German: “die strukturelle Stärke des Sprechzeitpunkts als bevorzugter Bezugspunkt im temporalen Orientierungssystem”.

flect or preterite-perfect. This is indeed true of numerous varieties of German, including dialects as distinct as Low German (Thies 2010:62) and Upper German (Zurich German) (Weber 1987:254–255). Examples of this usage in the Zurich German Bible translation used in the studies A and B (cf. Section 3.1 below) are abundant, e.g., Matthew 1:24: *When Joseph woke up, he did what the angel of the Lord had commanded him and took Mary home as his wife* (English, New International Version): *Wo dann de Josef vertwachet isch, hät er s soo gmacht, wien em s de Ängel vo Gott beföle hät, und er hät siini Frau zue sich gnaa* (Zurich German), lit. ‘When then the Joseph woken up is, has he it so made, as him it the angel of God commanded has, and has his wife to him taken’.

On the other hand, there is one usage of the perfect that is not predicted by the analysis, namely anteriority in the future (*Sobald ich das fertiggelesen habe, mache ich Feierabend* ‘As soon as I have finished reading that, I will call it a day’). Here, E is later than S but before an R in the future. We won’t discuss this usage any further here (it is completely absent from the corpus investigated), but it suggests that the semantic specification of the perfect is even less specific, namely: $E > S$. The perfect specifies anteriority relative to some other temporal anchor. What exactly this temporal anchor is and where it is placed is a matter of contextual inference. In the absence of contextual information, speakers infer the default, i.e., $E=S=R$. Therefore, anterior-in-the-future readings never arise without a context requiring them.
overlap between the preterite and the perfect in narrative contexts, but, crucially, in narrative contexts only. Third, the proposal accounts for the asymmetry between the perfect as the more general, less marked tense vs. the preterite as the more specific, more marked tense in the sense that we analyze the perfect as semantically (intensionally) poorer than the preterite. This is new. All existing analyses describe the perfect as somewhat more complex semantically (probably due to its greater variety of actual meanings in context).\textsuperscript{12} We claim that the opposite is true: The perfect allows for a greater range of interpretations because it is semantically relatively poor. Fourth, our analysis does not invoke some kind of current relevance semantics constantly present in all perfect uses (be it in terms of Rothstein's (2008) Extended Now or in terms of anything else). Instead, current relevance is present sometimes (via contextual inference or by default) – and sometimes it is not (via contextual inference overriding the default). Previous descriptions referring to current relevance semantics inherently related to the perfect are thus illusionary: It is not the case that the German perfect encodes current relevance. Rather, it is the case that the preterite encodes absence of current relevance. In other words, the ban on current relevance readings is a specific semantic property of the preterite rather than the expression of current relevance being a property of the perfect. The perfect is merely compatible with current relevance readings, but it does not explicitly specify current relevance. In sum, the proposal has (among other things) the same empirical advantages as the ‘polysemous’ approach discussed in Section 2.2 above, but without invoking any polysemy. Instead, the perfect does have an invariant semantics, namely $E \succ S$, and its flexibility between current relevance and narrative past readings is due to the relative poorness of that invariant semantics, which we represent explicitly by means of underspecified $R$.

\textsuperscript{12} The Duden Grammar (2016: 518) attributes the perfect a “double face” (\textit{doppeltes Gesicht}), a property that is claimed to be absent from the preterite. Zifonun, Hoffmann and Strecker (1997:1707), too, categorize the perfect as more complex than the preterite. By contrast, Schaden (2009) (correctly, in our view) acknowledges that in German the perfect is less marked than the preterite. However, this assumption appears to be somewhat surprising given Schaden's own semantic representations of the two tenses (simple representation of the preterite, complex representation of the perfect; cf. Schaden 2009:130–131), so that Schaden (2009) must achieve it by stipulation. He admits: “I would like to note at this point that it is not possible to simply derive the markedness from some intrinsic properties of the present perfect and the simple past” (Schaden 2009:133). This impossibility is due to Schaden’s (2009:133) (unsupported, in our view) claim “that the semantics of present perfects are identical for the languages investigated here [i.e., German, French, English, Spanish], and that these languages also attribute one and the same semantics to their simple past tense”. In our account, the asymmetry follows naturally from the semantic representations without any further stipulations.
Our proposal also has a number of implications for diachrony: First, recall that in earlier historical periods the German perfect could not yet be used as a narrative past (cf. Section 2.1). According to Dentler (1997, 1998), its spread from current relevance contexts into narrative contexts did not gain momentum until after the 14th century. In other words, at least in Old High German and (early) Middle High German, the perfect can still be analyzed consistently as a past tense specialized for current relevance. Thus, at some point (as yet to be determined, see Sections 3 and 4), it must have undergone a semantic change from E>R=S to simply E>S. As pointed out above, the idea that perfect expansion may be conceptualised as a loss of the R component has already been formulated by Bertinetto (2010: 6). We will show that such a development has indeed occurred in German, and not only in those southern dialects that have lost the preterite and, along with it, the contrast between two past tenses with different R settings entirely. We argue that it has also occurred in more northerly varieties as well as in (colloquial) Standard German, where the preterite still exists. After all, recall that perfect expansion is characteristic of all those varieties (cf. Section 2.1). All that varies is the extent to which this option is actually being made use of. While in most varieties, the perfect still competes with the preterite, in Upper German, the perfect has become obligatory. In other words: “Perfect expansion”, understood as the semantic change enabling the perfect to be used in narrative contexts originally reserved for the preterite, is characteristic of most if not all (colloquial) varieties of German. The only thing that is particular to Upper German is “preterite decay”, understood as the purely formal loss of preterite forms. While Bertinetto (2010: 6) merely observes the tendency for current relevance tenses to lose their R, we will aim to explain this tendency, offering an account based on pragmatic inference (Section 4).

Second, it is generally assumed that Proto-Germanic had only one past tense, namely the preterite, which was used in narrative and in current relevance contexts. This state of affairs is still found in Gothic, the earliest Germanic language documented (Braune/Heidermanns 2004: § 167; Dal 2014: 156). The following example is representative of an intended current relevance reading, yet it is encoded by the preterite (what else, one might ask):

(9) guþ meins, guþ meins, duhe mis bilaist?
‘My God, my God, why have you forsaken me?’ (Mark 15:34) (www.wulfila.be, syntacticus.org)

The perfect does not begin to grammaticalize (from resultative constructions, cf. Gillmann 2016) until the Old High German period. We claim that the single past tenses of Proto Germanic and modern Upper German are semantically identical
in the sense that they are both unspecified pasts, thus simply E>S. The only difference is formal exponence: synthetic (preterite) vs. analytic (perfect). If this is correct, it follows that the synthetic preterite, too, has undergone a semantic change: from E>S to E=R>S. To our knowledge, this change has never been discussed (let alone explained) in the existing literature. We will aim to explain this process, too, on the basis of pragmatic inference.

Third, if we compare the oldest Germanic languages with modern Upper German, the development from a current relevance past (E>R=S) to an unspecified past (E>S) appears to be a cyclic one, with modern Upper German being the completion point of the cycle (and the potential starting point for a next cycle). In the following Section 3, we will provide empirical evidence for the diachronic stages and transitions postulated above. In Section 4, we will propose that the transitions can be motivated on the basis of the interaction between semantics and pragmatics, much in the spirit of Schaden (2009) and Deo (2015a, 2015b).

A notorious problem with Reichenbach’s approach is that he never gave a proper definition of R. (He merely exemplified it, pointing out that an English sentence in the pluperfect such as Peter had gone does not simply locate an event as preceding S but also as preceding some other point itself preceding S.) Later analyses of the present perfect have taken issue with this problem and dealt with it in different ways. For example, Klein (1994, 2000) instead operates with the notion of ‘topic time’ (“time span to which the speaker’s claim on this occasion is confined” 1994: 4) as a third anchor in addition to S (‘time of utterance’, in Klein’s terminology) and E (‘time of situation’), while Rothstein (2008) operates with the notion of an ‘extended now’, according to which the present perfect introduces an interval beginning in the past and ending at the moment of speech.

13. It is interesting to note that the semantic shift resultative > current relevance past > unspecified past, as it is attested for the periphrastic perfect in the observable history of German, finds a parallel in pre-historical (reconstructed) stages. After discussing this semantic shift in Latin, Romance, and Celtic, Ringe (2006) concludes: “A similar change occurred in pre-PGmc as well: most PIE and post-PIE perfects have undergone the complete semantic development from stative through ‘resultative’ perfect (indicating a past action and its present result) to simple past” (Ringe 2006: 180; cf. also Braune/Reiffenstein 2004: 256). This suggests that both the (strong) preterites of the oldest Germanic languages and the periphrastic perfect of modern Upper German are the endpoints of such a semantic shift. Looking at both developments in combination (and leaving aside further complications such as the transition of the PIE verbal system from a purely aspectual to a temporal-aspectual system, or the general reduction of verbal categories from PIE to Proto-Germanic) we might even say that the semantic shift resultative > current relevance past > unspecified past has occurred twice in the reconstructable history of modern Upper German: from PIE to Proto-Germanic (first cycle), and from Proto-Germanic to modern Upper German (second cycle).
Ultimately, what those (and other analyses) aim to capture is what Comrie (1976) loosely refers to as ‘current relevance’. And – crucially – no matter how this specification of the perfect is being modelled, the main problem that we are concerned with in this paper is a different one, namely: *On the basis of what semantic-pragmatic mechanisms does the perfect lose this kind of semantic specification such that it becomes available not just in classically ‘perfectal’ contexts but also in contexts previously reserved for the preterite?* In other words, while there certainly are numerous excellent analyses of how to characterise the precise semantics of the perfect, independently of this, we still need an account of how and why this specification enters and leaves the system – questions, by the way, that arise not just with respect to the perfect but also with respect to the preterite.

It is precisely because the definition of R is controversial and unclear that we will be treating it as a black box, largely ignoring the question of its precise substance. As will become apparent, the notion of R nonetheless provides us with valuable insights into the mechanics of variation and change in the domain of past time reference in the history of German.

3. **Diachronic corpus study**

3.1 Goals, methodology and data

Considering how rich the literature on the diachronic development of German past tenses is, it is very surprising that so far no longitudinal empirical study has been conducted that covers the whole attested history of the language (and its dialects). According to Fischer’s (2018: 147–153) very helpful overview, previous work concentrates in the Early New High German period:

We believe that longitudinal studies have been lacking because previous researchers have looked at e.g., preterite decay in isolation instead of viewing it as a mere fraction of a more general, cyclic development of past tenses. And even though Fischer (2018) certainly offers the currently most comprehensive discussion of the existing literature, her own empirical study concentrates on dialect-geographical material from the late 19th / early 20th centuries.

In the present paper we therefore aim to conduct the first longitudinal study on the expression of past time reference in German that covers all diachronic stages. For this study we used the Gospel of Matthew as a parallel corpus. The choice of a biblical text was motivated by its availability for all diachronic stages of German. It allows us to examine how, over time, the same (intended) semantic content is being mapped onto different morphological exponents. For the same reasons, parallel analysis of biblical texts has become a standard procedure in

We aim to answer two main questions: (i) When and how did the preterite disappear from current relevance contexts? I.e.,: At some point, the perfect became obligatory in those contexts such that the preterite became restricted to narrative contexts, i.e. its semantics became specifically narrative past (from E>S to E=R>S) (study A). (ii) When and how did the perfect spread into narrative past contexts? I.e.,: The perfect’s original current relevance semantics became less specific (from E>R=S to E>S) (study B).

As for methodology: We started out with a modern English translation and used the distribution of the present perfect vs. the simple past as a proxy for identifying E>R=S-contexts and E=R>S-contexts, respectively. We then checked what tense form was used in the corresponding text passage in German translations from different periods (study A: translations corresponding to English present perfect; study B: translations corresponding to English simple past). We chose to use English as our tertium comparationis because, with certain qualifications, modern English marks the relevant semantic contrast between a narrative past and a current relevance past fairly clearly and, most importantly (and unlike German), without great functional overlap (cf. e.g., Comrie 1976: 53–55).  

14 We will briefly mention two problems, though. First, there is at least one respect in which the distribution of the English perfect is rather exceptional from a typological perspective: It concerns the so called “perfect of persistent situation” (also known as “universal perfect”), where reference is made to “an event that started in the past but continues (persists) into the present”, e.g., we’ve lived here for ten years (Comrie 1976: 60).
method is used by MacLeod (2014) in a study of the preterite in Old English: “[I]f a Modern English perfect or pluperfect is the only acceptable rendering of an Old English preterite, the latter is considered to represent the perfect or pluperfect semantic domain” (MacLeod 2014: 323). As for English-German translation equivalents, Klein (2000: 258–359) proposes that “the German Perfekt has a reading in which it corresponds to the English present perfect [...] and another one in which it corresponds to the [...] past”.

We did not choose the original Greek Koiné text as the starting point of our comparison for two reasons. First, the earliest two German translations included in our study are not translated from Greek anyway (but from Latin). Second, and more importantly, despite the otherwise great temporal-aspectual complexity of its verbal system, Greek does not systematically distinguish between the functions of narrative vs. current relevance past since the Greek verbal system is based on aspect (imperfective stem vs. aorist stem, i.e., non-imperfective stem) rather than on tense (Bornemann & Risch 1978: 213–214), such that the functions of narrative vs. current relevance past are both usually expressed by the finite aorist. The finite aorist can be characterized as non-imperfective with regard to aspect (Bornemann & Risch 1978: 75, 214) and as general past with regard to tense. It is by far the most frequent finite form found in the relevant text instances. The finite aorist contrasts with the imperfect, which is, however, used relatively rarely and designates aspectually clearly habitual or progressive events. Both finite aorist and imperfect are past tenses (morphologically expressed by the prefix e-, the so-called ‘augment’; Bornemann & Risch 1978: 76), and they are in sharp contrast

Comrie notes that most languages seem to employ a different verb form here, citing French, German and Russian as languages that use the present instead. Of the 84 instances of the perfect found in our corpus, three qualify as perfect of persistent situation, e.g., Matthew 15:32 they have already been with me for three days. And indeed, most of the German Bibles use the present tense here.

Another complication concerns the fact that there is variation even within English with respect to the delimitation between perfect and preterite (cf. e.g., Comrie 1976: 53–54, fn. 2; MacLeod 2014: 323–324). As is well-known, for example, American English tends to prefer the simple past in certain cases in which British English would prefer or even require the perfect, such as the description of recent relevant events (I already ate).

15. We did analyze the 84 predicates from study A (see below for explanations) and the 50 predicates from study B for the Greek Gospel of Matthew, too, using the text version from www.syntacticus.org (last access: 18 June 2018). As for study A (equivalents of English present perfect), 66 predicates are expressed by the finite aorist in Greek (imperfect: 2 predicates; perfect: 6 predicates; other forms (nonfinite, present tense): 10 predicates). As for study B (equivalents of English simple past), 24 predicates are expressed by the finite aorist (imperfect: 4 predicates, perfect: 1 predicate; other forms (nonfinite, present tense): 21 predicates, 14 of which are aorist participles).
with the perfect, which is not a past tense (lacking an ‘augment’) but a resultative (and is used only rarely, too) (Bornemann & Risch 1978: 215; cf. also Blass & Debrunner/Funk 1961; Campbell 2008).

Despite its shortcomings, the procedure chosen appears preferable to relying on our own philological interpretations of the intended meanings of individual text passages. This is because with respect to our particular research questions, relying on our own intuitions appears too susceptible to circular reasoning. For example, we might be tempted into attributing a current relevance reading to a particular instance of the perfect just because it is generally assumed that wherever we find the perfect there must be current relevance.

Using the English present perfect vs. simple past contrast as a proxy for putatively current relevance vs. narrative contexts has yet another, more practical advantage. Most of the texts we analyzed do not yet exist in machine-readable format. Two of them (Froschauer-I, Froschauer-II) are even available only as digital reproductions of the original prints. This raises the question of how we can gain a reliable picture of the distribution of tenses in current relevance vs. narrative past contexts within a reasonable period of time. Dividing the corpora into two subcorpora (i.e., the translation equivalents of English present perfect or simple past, respectively) turned out to be a viable procedure to relatively quickly achieve quantitatively robust results concerning the expansion of the German perfect despite the fact that the relevant text passages had to be read and analyzed by hand.

As for the Bible translations used: The Modern English Bible that we used as our starting point is the New International Version, originally published in 1978 and last updated in 2011, translated from Greek. The German translations that we investigated are listed in Table 1.

As Table 1 shows, we investigated a total of seven Bible translations, five historical and two contemporary ones. The historical translations include one in Old High German (Tatian), one in Middle High German (Beheim), two in Early New High German (Froschauer-I 1534, Luther 1545), and one in later Early New High German (Froschauer-II 1687). The two contemporary translations include one in a modern Upper German dialect, viz. Zurich German (S Nöi Teschtamänt Züritüütsch), and one in Modern Standard German (Zürcher Bibel). The corpus places a certain focus on the city of Zurich in the Upper German dialect area (four translations), i.e., the heartland of preterite decay. The Zurich translations give us three equilocal diachronic snapshots as well as an impression of the bifurcation into modern written standard language and vernacular dialect.
Table 1. German Bible translations investigated

<table>
<thead>
<tr>
<th>Diachronic stage/variety</th>
<th>Text/translation</th>
<th>Year</th>
<th>Translated from</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old High German (OHG)</td>
<td>Tatian</td>
<td>c. 830</td>
<td>Latin</td>
</tr>
<tr>
<td>Middle High German (MHG)</td>
<td>Beheim’s Gospel Book</td>
<td>1343</td>
<td>Latin</td>
</tr>
<tr>
<td>Early New High German (ENHG), with a strong Upper German flavor (cf. Lavater 1997)</td>
<td>Froschauer-I</td>
<td>1534</td>
<td>Greek</td>
</tr>
<tr>
<td>Early New High German (ENHG)</td>
<td>Luther</td>
<td>1545</td>
<td>Greek</td>
</tr>
<tr>
<td>Later Early New High German (Later ENHG), with a strong Upper German flavor (cf. Lavater 1997)</td>
<td>Froschauer-II</td>
<td>1687</td>
<td>Greek</td>
</tr>
<tr>
<td>Modern Upper German dialect (Zurich German)</td>
<td>S Nöi Teschtamänt Züritüütsch</td>
<td>2011</td>
<td>Greek</td>
</tr>
<tr>
<td>Modern Standard German</td>
<td>Zürcher Bibel</td>
<td>2007</td>
<td>Greek</td>
</tr>
</tbody>
</table>

3.2 Results for study A: Forms used in current relevance contexts

In our first study, we identified all instances of the present perfect found in the Gospel of Matthew in the modern English translation and then identified the forms used in the corresponding passages in the seven German Bible translations listed in Table 1. For the time being, we did not consider the present perfect progressive (the kingdom of heaven has been forcefully advancing, Matthew 11:12) or the perfect in combination with the passive (the kingdom of heaven has been given to you, Matthew 13:11). Thus counting, the Gospel of Matthew contains 84 instances of the present perfect, all of them occurring in direct speech.

Table 2 shows which forms are used in the seven German Bible translations. As can be seen, we only distinguished three categories: (i) ‘perfect’, (ii) ‘preterite’ and (iii) any other form, unclear form or missing passage (see below for a breakdown of this category). Under ‘perfect’ we only counted instances with the respective auxiliary (have or be) in the indicative present. The subjunctive perfect was counted as ‘other’. We postpone any discussion of the tables presented in this and the next subsection until Section 3.4.

Table 3 presents what we call the perfect value for each text, calculated as the number of instances of the perfect divided by the sum of the number of instances of the perfect and the number of instances of the preterite (# of perfect / (# of perfect + # of preterite/past)). Thus, this value may vary between 1.0 (only perfect, no preterite) and 0.0 (no perfect, only preterite). Modern English would receive the maximum value of 1.0, but only definitionally so. Recall that the sample is defined by those cases where English uses the present perfect. Graphically, the perfect val-
Table 2. Forms used in English present perfect contexts

<table>
<thead>
<tr>
<th>form</th>
<th>OHG (Tatian)</th>
<th>MHG (Beheim)</th>
<th>ENHG (Froschauer-I 1534)</th>
<th>ENHG (Luther)</th>
<th>Later ENHG (Froschauer-II 1687)</th>
<th>Modern Standard German</th>
<th>Modern Zurich German dialect</th>
</tr>
</thead>
<tbody>
<tr>
<td>perfect</td>
<td>3</td>
<td>65</td>
<td>72</td>
<td>69</td>
<td>69</td>
<td>74</td>
<td>77</td>
</tr>
<tr>
<td>preterite</td>
<td>54</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>other/unclear/missing</td>
<td>27</td>
<td>14</td>
<td>12</td>
<td>15</td>
<td>15</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>total</td>
<td>84</td>
<td>84</td>
<td>84</td>
<td>84</td>
<td>84</td>
<td>84</td>
<td>84</td>
</tr>
</tbody>
</table>

Values for the translations corresponding to the English present perfect can be visualized as in Figure 2.

Table 3. Perfect values in English present perfect contexts

<table>
<thead>
<tr>
<th>form</th>
<th>OHG (Tatian)</th>
<th>MHG (Beheim)</th>
<th>ENHG (Froschauer-I 1534)</th>
<th>ENHG (Luther)</th>
<th>Later ENHG (Froschauer-II 1687)</th>
<th>Modern Standard German</th>
<th>Modern Zurich German dialect</th>
</tr>
</thead>
<tbody>
<tr>
<td>perfect value</td>
<td>0.05</td>
<td>0.93</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>0.97</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Figure 2. Perfect value in English present perfect contexts
Table 4 breaks down the category ‘other/unclear/missing’. The order in which the forms are listed (from top to bottom) follows the number of translations in which the form occurs at least once. Where two or more forms occur in the same number of translations, they are arranged in alphabetical order.

### Table 4. ‘Other’ forms used in English present perfect contexts

<table>
<thead>
<tr>
<th>form</th>
<th>OHG (Tatian)</th>
<th>MHG (Beheim)</th>
<th>ENHG (Froschauer-I 1534)</th>
<th>ENHG (Luther)</th>
<th>Later ENHG (Froschauer-II 1687)</th>
<th>Modern</th>
<th>Standard German</th>
<th>Modern Zurich German dialect</th>
</tr>
</thead>
<tbody>
<tr>
<td>present</td>
<td>10</td>
<td>6</td>
<td>9</td>
<td>9</td>
<td>7</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>no verb</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>‘stative’*</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>unclear</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>passive (be plus past participle)</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>present perfect subjunctive</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>present subjunctive</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>be + present participle</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>future perfect</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>passage missing</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>past subjunctive</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>present participle</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>total</td>
<td>27</td>
<td>14</td>
<td>12</td>
<td>15</td>
<td>15</td>
<td>8</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

* We use this term to describe a construction combining finite *stehen* ‘stand’ with the participle *geschrieben* ‘written’ as in *denn so steht es durch den Propheten geschrieben* ‘for this is what the prophet has written’ (Modern Standard German, Matthew 2:05) as found in Froschauer-I 1534, Luther, Froschauer-II 1687, Modern Standard German and the Modern Zurich German dialect.

As can be seen, apart from verb-less renditions, unclear forms and missing passages, we find a total of nine other verb forms. The only one that is found across all seven translations is the present. Across all translations, the present is also the most frequently used other form. As can also be seen, the high number for ‘other/missing/unclear’ in OHG is partly due to missing text passages.
3.3 Results for study B: Forms used in narrative contexts

In our second study, we identified the first fifty instances of the English simple past and, again, identified the forms used in the corresponding passages in the seven German Bible translations. We did not, however, include the copula be in our analysis. 16 48 of the 50 instances occur in the narrator’s text; the remaining two occur in direct speech. Table 5 shows the results.

Table 5. Forms used in English simple past contexts

<table>
<thead>
<tr>
<th>form</th>
<th>OHG (Tatian)</th>
<th>MHG (Beheim)</th>
<th>ENHG (Froschauer I 1534)</th>
<th>ENHG (Luther)</th>
<th>Later ENHG (Froschauer II 1687)</th>
<th>Modern Standard German</th>
<th>Modern Zurich German dialect</th>
</tr>
</thead>
<tbody>
<tr>
<td>perfect</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>29</td>
<td>3</td>
<td>45</td>
</tr>
<tr>
<td>preterite</td>
<td>38</td>
<td>43</td>
<td>46</td>
<td>46</td>
<td>10</td>
<td>39</td>
<td>0</td>
</tr>
<tr>
<td>other/ unclear/ missing</td>
<td>12</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>11</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>total</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
</tbody>
</table>

Table 6 presents the corresponding perfect values. This time, Modern English would receive the minimum value of 0.0, again, however, only definitionally so.

16. Even though we excluded the copula mainly for practical reasons – otherwise most of the first fifty instances corresponding to English simple past uses would have been the same verb be again and again – it must be noted that the development of the copula is qualitatively different and thus deserves a separate investigation, which is, however, beyond the scope of the present paper. For the preterite war ‘was’ may well persist even if the preterite is lost otherwise, a state of affairs that is known from southern German dialects outside of Switzerland (cf. Rowley 1983: 163–166) and also from Pennsylvania Dutch (Barba & Huffington 1954: 63; Haag 1982: 148). Swiss German dialects (including our Zurich German translation) have eliminated the preterite altogether, i.e., even from the paradigm of the copula. As for Pennsylvania Dutch, the preterite is lost, too, as far as all verbs other than the copula are concerned; we found a perfect value of 1.0 for the first fifty Modern English simple past uses (excluding the copula) in the Pennsylvania Dutch translation of the Gospel of Matthew (Es Nei Teshtament 2002) (see Table 10 further below in Section 4.2.4). However, in the same text sample, which includes the first two chapters of the Gospel, we found only preterite but no perfect forms of the copula. The copula’s adherence to the preterite is attested in the later ENHG translation of Froschauer (1687) already: Here, despite the remarkably high perfect value in the first fifty instances corresponding to non-copular Modern English simple past uses (0.74), the copula appears only in the preterite but not in the perfect in the same text sample.
The perfect values are visualized in Figure 3. Table 7 breaks down the category ‘other/unclear/missing’.

Table 6. Perfect value in English simple past contexts

<table>
<thead>
<tr>
<th></th>
<th>OHG (Tatian)</th>
<th>MHG (Beheim)</th>
<th>ENHG (Froschauer-I 1534)</th>
<th>ENHG (Luther)</th>
<th>Later ENHG (Froschauer-II 1687)</th>
<th>Modern Standard German</th>
<th>Modern Zurich German dialect</th>
</tr>
</thead>
<tbody>
<tr>
<td>perfect value</td>
<td>0.0</td>
<td>0.07</td>
<td>0.06</td>
<td>0.04</td>
<td>0.74</td>
<td>0.07</td>
<td>1.0</td>
</tr>
</tbody>
</table>

![Figure 3. Perfect value in English simple past contexts](image)

As can be seen, apart from verb-less renditions, unclear forms and missing passages, we find a total of seven other verb forms. The ones with the widest distribution are the pluperfect (occurring in four out of our seven translations) and the present (three translations). The OHG translation stands out by frequently employing a present participle construction; a characteristic feature of Froschauer 1687 is the frequent use of auxiliary ellipsis.
Table 7. ‘Other’ forms used in English simple past contexts

<table>
<thead>
<tr>
<th>form</th>
<th>OHG (Tatian)</th>
<th>MHG (Beheim)</th>
<th>ENHG (Froschauer-I 1534)</th>
<th>ENHG (Luther)</th>
<th>Later ENHG (Froschauer-II 1687)</th>
<th>Modern Standard German</th>
<th>Modern Zurich German dialect</th>
<th>Number of translations in which it occurs</th>
</tr>
</thead>
<tbody>
<tr>
<td>pluperfect</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>present</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>no verb</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>passive (be plus past participle)</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>present participle</td>
<td>9</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>double perfect</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>passive (become + past participle)</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>past participle (aux ellipsis)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>unclear</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>total</td>
<td>12</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>11</td>
<td>8</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

3.4 Summary and discussion of the results

Table 8 summarizes the quantitative results by combining the perfect values from Tables 3 and 6 into one table. Likewise, Figure 4 combines the results from Figures 2 and 3 into one figure.

The central observations include the following: In OHG (Tatian), the normal tense for past events is the preterite. Crucially, not only is it the only form available in narrative contexts. It is also the dominant form in current relevance contexts. The newly grammaticalized current relevance past (E>R=S), i.e., the perfect, does occur, but it is still rare at this point. The examples in (10–12) are translations of Bible verses where the modern English translator used the present perfect, which we interpret as an indication of current relevance. OHG uses the preterite here.
Table 8. Summary: Perfect values in English present perfect and simple past contexts

<table>
<thead>
<tr>
<th></th>
<th>OHG (Tatian)</th>
<th>MHG (Beheim)</th>
<th>ENHG (Froschauer-I 1534)</th>
<th>ENHG (Luther)</th>
<th>Later ENHG (Froschauer-II 1687)</th>
<th>Modern Standard German</th>
<th>Modern Zurich German dialect</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>present</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>perfect contexts</td>
<td>0.05</td>
<td>0.92</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>0.97</td>
<td>1.0</td>
</tr>
<tr>
<td>simple past</td>
<td>0.0</td>
<td>0.07</td>
<td>0.06</td>
<td>0.04</td>
<td>0.74</td>
<td>0.07</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Figure 4. Summary: Perfect values in English present perfect and simple past contexts

Note that in a form-by-form translation of the OHG version into modern German, the preterite would sound very odd (e.g., (11): *Mein Gott, mein Gott, warum verließest du mich?*).

(10) *Furstuontut ír thisu elliu?*  
understand-pret you:pl this all  
‘Have you understood all these things?’ (OHG, Tatian, Matthew 13:51)

(11) *got min, got min, ziu forliezi thu mih*  
god my god my why forsake-pret you me  
‘My God, my God, why have you forsaken me?’ (OHG, Tatian, Matthew 27:46)

(12) *Nist ēr hier: her arstuont*  
NEG-is he here he rise-pret  
‘he is not here: he has risen’ (OHG, Tatian, Matthew 28:06)
By MHG (Beheim), the perfect has become quasi-obligatory in current relevance contexts. At the same time, it is still found in current relevance contexts only, i.e., it has not spread to narrative contexts yet. As in the English translation, the perfect is largely restricted to direct speech; it is usually not yet found in the narrator’s text. The situation continues like this in ENHG (Froschauer-I 1534; Luther 1545). It seems that the tense system has temporarily stabilized with a relatively clear division of labor between the preterite and the perfect: The preterite is (now) only used in narrative contexts and it is (still) used in all of those contexts. The perfect is (now) used in all current relevance contexts and it is (still) used only in those contexts. Thus, the system that we find in MHG and ENHG is more or less the system of Modern English. Minor differences do occur, but they can be attributed to mere language-specific definitions of R.

By later ENHG (Froschauer-II 1687), the perfect has spread into narrative contexts, where, in fact, it already outnumbers the preterite. This is illustrated by the example in (13), a narrative passage from Matthew 27:46, which contains five predicates which the modern English translator chose to render using the simple past (saw, bowed, worshiped, opened, presented) but which occur in the perfect in the later ENHG translation (haben … gefunden, sind … niedergefallen, haben angebettet, (haben) aufgethan, (haben) gebracht). The preterite continues to be found in narrative contexts only.

(13) Und sind ins hauss hinein gegangen / und haben das kindlein / samt Maria / seiner Mutter/ gefunden: Und sind niedergefallen / und haben es angebettet / und ihre schätze aufgethan / und ihre Gaben gebracht

‘On coming to the house, they saw the child with his mother Mary, and they bowed down and worshiped him. Then they opened their treasures and presented him with gifts’ (Late ENHG, Froschauer-II 1687, Matthew 27:46)

In the modern Zurich German dialect, the perfect has taken over entirely, i.e., it is the only available past tense form for both narrative and current relevance contexts; the preterite is inexistent.

As for Modern Standard German: Very surprisingly in the light of all other data, the Modern Standard German translation is not different from MHG/ENHG. This is remarkable insofar as the translation we have chosen is the 2007 Zurich Bible, the successor to the Froschauer-II 1687 Bible, where the perfect had already

---

17 The following two exceptions do occur: Und diz ist alliz geschên, üf daz irfullit wurde daz gesprochen ist von dem herren durch den prophêten sprechinde: ‘All this took place to fulfill what the Lord had said through the prophet’ (MHG, Beheim, Matthew 1:22); abir durch einen anderen wec sint si wider gekârt in ir kûnîgrîche ‘they returned to their country by another route’ (MHG, Beheim, Matthew 2:12). In ENHG (Froschauer-I 1534 and Luther), only the first of those two passages is rendered in the perfect, the other one occurs in the preterite.
taken the majority of narrative past contexts. While the long-term diachronic development from OHG to the recent dialect of Zurich is fully straightforward and can be characterized as a successive expansion of the perfect, Modern Standard German calls for a separate explanation: At least for the Upper German area it must be assumed the preterite has been reestablished, or reintroduced (see Section 4.2.4).

4. Diachronic analysis

In this section, we will propose an analysis of the empirical findings from the previous section. We will show that the diachronic development of the distribution of the perfect and preterite can be structured into five stages and that the transitions between those stages can be motivated on the basis of the interplay of semantics and pragmatics.

We will essentially be adopting the framework developed by Deo (2014, 2015b), who focuses on a different – yet in many aspects comparable – phenomenon: the progressive to imperfective cycle, whereby a new progressive marker emerges, subsequently generalizes to cover the whole superordinate functional domain of imperfectivity, often followed by the emergence of a new progressive marker.

We follow Deo (2014, 2015b) in her idea that there is no such thing as predetermined long-term grammaticalization paths. Rather, those paths can be “deconstructed” into “complex but structured discrete phenomena” (Deo 2015b: 183), meaning that each individual transition can be explained locally. We also adopt Deo’s idea that the key to understanding those transitions lies in the interplay of semantically specified and pragmatically inferred information.

Adopting Deo’s approach follows naturally from our own synchronic analysis: If there is such a thing as underspecification of R, there inevitably also has to be such a thing as pragmatic inference. In order to understand the diachronic transitions, we thus have to ask how semantic specifications are being gained (“semantic enrichment”, as we will call it) and lost (“semantic impoverishment”).

4.1 Five diachronic stages

Based on the results from Section 3, we reconstruct the following five stages in the development of the preterite and perfect (Figure 5). In assuming a five-stage-model we diverge from Deo’s (2015b) analysis of the progressive-to-imperfective-cycle, where she arrives at a four-stage-model. The relevant differences will be discussed at the end of this subsection.
Stage 1 does not, strictly speaking, follow from our empirical study. However, this stage is to be assumed for Proto-Germanic. The Proto-Germanic tense system was characterized by a simple present/past dichotomy (Ringe 2006: 151–153). It was only later that many Germanic languages, including German, developed new periphrastic forms such as the perfect. In Gothic, the oldest documented Germanic language, this older system is still preserved: There is only one past tense, i.e., the preterite, and this tense is used to cover the full range of past contexts (Braune/Heidermanns 2004: § 167; Dal 2014: 156; cf. also Example (9) above), i.e., both E=R>S and E>S=R. We follow Behaghel (1924: 282) in assuming that the preterite of early Germanic (Germanic’s sole existing past tense) only encodes E>S, such that it could be used in current relevance contexts, too, i.e., in contexts later to be covered by the perfect:

The synthetic preterite originally (Proto-Indo-European, Proto-Germanic, Gothic, West-Germanic) encodes every eventuality taking place in the past: a state as well as a process. It does so regardless of whether the past eventuality continues having an effect in the present or not.  

Inspired by Deo’s (2014b) terminology, stage 1 may be referred to as “zero-current-relevance-past”.

### Figure 5. Five stages in the development of the preterite and perfect

| Stage 1: zero-current-relevance-past (Proto-Germanic, Gothic, earliest OHG) | Narrative past | Current relevance past |
| Stage 2: emergent-current-relevance-past (late OHG) | Preterite | Perfect |
| Stage 3: categorical-current-relevance-(MHG, ENHG) | Preterite | Perfect |
| Stage 4: expanding-current-relevance-past (later ENHG: Modern Standard German) | Preterite | Perfect |
| Stage 5 (=stage 1): zero-current-relevance-past (modern Upper German) | | Perfect |

---

Stage 2 is represented by (late) Old High German. The preterite continues as before, i.e., as an unspecified past tense: It is still used both in E=R>S-contexts and in E>S=R-contexts. We thus assume that it continues to encode merely E>S. Additionally, however, in E>R=S-contexts, and in those contexts only, we now optionally find the newly grammaticalized perfect, which we therefore assume to encode E>R=S. Within the domain of current relevance (but only there) preterite and perfect are competing variants. Stage 2 may be referred to as “emergent-current-relevance-past”.

Stage 3 is represented by MHG and ENHG. In current relevance contexts (E>S=R), the perfect has become obligatory; the preterite has receded to narrative contexts (E=R>S). Thus, stage 3 is the most specified system: There is no unspecified past at all but instead a specific narrative past (preterite) and a specific current relevance past (perfect). There is a relatively clear division of labor without great functional overlap between the two tenses. We therefore assume that from stage 2 to 3 the preterite has undergone a semantic change from unspecified to narrative past tense: It no longer encodes merely E>S. Instead, it now encodes the more specific semantics E=R>S. The perfect continues to encode E>R=S. Stage 3 may be referred to as “categorical-current-relevance-past”.

Stage 4 is represented by later ENHG. As before, the preterite is only used for narrative past (E=R>S). We thus assume that it continues to encode that meaning. The perfect, on the other hand, has undergone a semantic change: It is no longer restricted to current relevance (E>R=S) contexts. It is now also found in narrative (E=R>S) contexts. We therefore assume that it has become an unspecified past by now, merely encoding E>S, such that within the narrative domain (but only there) preterite and perfect are competing variants. Stage 4 may be referred to as “expanding-current-relevance-past”.

Stage 5 is represented by modern Upper German dialects. The preterite has been lost. The perfect is the only remaining past tense. It cannot encode anything but E>S. The transition from stage 4 to stage 5 thus does not involve any further semantic change, the perfect just continues to be an unspecified past tense. The difference only consists in the purely formal loss of the preterite. Note that stage 5 is the same as stage 1 – only with renewed expressions. While the unspecified past tense of Proto-Germanic was the synthetic preterite, the unspecified past tense of modern Upper German is the analytic perfect. In short: The development is cyclic. Stage 5 – just like stage 1 – may therefore be referred to as “zero-current-relevance-past”.

As mentioned above, in assuming a five-stage-model we diverge from Deo (2015a:20), who, in her analysis of the progressive-to-imperfective-cycle, arrives at a four-stage-model. Within Deo’s model, there is no counterpart to our stage 4 (“expanding-current-relevance-past”): In other words, while the establishment
of the new progressive marker within the progressive domain is considered to be gradual (i.e., there is a counterpart to our stage 2, viz. emergent progressive), its spread to the complement domain (i.e., other subdomains of the imperfective such as the habitual or generic) is modeled as being abrupt. With respect to our phenomenon, our data show that this is not the case: Once the perfect can be used in narrative contexts, it does not immediately completely replace the preterite in those contexts (cf. Froschauer-II 1687). Rather, just as its establishment within its original domain (viz. current relevance past) is gradual, so is its establishment within the complement domain (viz. narrative past). We assume that this is a general characteristic of the type of cyclic change investigated both here and by Deo.

For stages with an underspecified general past (E>S) in their tense system we hypothesized that when such a tense is used, R must be placed on the basis of contextual inference whereas in fully specified tenses, the placement of R is more fixed and therefore more independent of contextual inference. This proposed division of labor between semantic specifications and pragmatic inference can be tested empirically in some of our texts, namely in those representing stages where a more specific and a less specific tense compete within the same functional domain (i.e., within the current relevance domain or within the narrative past domain). Such competition is found in stage 2 in the current relevance domain and in stage 4 in the narrative domain (cf. Figure 5 above). The expectation is that in contexts containing explicit markers of temporal reference (other than tense forms) R-inference is relatively easy to obtain such that in these contexts a greater proportion of unspecified past tense forms occurs, as compared to those contexts where explicit markers of temporal reference are missing; here, we expect to find a smaller proportion of unspecified past tense forms.

Unfortunately, the relevant occurrences of the periphrastic perfect in OHG (stage 2) are so few in the subcorpus for study A (current relevance) that no generalizations can be made: Out of the 84 instances in study A, only three are realized with perfect forms. Two of them are combined with an explicit marker of temporal reference (iu ‘already’, Matthew 5:28; nu ‘now’, Matthew 25:2), the third instance lacks such markers (Matthew 13:15).

As for later ENHG (stage 4), the functional domain where competition occurs between a fully specified preterite and an underspecified perfect is the narrative domain. Out of the 50 text instances from study B we inspected the 39 instances where preterite (10 instances) or perfect forms (29 instances) are actually used in the 1687 Bible translation, cf. Table 5 above. We investigated whether the relevant instances did or did not co-occur with one of the following explicit markers of temporal reference: adverbs, adjunct subordinate clauses, prepositional phrases in the function of temporal adjuncts, and extended scope of such markers by means of coordinative gapping, schematically: Yesterday (adverb), after the party
(prepositional phrase), when everybody had left (adjunct clause), we cleaned the room and (coordination) were having even more drinks. 19 of the 39 relevant instances do contain one of these temporal adjuncts, 20 instances do not. The presumed division of labor between semantic specification and pragmatic inference predicts that in the 19 instances containing a temporal adjunct a greater proportion of perfect forms should be found than in the other instances since the adjuncts are an easily accessible source for R inference. By contrast, we expect to find more frequent use of the (more explicit) preterite where no obvious source for R inference is available. Table 9 summarizes the results.

Table 9. Distribution of perfect vs. preterite in Froschauer-II (1687), instances from study B, according to the presence of explicit temporal adjuncts

<table>
<thead>
<tr>
<th>Later ENHG (stage 4) (Froschauer-II 1687), instances from study B</th>
<th>Perfect (%)</th>
<th>Preterite (%)</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>instances containing temporal adjuncts ($n = 19$)</td>
<td>18 (94.7%)</td>
<td>1 (5.3%)</td>
<td>19 (100%)</td>
</tr>
<tr>
<td>instances without temporal adjuncts ($n = 20$)</td>
<td>11 (55.0%)</td>
<td>9 (45.0%)</td>
<td>20 (100%)</td>
</tr>
<tr>
<td>total</td>
<td>29 (74.4%)</td>
<td>10 (25.6%)</td>
<td>39 (100%)</td>
</tr>
</tbody>
</table>

In contexts where an explicit temporal adjunct is present there is a very clear preference for the perfect (95%), whereas in contexts without such adjuncts the ratio between perfect and preterite is balanced (perfect: 55%, preterite: 45%). The difference between the two contexts is statistically significant (Fisher’s exact test: $p << 0.01$). This distribution further supports the idea that the preterite in later ENHG is a fully specified tense (not requiring much inference) and the perfect is a less marked and underspecified tense (requiring considerable inference). Diachronically speaking, this means that from stage 3 to 4 the perfect is spreading predominantly into contexts with easily inferable temporal reference, and the preterite is maintained longest where contextual inference is more difficult to obtain.

4.2 Motivating the transitions

In Section 2.3 above we argued that the Modern German perfect specifies only E>S but not R. In Section 4.1 we showed that both the OHG preterite and the Upper German perfect must be analyzed simply as E>S, too (i.e., without any specification of R). In all these varieties, R is only inferred pragmatically in actual uses of the perfect. However, in the following we would like to go one step further: We will argue that the relevant diachronic transitions between the five stages in Figure 5, too, can be explained on the basis of pragmatic inference. In particular,
the semantic impoverishment of the perfect (from E>R=S to E>S) can be motivated by the default setting of R as being simultaneous with S. But also, the semantic enrichment of the preterite (from E>S to E=R>S) – a change that has not been discussed so far – can be motivated based on pragmatic principles.

We will focus on the two intermediate transitions, i.e., the change from stage 2 to stage 3, which we dub semantic enrichment of the preterite (from E>S to E=R>S) (Section 4.2.1), and the change from stage 3 to stage 4, which we dub semantic impoverishment of the perfect (from E>R=S to E>S) (Section 4.2.2). We will also add a note on semantic impoverishment of the preterite (from E=R>S to E>S, not attested in German but in Latin-American Romance varieties) (Section 4.2.3). We will propose that these changes can be motivated on the basis of pragmatic principles. As for the initial transition (from stage 1 to stage 2), which concerns the recruitment/grammaticalization of the perfect (from resultative constructions) in Old High German times, we refer the reader to the recent extensive study by Gillmann (2016). Also, we refer to Detges (1999, 2000), who convincingly argues that the transition from resultative to perfect meaning can be motivated on the basis of pragmatic inference. The remaining, final transition (from stage 4 to stage 5) concerns the question of the eventual loss of the preterite in varieties such as Upper German – in contrast to its retention in other varieties such as Standard German. We will offer some speculations concerning this question in Section 4.2.4.

4.2.1 Semantic enrichment of the preterite

Between stage 2 and stage 3, the preterite’s extension is reduced: At stage 2, the preterite can be used both in narrative (E=R>S) and current relevance (E>R=S) contexts alike. By stage 3, it can be used in narrative contexts only. We have argued that this means that the preterite’s intension becomes richer: While at stage 2 it merely encodes E>S, i.e., it does not specify the position of R, by stage 3 it does encode an R setting (namely R=E). In this section, we propose a pragmatic explanation for this change.

Unlike at stage 1, where the underspecified preterite is as yet the only past tense, by stage 2, the tense system has been enriched by the perfect, i.e., a tense that explicitly encodes current relevance past. This means that the perfect and the preterite come to form a privative opposition whereby the perfect (compatible

19. In a nutshell, the account proposed by Detges (1999, 2000) can be summarized as follows: When perceiving a resultative construction referring to a state at speech time, listeners tend to metonymically infer the past action that gave rise to that state. In the transition from resultative to perfect this inference is being conventionalized, thus becomes an integral meaning component of the construction.
with \( E>S=R \) only) asymmetrically entails the preterite (compatible with both \( E=R>S \) and \( E>R=S \)). Privative oppositions of this type, and the pragmatic processes they give rise to, are well-known in the field of diachronic semantics (see e.g., Deo 2014, 2015a):

Deo (forthcoming) shows that patterns of recruitment, categoricalization, and generalization in grammaticalization are underpinned by a familiar pragmatic phenomenon, also introduced in Horn (1984): privative oppositions between specific and general meanings (Horn 1984, pp.33–38). The pattern involves, for some lexical domain, the existence of more informative, marked forms, side by side with unmarked, semantically general forms. Such privative dyads (Horn & Abbott 2012) give rise to a division of pragmatic labor in which the use of the general form is conventionally restricted to the complement of the domain of the specific form. This amounts to the conventionalization of a scalar implicature in the grammatical system of a language. (Deo 2015a: 192)

Applied to the present problem, this means that the more specific perfect and the more general preterite form a Horn scale (Horn 1984) giving rise to a scalar implicature, a type of implicature operating on Grice’s (1975: 45) first Maxim of Quantity, viz. **Make your contribution as informative as is required**: Wherever a speaker uses the less informative preterite (which could mean either \( E=R>S \) or \( E>R=S \)), the hearer will infer that the conditions for the more specific perfect \( (E>S,R) \) do not hold, thus reducing the preterite to “the complement domain of the specific form”, i.e., \( E=R>S \). This is reminiscent of blocking (Kiparsky 1973): For an intended meaning \( E>R=S \) there is a more specific tense available (namely the perfect). Therefore, the use of the less specific tense (the preterite) is blocked.

Note that we seem to be the first to discuss the semantic change in the preterite: While the existing literature focuses on the perfect and (correctly) analyzes the semantic change it experiences as “perfect expansion”, the “semantic narrowing” experienced by the preterite has not been discussed – let alone explained – in previous research.

### 4.2.2 Semantic impoverishment of the perfect

Stage 3 (categorical-current-relevance-past) can be characterized as an overspecified system: Both narrative past and current relevance past are fully specified tenses, forming an equipollent opposition. A language can live with such a system: English or Scandinavian languages have had an overspecified system for a long period of time. Thus, we do not go as far as Bertinetto (2010:2, 5), who claims that the category of a current relevance past is unstable *per se*. However, overspecification may be overcome by transforming the equipollent into a privative opposition once again. This transition may come in two flavors: Either the nar-
rative or the current relevant past may lose parts of its semantic specification, leading to preterite or perfect expansion, respectively. As for German, perfect expansion is the relevant development (but see our remarks on preterite expansion in Section 4.2.3).

Between our stages 3 and 4, the perfect’s extension widens: At stage 3, the perfect can only be used in current relevance contexts (E>R=S). By stage 4 it can also be used in narrative contexts (E=R>S). We have argued that this means that the perfect’s intension becomes poorer (semantic impoverishment): While at stage 3, it specifically encodes E>R=S (i.e., it encodes R=S), by stage 4 it merely encodes E>S, i.e., it no longer specifies the position of R. In this section, we propose that this change, too, can be motivated pragmatically.

Recall that specifying R semantically (as is the case with the perfect at stages 2 and 3 (R=S) and with the preterite at stages 3 and 4 (R=E)) is not the only way in which R may be specified (cf. Section 2.3). As we proposed, even where R is not specified by the semantics of a given tense (as is the case with the preterite at stages 1 and 2 and with the perfect at stages 4 and 5, cf. Section 4.1), R is nonetheless specified in *actual uses* of that tense, namely (i) either by context (ii) or by default, whereby the default is R=S. Now, if this is correct, it means that from a hearer’s perspective, any utterance of a tense form used where current relevance applies is ambiguous: It is ambiguous between a form that explicitly encodes R=S and a form that leaves R unspecified, with R=S merely being inferred by contextual cues or – in the absence of any such cues – by default. Thus, a specification of R=S, as encoded by the perfect at stage 3, may be removed without any loss of information necessary to correctly interpret the utterance. A similar principle has been observed in phonological change: In Seiler (2005) it is argued that in Bernese German, underlyingly long vowels were reanalyzed as lengthened – but quantity-underspecified – vowels in lengthening contexts, a process which leads to loss of specifications, too. The generalization appears to be that where hearers can, in principle, attribute the same observation (be it R=S, long vowel length or whatever else) either to a lexical specification or to a general principle, they will choose the general principle. Ultimately, this may be traced back to Grice’s (1975:45) second Maxim of Quantity, viz. *Do not make your contribution more informative than is required.* Arguably, specifying lexically what corresponds to the default or follows from a general rule anyway, would seem to qualify as a violation of the maxim. A natural way for hearers to reconcile this apparent violation with their impression that the speaker is nonetheless being cooperative is by assuming that the speaker is, in fact, *not* specifying lexically what is predictable anyway. This amounts to a removal of the relevant lexical specification. With respect to our particular problem, this means that in the long run, the perfect’s
default-compatible specification as R=S may be lost, thus reducing its semantics from E>R=S to simply E>S.20

4.2.3 A note on preterite expansion

Even though the present paper places a focus on perfect expansion since this is the relevant development for German varieties, we would like to recall that other varieties such as Porteño Spanish (Flogstad 2016) display the opposite development, i.e., preterite expansion. How can preterite expansion be accounted for in the light of the approach outlined so far?

Our argument starts from two premises. First, two different types of language change are well attested as further developments of a state with a clear division of labor between a narrative past and a current relevance past (our stage 3, categorical-current-relevance-past: MHG, ENHG, modern English, modern Scandinavian, etc.): perfect expansion (German, French, Northern Italian, etc.) and preterite expansion (Porteño Spanish, Brazilian Portuguese, etc.). A model of change in tense systems must be prepared for both attested developments. Second, we assume that for these developments, pragmatic inference plays an important role and the default inference for R is that it coincides with the origo (i.e., R=S).

We elaborated these ideas above, concluding that perfect expansion can be analyzed as an instance of semantic impoverishment, namely as the loss of the default-convergent specification R=S. We now try to draw our conclusions for preterite expansion. Preterite expansion is an instance of semantic impoverishment, too (from narrative to unspecified past), but this time we are dealing with the loss of a default-divergent specification (i.e., R>S). Put in more traditional terms, loss of default-divergent specifications is nothing else than (semantic) markedness reduction. As such it intuitively appears to be a very probable kind of language change. However, we still need a concrete mechanism to model how the default-divergent specification is being lost. We propose the following:

20. An alternative, pragmatically-driven explanation for the semantic impoverishment of the (former) current relevance past (i.e., perfect expansion) is proposed by Bybee, Perkins and Pagliuca (1994: 86–87) and Schaden (2012). According to them, speakers tend to overestimate the current relevance of their utterances (and therefore to overuse the perfect), which may lead to an inflationary effect. We do not follow this proposal for two reasons. First, we assume that anything else than R=S (i.e., R>S) is a relatively marked option anyway, so that we find it rather difficult to think of overestimations of what is (all other things being equal) the default (i.e., current relevance). Second, as will be argued for in Section 4.2.3 below, the idea of R=S being the default has the potential to account for both perfect expansion and preterite expansion (Schaden 2012: 16, too, is aware of the fact that overestimation of current relevance accounts for perfect expansion only).
Under the assumption that R=S is the default setting of R, especially in direct oral communication, hearers are likely to expect current relevance of the heard utterances, possibly motivated by the Gricean Maxim of Relation, viz. Be relevant (Grice 1975: 46). That is, given the default R=S, hearers have a tendency to infer current relevance even if this is not intended by the speaker, and perhaps even if the speaker morphologically marks narrative instead of current relevance past (by using the preterite). This ‘spontaneous’ inference of current relevance may become conventionalized, resulting in a loosening of the strict E=R>S semantics of the (former) narrative past tense (i.e., the preterite). In other words, spontaneous R=S inference may lead to a weakening or even loss of the R component in a narrative past tense, too, such that this tense develops into an unspecified past.

There is a potential issue with this account for preterite expansion: The account entails that hearers misperceive or just overhear the speaker’s intention (narrative past, which is also clearly morphologically expressed by the speaker) to some degree. By contrast, in our account for perfect expansion no misperception on the hearer’s side was entailed. However, there is some indirect evidence that misperception of the speaker’s intention by the hearer might indeed have played a role in the emergence of preterite expansion but not in perfect expansion. Interestingly, the great majority of examples of preterite expansion we are aware of are New World varieties (see Fløgstad’s 2016: 74–76 overview). It is likely that (incomplete) second language acquisition may indeed have played an important part in the development of these varieties. By contrast, our account for perfect expansion does not entail misperception, and indeed varieties with perfect expansion are strikingly concentrated in the Old World where they even form a contiguous area.21

To close this section, we recall again that both perfect and preterite expansion are attested and thus possible changes (although preterite expansion is irrelevant for German), a fact that poses problems to a more classical approach relying on universal, unidirectional, predetermined grammaticalization paths. In our proposal, the same building blocks (R=S as the default; pragmatic inference based on Gricean maxims) may cause contradictory effects in different languages. We do not see this as a weakness, but rather as a strength of our proposal. As for the default, we have argued that inference of R=S by default may be applied to

21. According to Drinka (2017), perfect expansion, too, is largely due to language contact, which raises the question as to how contact may lead to such contradictory results. We believe that two clearly distinct mechanisms of language contact might be involved in the spread of perfect expansion across several European languages on the one hand and preterite expansion in New World varieties on the other: second language acquisition in the New World but (educated) influence of prestigious model languages such as Parisian French in the Old World.
the perfect (where this leads to an elimination of the R component and thus perfect expansion) but also to the preterite (where it leads to equivalent effects: elimination of the R component and preterite expansion). As for Gricean maxims, we suspect that the example of functional shifts in tense systems reveals a more fundamental mechanism of language change: While both perfect expansion and preterite expansion can be motivated on the basis of Gricean maxims, it is different maxims that we made responsible for perfect expansion (second Maxim of Quantity) or preterite expansion (Maxim of Relation), respectively. To put it more generally: Gricean maxims may be in conflict with one another. In this respect, they have some abstract similarity with other functionally motivated preferences active in language change (e.g., production-oriented preferences such as economy or comprehension-oriented ones such as explicitness). Preferences are universally accessible, but they are often intrinsically conflicting, and because of this it is hardly predictable which one is given more weight in which concrete language.

4.2.4 Eventual (non-)loss of the preterite

The last step, from stage 4 to stage 5, is loss of the preterite. The preterite is entirely lost in the Upper German dialect of Zurich, as well as other varieties of Continental West Germanic (European and overseas). For example, Southern Hessian, as well as Afrikaans, have maintained preterite forms largely only for auxiliary and modal verbs whereas the preterite is lost for all other verbs. Pennsylvania Dutch has maintained the preterite only for the copula verb. This is also supported by a preliminary extension of our parallel corpus analysis to those varieties. As it turns out, Southern Hessian, Afrikaans and Pennsylvania Dutch, much like Zurich German, show perfect values close to 1.0. On the other hand, there are also modern varieties where the preterite is well preserved. As we saw, one such variety is (written) Standard German. The same is true of the other major standard variety of (European) Continental West Germanic, namely Standard Dutch. A Standard Dutch translation of the Gospel of Matthew shows, much like the Standard German one, a perfect value close to 0 in narrative contexts. But there are also vernacular varieties that preserve the preterite, such as Low German dialects. Low German shows a perfect value similar to those of Standard German and Dutch, i.e., close to 0, too. Table 10 summarizes the results:

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22. The idea of universally accessible but intrinsically conflicting preferences is inspired by Optimality Theory (Prince & Smolensky 2004), where cross-linguistic variation and linguistic change are modelled as different constraint rankings – or transitions between these – as equally possible solutions for the same conflict. See e.g., Blutner and Zeevat (2004) for how Optimality Theory and (Gricean) pragmatics may be brought together.
Table 10. Forms used in English simple past contexts (Southern Hessian, Afrikaans, Pennsylvania Dutch, Standard Dutch, Low German)

<table>
<thead>
<tr>
<th>form</th>
<th>Southern Hessian</th>
<th>Afrikaans</th>
<th>Pennsylvania Dutch</th>
<th>Standard Dutch</th>
<th>Low German</th>
</tr>
</thead>
<tbody>
<tr>
<td>perfect</td>
<td>35</td>
<td>33</td>
<td>46</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>preterite</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>38</td>
<td>47</td>
</tr>
<tr>
<td>other/unclear/missing [mostly present tense]</td>
<td>10</td>
<td>15</td>
<td>1</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>total</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>perfect value</td>
<td>0.88</td>
<td>0.94</td>
<td>0.94</td>
<td>0.03</td>
<td>0.04</td>
</tr>
</tbody>
</table>

Thus, while it is certainly not true to claim that maintenance of the preterite is only found in standardised varieties, it nonetheless appears to be far more typical of this type of variety. After all, a (partial or total) elimination of the preterite is indeed only found in vernacular varieties (Zurich German, Southern Hessian, Pennsylvania Dutch) or varieties that are at least rooted in vernacular varieties (Afrikaans). We believe that the greater affinity of formal, written standard varieties to the preterite and the often observed (partial or total) elimination of the preterite in colloquial varieties is not entirely random. Recall that according to our analysis, at stage 4 perfect and preterite are true competitors, therefore interchangeable, within the semantic domain of narrative past (cf. Figure 5). Recall further that we rejected the monosemous analyses of the Modern Standard German perfect where it is claimed that the perfect’s semantics is always different from the preterite’s semantics – a claim probably made for purely principled reasons (horror aequi): “The analyses claiming that the present perfect only has one meaning seem to follow the more general assumption about language that total synonyms cannot exist. If the present perfect had exactly the same meaning as the past tense, these two tenses would be synonyms” (Rothstein 2008: 25).

Now, if our assumption that within the narrative domain perfect and preterite are competing variants is on the right track, two things are likely to be happening: Either (i) one of the competing variants vanishes, or (ii) the co-existence of variants is being re-functionalized. Option (i) is what happened in Upper German dialects. One might ask why it is the preterite that is given up and not the perfect. We believe there is no need to refer to a more general, long-term, destiny-like grammaticalization path in order to motivate this asymmetry, for speakers do not have any memory of grammaticalization paths as wholes anyway. Instead, preterite loss must be motivated on the basis of the immediately preceding stage, i.e., stage 4. At stage 4, the perfect is already a general-purpose past tense. It is never wrong, regardless of whether the intended semantics is narrative or current.
relevance. By contrast, the preterite is wrong in certain cases, namely in current relevance contexts. Thus, the preterite is clearly the more limited one of the two tenses. Therefore, it seems plausible to us that if one variant is given up in situations of variant competitions it is the one with a smaller range of possible uses (i.e., the preterite). Language acquisition might play a crucial role, too: At stage 4, acquiring the perfect is mandatory to express current relevance contexts, but it is already sufficient to express narrative contexts, too, such that the door to not acquiring the preterite is open already at stage 4. Moreover, it is not unlikely that the perfect is much more frequent in the learner’s input data.

Option (ii), i.e., the re-functionalization of the competing variants within the narrative domain, is what we find in Modern Standard German: Here, the preterite has been re-motivated as a marker of style. Authors agree that the preterite has a stylistic value that can be described as formal and (conceptually) written whereas the perfect is used in rather colloquial and (conceptually) oral registers (Hennig 2000; cf. also Helbig & Buscha 2011:134; Fischer 2018: 211–214). Hennig (2000) convincingly shows that the preterite is only rarely used in spontaneous, spoken discourse of Standard German (Hennig 2000 does not discuss dialects). A similar distribution is found already for Middle High German and Early New High German (Zeman 2010; Amft 2018; Fischer 2018). According to Fischer (2018:152, with reference to Lindgren 1957:97 and Sapp 2009), the preterite is strengthened in written texts even in Upper German areas from the 17th century onwards, in the course of the establishment of a codified written variety. The stylistic value of the preterite as sounding particularly formal may even lead to overuses of it, i.e., uses where the appropriate semantic conditions do not hold.23

A study by Nilsson (2016) shows that, in conceptually written registers, speakers of German accept the preterite even in typical ‘perfectal’ (in our terms: current relevance) contexts – but only with stative predicates. Nilsson (2016: Chapter 5.3) discusses several hypotheses on the diachronic context of this observation: Are the perfectal uses an archaism or due to an innovation, comparable perhaps to the development witnessed in Porteño Spanish? But ultimately, she has to remain agnostic and leave this question to future research.

Cross-linguistically, it is well-known that different verb types form a hierarchy with respect to their compatibility with a newly grammaticalized perfect: Early

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on, the perfect occurs only with dynamic verbs while its generalization to states lags behind (Bybee, Perkins & Pagliuca 1994: 69). On the one hand, this could be seen as evidence in favour of the archaism-hypothesis: Under this scenario, stative verbs would be the last holdout of the older use of the preterite (characterized, in our analysis, by an R that has not yet been specified as R=E). If, on the other hand, the perfectal use of the preterite were to turn out to be an innovation, this would mean that the type of preterite expansion observable in the written register follows the same hierarchy as perfect expansion – only in reverse: Just as stative predicates are the last to be affected by perfect expansion, they would be the first to be affected by preterite expansion.

Given the general trend of perfect expansion (at the expense of the preterite) in High German (dialects and written language) until the 17th century, and the continuing preterite-friendliness of Low German dialects, one might ask whether speakers from Low German areas played a crucial, hitherto underestimated role in the re-establishment of the preterite in the written High German language from the 17th century onwards. Low German areas gradually shifted to High German, first in writing, later also in speaking (Sanders 1982: Chapter 6.4, 6.5). Therefore, during a longer period of diglossia, speakers of the Low German vernacular must have acquired the High German written variety as an almost foreign language, not much rooted in their native dialect. As for phonology, it is a well-known fact that today’s prestigious pronunciation of Modern Standard German is the result of this kind of dialect contact, for it goes back to the pronunciation of High German produced by native speakers of Low German: “When High German extended its area into Low German speaking areas from the sixteenth century onwards, the Low German speakers acquiring High German, at first as a written language [...], pronounced the letters with Low German pronunciation” (Russ 1982: 27). Following Szulc (1997: 279), the reading pronunciation of the Low German areas became the prestigious one probably because it did not contain any Central or Upper German regionalisms. Consequently, “one might say that Standard German is High German pronounced with a Low German accent” (Seiler 2009: 263; see also Schmidt & Vennemann 1985 for a similar point). Now, suppose that similar mechanisms of dialect contact were at work in the domain of tense, too: Speakers of Low German acquired High German as a written variety at a time when the preterite was already in decline in the High German areas. They might have produced High German with a very much Low German-like distribution of tense forms, such that they tended to overuse the preterite in High German due to their preterite-friendly native variety. As we know from pronunciation, the variety of High German produced by Low German speakers ultimately became the prestigious form of Standard German. This would explain the re-establishment and the high stylistic value of the preterite in Modern Standard German.
Yet another (complementary, not contradictory) possible explanation for the preterite-friendliness of the standard variety has to do with the semantics of tenses again. Zeman (2010, 2013; specifically for MHG) and Fischer (2018: 211–212) discuss the greater affinity (i) between the perfect and conceptually spoken discourse (in the sense of Koch & Österreicher 1985; Ágel & Hennig’s 2006 language of closeness) and (ii) between the preterite and conceptually written (distant) discourse. They argue that this relationship is not a direct one, but rather it is rooted in the deictic dimension: As for MHG, the preterite is used in narrative, i.e., origo-exclusive (Zeman 2013: 391–392) contexts (with displaced R), whereas the perfect is used in origo-inclusive contexts with simultaneous R and S (Zeman 2013: 391). Fischer resumes Zeman’s argument and concludes (without referring to a specific historical period) that “the perfect’s time reference to the situation of speech is crucial for its affinity to discourses of closeness, which, too, exhibit an integration of the speech situation. The affinity of the preterite to discourses of distance can be explained as the mirror image of that. The preterite localizes a verbal situation in the past, and as such dissociated from speech time”24 (Fischer 2018: 212). This very plausible explanation cannot be directly replicated in our analysis of Modern German where we assume that the perfect lacks an R specification altogether. However, we may hypothesize that in dialogic, face-to-face, oral communication, R can be inferred and negotiated by the interlocutors quite easily. Therefore, the perfect (lacking any R specification) is the preferred option here, and much specification is left to pragmatic inference. By contrast, the preterite explicitly defines an R that is dissociated from the origo, an option that is more functional in written, narrative, distant discourse where the communicating subjects cannot rely on pragmatic inferences equally easily.25

24. Original in German: “dass der zeitreferentielle Bezug des Perfekts auf die Sprechsituation ausschlaggebend ist für seine Affinität zu nähesprachlichen Diskursen, die ebenfalls eine Sprechsituationseinbindung aufweisen. Spiegelbildlich kann die Affinität des Präteritums zu distanzsprachlichen Diskursen erklärt werden. Das Präteritum lokalisiert eine Verbalsituation in der Vergangenheit, und zwar von der Sprechzeit losgelöst betrachtet.”

25. Abraham & Conradi (2001: XII; 1) propose yet another explanation for the perfect’s affinity to spoken discourse, based on the observation that Afrikaans has largely eliminated the preterite, in contrast to Standard Dutch. They see the main reason for perfect expansion in theme-rheme discourse organization. The perfect as a periphrastic form marks more overtly the canonical positions of theme (first constituent) and rheme (last constituent before the sentence-final nonfinite part of the predicate). There are two issues with this explanation. First, it is a surprising fact in this context that Afrikaans seems to be the only West-Germanic language without do-periphrasis (Langer 2001: 13), a construction that is often attributed the same function. Second, as mentioned in Section 2.1, the argument holds only for West-Germanic languages with a finiteness-second constraint (usually referred to as ‘verb-second’) plus object-nonfinite-verb order (i.e., the so-called verbal bracket), but not for those (verb-object) Gallo-
Above we speculated that the preservation, or rather even re-establishment, of
the preterite in the written High German language from the 17th century onwards
may, at least in part, have been due to Low German influence. The next question
to ask, then, is why Low German itself has preserved the preterite. One explana-
tion could be that the Low German perfect has never desemanticised to the extent
that it could always replace the preterite. In other words, in contrast to High Ger-
man, Low German might still be a stage-3-variety (on a par with MHG, ENHG
and also modern English or modern Scandinavian) rather than a stage-4-variety
(referring to our Figure 4). If this is the case, it is obvious why the preterite has
not been given up: If Low German still is of the stage-3-type, perfect and preterite
are not semantically interchangeable variants in the narrative domain. Whether
this is indeed the case, is still an open empirical question: According to Fischer
(2018: 297, 394) even though there is evidence that the perfect has semantically
expanded in Low German, too, it is still unclear whether it can be used in the
same functions as the preterite in narrative discourse.

Alternatively, it could be speculated that even within today’s Low German we
find a similar type of register-related variation as we find within Standard (High)
German. It is certainly true that present-day Low German is best described as a
group of vernacular varieties, which most speakers rarely use in writing. Nonethe-
less, Low German does have a written and even literary tradition, and according
to one of the major reference grammars of Low German (Thies 2010: 57), “the
preterite is more common in writing, in speech the present perfect is often pre-
ferred.” It is very likely that our Bible corpus is representative of the written (lit-
ery) style of Low German.

We close this section on preterite loss with a remark on those varieties where
the preterite still exists for a small number of verbs such as the copula and modal
verbs (e.g., southern Hessian). German dialect geography has identified the areas
that underwent preterite decay on the basis of the geographical spread of preterite
forms of different verbs (cf. Fischer 2018: Chapter 2.2; map 10, p. 25). Traditionally,
the existence of a preterite tense is asserted for those dialects where at least
the relevant verbs do allow the formation of the preterite. However, it is uncertain
at this point whether these preterite forms are functionally contrasting with per-
fected forms of the relevant verbs at all. We observed that in the Hessian Gospel sub-
corpus those verbs that do allow preterite formation (auxiliaries, modal verbs) do
not occur in the perfect. The same is true for Pennsylvania Dutch, where the one

and Italo-Romance varieties that underwent preterite decay as well (Bertinetto & Squartini
1996; Squartini & Bertinetto 2000).

26. Original in German: “Das Präteritum erscheint mehr im Schriftlichen, beim Sprechen
wird oft das Präsensperfekt vorgezogen.”
verb allowing preterite formation (the copula be) never occurs in the perfect in our subcorpus. Similar observations about a general perfect-reluctance of modal verbs can be added for Afrikaans (Donaldson 1993: 241). Therefore, we suspect the following: Even in those varieties where a limited number of preterite forms has survived, the semantic contrast between a narrative and a current relevance past is nonetheless absent. From a semantic perspective, these dialects, too, only have a single, unspecified past tense, not different from Upper German. The only difference between these dialects and Upper German is the etymology of morphological exponence: In the relevant dialects (such as Hessian), the unspecified past tense is expressed by etymological perfect forms for the majority of verbs, and for a few verbs this very same temporal semantics is expressed by etymological preterite forms (see already Harnisch 1997: 126 on this point). If this view is correct, it follows that from the perspective of possible semantic contrasts the geographical spread of preterite decay (now to be understood as the loss of a contrast between a narrative and a current relevance past) is actually much larger than previous, exponent-based dialect-geographical work suggests. To our knowledge, a dialect-geographical survey of German past tenses based on systemic contrasts (in the spirit of Weinreich’s 1954 Structural Dialectology) has not been undertaken so far.

5. Conclusion and outlook

The development of the German preterite and perfect tenses is a cyclic one, starting with only one tense form (preterite) compatible with both current relevance and narrative past readings in early Old High German, and arriving at only one tense form again (the perfect) compatible with both readings in modern Upper German dialects. In between, the innovative perfect tense first appears as a variant (alongside the preterite) limited to the current relevance domain. Next, it becomes obligatory there (such that the preterite may no longer be used for current relevance). Next, it also becomes a variant (again alongside the preterite) in the narrative domain. Ultimately, it becomes obligatory in that domain, too (such that the preterite disappears completely).

These findings are in accordance with the existing previous literature. What is new is the scope and methodology of the present study, the theoretical assumptions concerning the semantics of the relevant tenses throughout the stages of their development, and the proposed mechanisms of change from one stage to the next.

As for scope and methodology, we presented the first truly longitudinal empirical study, covering the whole development from the Old High German
beginnings until the modern standard language as well as the Upper German
dialect of Zurich. We used the Gospel of Matthew as a parallel corpus and distin-
guished current relevance vs. narrative past contexts on the basis of the English
contrast between present perfect vs. simple past forms.

As for theoretical assumptions, it is necessary to introduce the idea of under-
specification into the Reichenbachian system. We argued that at least one of its
anchors, namely Reference Time, may simply be left unspecified by a tense of
some language (in elaboration of ideas by Waugh 1987; Andersson 1989; Zifonun,
Hoffmann & Strecker 1997; Bertinetto 2010). This is the only viable analysis of
the Old High German preterite and Upper German perfect, which are both the
canonical expressions of narrative as well as current relevance functions, such that
we characterize their semantics simply as unspecified past. Any specification of
Reference Time would fail to explain why each of these tenses licenses both read-
ings. Moreover, we make the controversial claim that the perfect tense of Mod-
ern Standard German does not specify any Reference Time, either: The semantic
poverty of the German perfect makes it compatible with both functions, current
relevance as well as narrative past. By contrast, the German preterite does spec-
ify a Reference Time (namely anterior to Speech Time), which explains that the
preterite is limited to narrative contexts (but optional therein). It is therefore illu-
sionary to believe that the Modern German perfect encodes current relevance:
The perfect is only compatible with current relevance meanings (due to its under-
specification of Reference Time) whereas the preterite is not – but this is a specific
property of the preterite as the semantically richer, more marked tense of the two.
The observation that the Modern German preterite is the more marked of the two
tenses is not new, but our proposal is the first where this asymmetry naturally fol-
loWS directly from the semantic representations without any further stipulation.
We furthermore argued that the mechanism by which Reference Time is specified
in actual uses of underspecified tenses is pragmatic inference. The hearer infers
it based on contextual evidence, and if such evidence is insufficient, she/he will
assume the default: Reference Time = Speech Time.

As for mechanisms of change, we argued that the transitions from one stage
to the next can be explained locally on the basis of pragmatic inference of the
unspecified, too, and no reference to predetermined grammaticalization paths
is necessary. As for the (so far underdescribed and underexplained) diachronic
enrichment of the preterite (from Old High German unspecified past to Middle
High German narrative past), we analyzed it as an instance of pragmatically dri-
ven blocking: When a more specific tense for current relevance past (i.e., the
MHG perfect) is fully established, the less specific tense form (i.e., the preterite)
will be interpreted as an expression of the complementary functional domain
(i.e., narrative past). As for the further development, previous work (Fischer 2018)
has shown already that perfect expansion (into the narrative domain) is the cause of later preterite loss; however, perfect expansion itself is still in need of an explanation. We argued that the diachronic semantic impoverishment of the perfect (from current relevance to unspecified past) is due to an inherent ambiguity in the setting of Reference Time = Speech Time: Assuming that this setting can either be part of the semantic specification of the (MHG, ENHG) perfect or be achieved by the inference of the default value for Reference Time (= Speech Time, too), the Reference Time specification may vanish, and nonetheless utterances of perfect tense (intended meaning: current relevance) are still interpreted correctly. However, once the specification of Reference Time is omitted, we might expect uses of the perfect to occur in the other functional domain, too, namely in narrative contexts. The further development (later ENHG, (particularly spoken) Modern Standard German, Upper German) demonstrates exactly that.

The present study is empirically limited to a small set of tenses in just one language (including its diachronic development and some of its varieties and closest relatives). However, we believe that the general approach is applicable to developments of a similar structure but in other grammatical domains (and other languages), due to the high degree of generality of the basic building blocks (underspecification, cyclical change, division of labor between semantics and pragmatics, variant competition, etc.). Indeed, the proposal made here is strongly inspired by recent work on the development of aspect (Deo 2015b; Enke & Mühlenbernd 2017; Condoravdi & Deo 2015), where the costs for encoding (due to the use of explicit forms) and decoding (due to pragmatic inference) are calculated on the basis of game-theoretical concepts.

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Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>DAT</td>
<td>Dative</td>
</tr>
<tr>
<td>E</td>
<td>Event time</td>
</tr>
<tr>
<td>ENHG</td>
<td>Early New High German</td>
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<tr>
<td>M</td>
<td>Masculine</td>
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Primary texts for studies A and B (cf. Section 3)


Other primary texts


References


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