

***Werden* and Periphrases with Present Participles and Infinitives: A Diachronic Corpus Analysis**

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The scholarship on the Modern German periphrastic future, or the *werden* future (that is, *werden* + infinitive) has brought forth different hypotheses about its origins. One of these hypotheses states that it developed from *werden* + present participle in the 13th century (for example, Bech 1901). While many have criticized this hypothesis, no one until now has proposed a valid solution for the problem. In this study, I carried out a comprehensive examination of the instances of *werden* in combination with present participles and infinitives in Middle and Early New High German. The analysis indicates that although *werden* + present participle and *werden* + infinitive were often used in similar contexts, the former construction was not the source from which the *werden* future emerged. Old High German data also show the use of *werden* + infinitive, which suggests that it was already well established in the first two centuries of the Middle High German period. This provides evidence against the view that the construction developed as late as the 13th century. I also address the grammaticalization process that *werden* + infinitive underwent during the Early New High German period and suggest that it culminated in the 16th century.

Keywords: future, present participle, grammaticalization, corpus linguistics, German

1. Introduction.

This study takes up the discussion on the emergence of the Modern German periphrastic future construction (henceforth: the *werden* future), which consists of the auxiliary *werden* followed by the main verb in the infinitival form. The aim of this paper is to disprove the hypothesis that the *werden* future developed out of *werden* + present participle in the 13th

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century (Weinhold 1883, Bech 1901, Behaghel 1924, Kleiner 1925, Ebert 1978, Betten 1987, von Polenz 1991). I also discuss the grammaticalization process that the *werden* + infinitive construction underwent during the Early New High German period and suggest that this process concluded around the 16th century. The data for this study come from two corpora: *Referenzkorpus Mittelhochdeutsch (ReM)*; the Reference Corpus of Middle High German; Klein et al. 2016) and *Bonner Frühneuhochdeutschkorpus (FnhdC)*; the Bonner Corpus of Early New High German).

According to Diewald & Wischer 2013:209, the verb *werden* “has displayed a high constructional variability” throughout the history of German, and “it has always been used simultaneously in a range of syntactic functions spanning from full verb via copula to auxiliary.” Duden reports that *werden* is one of the most frequent words in Modern German. In addition to being used in the periphrastic future construction discussed here, it is used in one of the passive forms, the so-called *werden* passive (*werden* + past participle). Furthermore, *werden* can also be found in combinations with a large variety of elements, such as nouns, adjectives, and present participles.

From the historical perspective, *werden* acquired the capacity of carrying out different syntactic functions throughout the process of “Desemantisierung” [desemantization] that took place in the later years of the Old High German period (9th–10th century) and culminated in the Early New High German period (roughly 14th–17th century; Kotin 2003:17). This process prompted the increase of the use of *werden* in the passive constructions with a constantly growing number of verbs that appeared in this periphrasis. The desemantization process is also directly involved in the emergence of *werden* plus an infinitive complement as a future marker (Diewald & Wischer 2013:197).

While there is strong agreement on the emergence of other constructions with *werden*, such as the *werden* passive, the question of the origin of the *werden* future still remains unanswered (Diewald & Smirnova 2010, Fleischer & Schallert 2011). The scholarship on the *werden* future has indeed brought forth a number of very diverse and often conflicting hypotheses about its possible source. There is also very little agreement on the period during which this periphrasis emerged. Some scholars argue that it happened in the later years of the Middle High German period (roughly 11th–14th century), while others claim that this

periphrasis existed as early as the 9th century (Kotin 2003:135, Diewald & Wischer 2013:215).

In particular, the hypothesis examined here—that *werden* future (that is, *werden* + infinitive) developed out of *werden* + present participle—assumes a diachronic connection between the two periphrastic constructions: According to Bech (1901) and Kleiner (1925), in the 13th century, in the Alemannic dialect area the present participle underwent phonetic reduction whereby it lost its ending. As a result, speakers started confusing the present participle with the infinitive and from that point onward began to combine *werden* with the infinitive. However, as observed by Diewald & Smirnova (2010:234), “there is dispute on the question of whether the infinitive complement of *werden* is an independent development or whether it should be seen as a result of the phonetic reduction of the present participle,” and “the exact details of this development are [...] still a matter of dispute.”

In an attempt to resolve this dispute, this paper examines the relationship between the two periphrastic constructions from a diachronic perspective using a corpus analysis. The data from ReM suggest that i) *werden* + present participle was not the parent construction of *werden* + infinitive and ii) *werden* + infinitive was already in use in the 11th and 12th centuries; consequently, the *werden* future could not have developed out of the *werden* + present participle construction in the 13th century. At the same time, the data from FnhdC allow one to observe closer the grammaticalization path of this periphrasis.

The structure of the paper is as follows. Section 2 provides an overview of the research on the combination of *werden* with present participles and infinitives. Section 3 covers the methodology, that is, the corpora used and the data collection process. The analysis and the discussion of the data are then provided in sections 4 and 5. Section 6 offers a summary of the main findings.

2. Review of the Literature.

2.1. *Werden with Present Participles and the Werden Future.*

The *werden* periphrases with present participles, which were first attested in Old High German, have received little attention from the scholarly community compared to other periphrastic constructions, such as *werden* with past participles (the *werden* passive) and *werden* with infinitives (the *werden* future). The Old High German examples in 1 show *werden*

combined with a present participle. Note that at this point *werden* is still a copula verb, which has a past and a present form, as in 1a and 1b, respectively.¹

(1) a. thô **uuard** mund sîner sâr **sprechentér**
 then become.PST mouth his very speak.PTCP.PRS
 ‘Then his mouth started speaking a lot’ (Otfrid, I, 9,27)

b. Inti nu **uuridist** thû **suigenti**
 and now become.PRS you be.silent.PTCP.PRS
 inti ni maht sprehhan
 and not may speak
 ‘And now you start being silent and may not speak’
 (Tatian, Lk, 1,20)

According to Kotin (2003:152), the present participle in Old High German had a strong “adjective-like nature” and indicated a long-lasting state. Therefore, present participles were most readily derived from durative verbs, that is, verbs whose semantics do not specify temporal boundaries. The function of *werden* + present participle was to mark the entering into a particular state or the beginning of an action. Thus, the meaning of ‘starting to speak’ in 1a and ‘starting to be silent’ in 1b is realized through the combination of *werden* and the present participle forms of the durative verbs *speak* and *be silent*.

In Middle High German, the meaning and function of this periphrasis remained unchanged (Kotin 2003:163). In Early New High German, however, the periphrasis with durative verbs gradually vanished. Kotin (2003:165) links this phenomenon to the simultaneous disappearance of another similar periphrasis: the combination of *sîn* ‘to be’ and present participles. This construction indicated nonmutative and nonterminative actions, conveying a meaning that was close to the semantics of the main verb in its finite form: *habund bist* ‘you are having’ versus *hâst* ‘you have’ or *redened war* ‘you were speaking’ versus *redetest* ‘you spoke’. According to Kotin (2003:166), it is exactly this redundancy in meaning

¹ I use the following abbreviations: Auxiliary=AUX; copula=COP; infinitive=INF; present=PRS; past=PST; participle=PTCP; subjunctive=SBJV.

that caused the decline of this periphrasis, which also prompted the disappearance of the constructions of *werden* + present participle.²

Hypotheses on the emergence of the *werden* future from the periphrases of *werden* with present participles were formulated first at the beginning of the 20th century (Bech 1901, Kleiner 1925) and supported later on by numerous scholars (Weinhold 1883, Behaghel 1924, Ebert 1978, Betten 1987, von Polenz 1991). According to these scholars, the periphrasis of *werden* + infinitive originated from the combination of *werden* and the present participle. The loss of the ending of the present participle neutralized the difference with the infinitive, and as a result, the infinitive started appearing alongside the present participle in combinations with *werden*. At this point, *werden* and the infinitive were used as independent verbs, but afterwards the *werden* + infinitive sequence underwent grammaticalization, and speakers began to use this combination to indicate future events. Meanwhile, the *werden* + present participle construction disappeared. This process started allegedly in the 13th century in the Low German area, reaching the High German speaking areas shortly thereafter.

Kleiner's (1925) claim diverges a little from this position. She argues that the periphrases with *werden* + infinitive originated instead in the Alemannic dialect. These *werden* + infinitive periphrastic constructions are then the result of the analogy (and "confusion") between the combinations with the present participle and the dative infinitive, which, in this dialect, was often used without the inflectional ending *-de*.³

² Note that the English constructions do not show redundancy in meaning: *you are having* versus *you have* and *you were speaking* versus *you spoke* differ in their aspectual properties and are used in different contexts. However, these are the closest equivalents to the Middle High German constructions.

³ Saltveit (1961) is one of first scholars who argued against this hypothesis, claiming that the combination of *werden* + infinitive, which was found already in Old High German, did not originally have a temporal reading but rather a modal one. Later on, it acquired the additional function of referring to future events, slowly replacing modal verbs such as *sollen* 'shall' and *wollen* 'will', which, until that point, had been used to express both modal and future meanings. Other scholars have criticized Saltveit's theory (Leiss 1985, Schmid 2000, Harm 2001), but the "exact details of this development are still a matter of dispute" (Diewald & Smirnova 2010:234).

2.2. Analogy: Werden Like Modal Verbs.

Many scholars have looked at the German modal verbs as the source for the emergence of the *werden* future: It has been suggested that the *werden* future emerged by analogy with modal + infinitive constructions. The first account of this type is by Bogner (1989). He arrives at this conclusion by analyzing the occurrences of *werden* + infinitive in the FnhdC and by comparing the instances he finds with those of *wollen* 'will', *sollen* 'shall', and *müssen* 'must'. Bogner also looks at when these verbs, *werden* included, were used with temporal or modal readings. He observes that the number of occurrences of *werden* + infinitive with a temporal reading was around 50 in the first two centuries of the Early New High German period, but that it increased to over 200 two centuries later, especially in the Upper Saxon dialect area. At the same time, the use of the modal verbs with temporal readings significantly declined (Bogner 1989:77). Bogner (1989) bases his claim only on the instances in Early New High German and identifies the modal verbs with future readings as the model for the *werden* + infinitive periphrastic construction.

Like Bogner (1989), Schmid (2000) considers the modal verb + infinitive construction as the analogical model for the emergence of the *werden* future. He analyzes a large number of texts from the Upper, Middle, and Low German dialect areas written between the 12th and 15th century and claims that the combination of *werden* and infinitives is the outcome of LINGUISTIC CONTAMINATION by constructions with the modal verbs. Schmid (2000) defines contamination as the process by which two semantically related constructions are slowly perceived as being equal and, consequently, start to be used in the same way. Schmid bases his claim on the instances of modal verbs combined with *werden* that he finds throughout the corpus. He argues that the communicative intent was to collocate the narration in the future (Schmid 2000:13).

Like Bogner (1989) and Schmid (2000), Harm (2001:300) also suggests that the emergence of the *werden* future was the outcome of the analogical association with the modal verbs that had a future reading. According to him, the replacement of present participles with infinitives was triggered by the frequent use of modal verbs with a future reading. Moreover, the *werden* passive (*werden* + past participle) in the present tense often had a future or ingressive reading, which further contributed to the perception of *werden* as the main carrier of the future meaning (Harm 2001:304).

It should be noted that in addition to analogy the aspectual semantics of *werden* are considered a factor. Fritz (1997:83) claims that apart from the analogy with the modal verbs, the emergence of the *werden* future was also influenced by the perfective semantics of the verb *werden*. He shares the assumptions of Valentin (1987) about the existence of an aspectual opposition between *uuerdan* and *sîn* in Old High German. Fritz claims that, when used alone as the lexical verb meaning ‘become’, *werden* referred to completed actions and established the temporal frame in which the event in question took place. The feature *Grenzbezogenheit* [relatedness to a boundary] was central to the semantics of this verb in its earliest occurrences. Between Notker’s time and the beginning of the Middle High German period, *werden* loses part of its semantics. Consequently, the *werden* passive starts to behave like the modern *Vorgangspassiv* [the process passive], acquiring the ability to also describe slow or gradual changes, while *werden* alone loses part of its perfectivity. According to Fritz (1997:88), this process of desementization comes to an end in Early New High German, when speakers start using *werden* + infinitive with a future and not aspectual meaning, by analogy with the modal verbs.

2.3. Analogy.

Some scholars have argued that the *werden* future developed from *werden* + infinitive by analogy with the combination of *werden* and the infinitival forms of *stantan* ‘stand’ or *biginnan* ‘begin’. In his analysis of *werden* + infinitive, Kotin (2003) also considers instances from the later years of the Old High German period, when the preterite tense form of *werden* + infinitive had the function of marking the beginning of an action in the past.⁴ According to Kotin (2003), this construction was modeled after the Old High German construction with *werden* followed by *stantan* ‘stand’ and a similar construction with *duginnan* ‘begin’ in Gothic. These constructions were used to mark the moment in which an action began.

In Middle High German, *werden* + infinitive starts to appear in the present tense, with a similar status to that of *werden* + past participle: At the time, *werden* + past participle could be considered a bi-verbal construction with both elements still having a relatively large degree of

⁴ In Modern German, it is impossible to combine the preterite indicative form of *werden* with an infinitive.

autonomy. In this stage, *werden* + infinitive in the present tense competed with modal verb constructions, since they could also convey a future-related meaning (Kotin 2003:167). In Middle High German, *werden* continues to lose its mutative reading—the process that started already in Old High German and was, according to Kotin, one of the prerequisites for its grammaticalization as a future auxiliary (Kotin 2003:172). At the end of the 15th century, Kotin reports relevant changes in the verbal system: The periphrasis with *werden* in any tense plus present participle and *werden* in the past tense (preterite or perfect) plus infinitive slowly disappeared. *Werden* in the present tense plus infinitive becomes the only construction used to express future-related meanings. At the same time, verbs such as *sollen* and *wollen* begin to be used only as modal verbs. In Early New High German, *werden* in the present tense plus infinitive completes its grammaticalization process and makes its way into language use as a periphrastic future construction, or the *werden* future (Kotin 2003:202).

Another work that considers analogy to be responsible for the emergence of *werden* as a future auxiliary is Krämer 2005. In her discussion of the emergence of the *werden* future, she distinguishes between the grammaticalization of *werden* + infinitive with a future reading and *werden* + infinitive with a modal reading. The first process started with the combination of *werden* and the present participle in which *werden* behaved as a copula verb. Although these claims are similar to those made by Bech (1901), Krämer's reasons for this development are significantly different. According to Krämer (2005), the grammaticalization of *werden* + infinitive with a future reading occurs in two steps. During the first step, the infinitive replaces the present participle through analogical association with the Old High German *biginnan* 'begin' + infinitive construction. Such analogy was motivated by the two constructions sharing a clear ingressive reading. At the beginning of this process, *werden* + present participle and *werden* + infinitive coexist, and in both constructions *werden* still behaves as a copula. In the second step, the periphrasis with the infinitive is reanalyzed, and *werden* acquires its status as an auxiliary for the expression of future tense. Once the future construction is fully established, the modal reading arises. At the same time, the combination of *werden* plus present participle completely disappears (Krämer 2005:92). Krämer summarizes the development of *werden* as follows:

(2) Full verb	→	copula	→	auxiliary	→	auxiliary with
				with the function		the ability to
				to indicate		express
				forthcoming events		modality

The most recent account to date on the *werden* future is by Diewald & Wischer (2013). In this study, the authors compare the future auxiliary “candidates” in Old English and Old High German. Other than *werdan*, Old High German candidates included verbs such as *wellan* ‘want’ and *sculan* ‘should’. These latter verbs occurred frequently and were very often used with future implications; yet they were never suitable candidates for such a role because of their semantic components that involved volition or obligation. Conversely, *werdan* could grammaticalize into a future auxiliary because of its dominant ingressive meaning, which made it compatible with predicates of any kind. Additionally, Diewald & Wischer (2013:209) point out the following:

[T]hroughout the history of German, *werden* has displayed a high constructional variability. It has always been used simultaneously in a range of syntactic functions spanning from full verb via copula to auxiliary.

Diewald & Wischer (2013:215) also report some instances of *werden* in the present tense combined with an infinitive from the Gospel Harmony by Otfrid, contradicting in part what is claimed by Kotin (2003:135), who stated that such a combination in Old High German could appear only with *werden* in the past tense.

2.4. *The Werden Future as a Product of Language Contact.*

Other scholars depart from the aforementioned hypotheses, arguing that the *werden* future constructions in German emerged as a result of language contact. Leiss (1985:295) identifies instances of language contact between German and Czech during the so-called *Ostkolonisierung* [east colonization] between the 12th and 14th centuries as the main source for the *werden* future. Specifically, the construction with *budo* ‘be’ plus infinitive, which was used in Czech to indicate forthcoming events, functioned as the model for the formation of the *werden* future in German. Leiss bases her hypothesis on two different factors. First, the Czech construction, she argues, was older than its German counterpart with

werden. Second, *werden* + infinitive originated in the eastern Middle German dialect, which was spoken in an area close to where Czech was spoken. As a result, several episodes of language contact between Czech and German triggered the formation of the *werden* future, based on the *budo* plus infinitive combination.⁵

Diewald & Habermann (2005) also offer an account on the emergence of the *werden* future and suggest that “werden erst durch den Sprachkontakt mit dem Lateinischen zur systematischen Futurmarkierung des Deutschen wurde” [*werden* became the systematic future marker in German first through contact with Latin] (p. 241). According to Diewald & Habermann (2005), this construction evolved between the later years of the Middle High German period and the beginning of the Early New High German period. Although they acknowledge the existence of *werden* + infinitive in Old High German, they identify the time frame between the 14th and the 16th centuries as the relevant stage in which this structure gained its status as future tense marker. They identify two steps in the grammaticalization process of this construction. The first one is characterized by a succession of internal linguistic phenomena such as analogy. Diewald & Habermann (2005:245) define this first step as a process that “involves attraction of extant forms to already existing structures, hence generalization.” Citing Bybee et al. 1994, they point out that periphrastic future constructions normally emerge from deontic modals. For example, lexemes that express desire, wish or obligation are traditionally recognized sources for the development of future tense forms. In contrast, the emergence of a periphrastic future from a lexeme with perfective semantics, such as *werden*, is very rare (Diewald & Habermann 2005:278).

Nonetheless, the authors list different factors that contributed to the emergence of *werden* as an auxiliary with a future temporal reference. First, the intrinsic semantics of *werden* itself made it a suitable candidate for this purpose. Second, *werden* frequently appeared in different types of constructions, showing a large “konstruktionelle Variabilität” [constructional variability]. Third, *werden* + infinitive could strengthen its future meaning through the analogical integration of these constructions

⁵ Leiss’s theory has been questioned by many scholars (Fleischer & Schallert 2011), although there have also been some occasional attempts to provide further support for her claims (see, for instance, Masařík 1994).

into the small group of ingressive verbs. However, these factors alone do not suffice to fully explain the spread of *werden* + infinitive as a future marker. According to Diewald & Habermann (2005:239), it was language contact with Latin that played a key role in the emergence of the *werden* future.

To summarize, this overview of the scholarship on the *werden* future has highlighted the large variety of theories and hypotheses on both the meaning and the origins of this construction that have been put forward by the scientific community. Yet despite this amount of research, there is still little agreement around the emergence of the *werden* future and, consequently, the question about its origins still remains unanswered today (Fleischer & Schallert 2011). To resolve the uncertainty around this construction, I conducted a diachronic corpus linguistic analysis of *werden* + present participle and *werden* + infinitive—the two constructions that could have potentially lead to the emergence of the *werden* future. The goal of the analysis is to re-examine the hypothesis according to which the *werden* future emerged from the *werden* + present participle construction in the 13th century (Bech 1901, Kleiner 1925). In the next section, I discuss the methodology used to collect and analyze the data.

3. Methodology: The Corpora and Data Selection.

This section discusses the methodology of data selection and extraction. The data consist of the instances of *werden* + present participle and *werden* + infinitive found in a total of 51 texts from Middle and Early New High German. The results are presented and discussed separately for Middle High German and Early New High German in sections 4 and 5, respectively. The texts from which I have collected the data come from two different annotated online corpora: *Referenzkorpus Mittelhochdeutsch* (ReM; the Reference Corpus of Middle High German) and *Bonner Frühneuhochdeutschkorpus* (FnhdC; the Bonner Corpus of Early New High German).

ReM consists of three different subcorpora: *Kölner Korpus hessisch-thüringischer Texte* (the Cologne Corpus of Hessian-Thuringian Texts), *Bonner Korpus mitteldeutscher Texte* (the Bonn Corpus of Middle German Texts), and *Bochumer Mittelhochdeutschkorpus* (BoMiKo; the Bochum Middle High German Corpus). For the Middle High German portion of this study, a total of 30 texts from ReM were selected that cover the entire Middle High German period (the second half of the 11th–early 14th century)

and five different dialectal areas (West Middle German, East Middle German, West Upper German, East Upper German, and North Upper German), which cover a vast geographical area. I selected an average number of two texts for each century and dialect. The selected writings comprise mostly religious and legal texts, which allows this project to concentrate on texts with similar topics and exclude poetry. The total word count for Middle High German is 202,385.

For the Early New High German portion of this study, 20 texts from FnhdC were selected that cover the period from the late 14th century to the 17th century. The selection encompasses religious as well as legal prose texts, together with other text types. Like the selection for the Middle High German portion of the study, the selected Early New High German texts come from five different dialect areas: West Middle German, East Middle German, West Upper German, East Upper German, and North Upper German. The total number of words for Early New High German is 253,559. The raw and normalized frequencies of *werden* and the elements with which it is combined are discussed at the end of the section. The list of texts can be found in Appendix.

For the purposes of this study, two different databases were created—for Middle High German and for Early New High German—and all the instances of *werden* found in the selected texts were assigned accordingly. The two databases contain all the tokens of [WERDEN + infinitives] and [WERDEN + present participle].

The data also show the tenses in which *werden* was used (present, preterite, or past perfect) independently of the mood (indicative or subjunctive). The data are presented in detailed charts and then discussed. The analysis did not include sentences with *werden* in which the annotations of one of the elements were missing, as shown in example 3. The missing annotation for the words that are not translated are displayed as [!] in ReM and as “unbekannt” [unknown] in FnhdC.

- (3) unte dero sententia **uuart** reprobate
 and of.their [!] became.PST [!]
 ‘and of their.....was....’ (Hoheliedkommentar, 11v,05)

In such examples, it is impossible to determine whether *werden* is combined with an infinitive, a past participle or a noun, and so they are not included in the data. In the next section, I offer a detailed account of

the attestations of the verb *werden* found in the Middle High German and Early New High German corpora.

4. Middle High German: The Origins of the *Werden* Future.

4.1. Results.

A total of 110 instances of *werden* with present participles and *werden* with infinitives were analyzed. Figure 1 shows the raw and normalized (per 10,000 words) frequencies of the instances of *werden* in Middle High German.

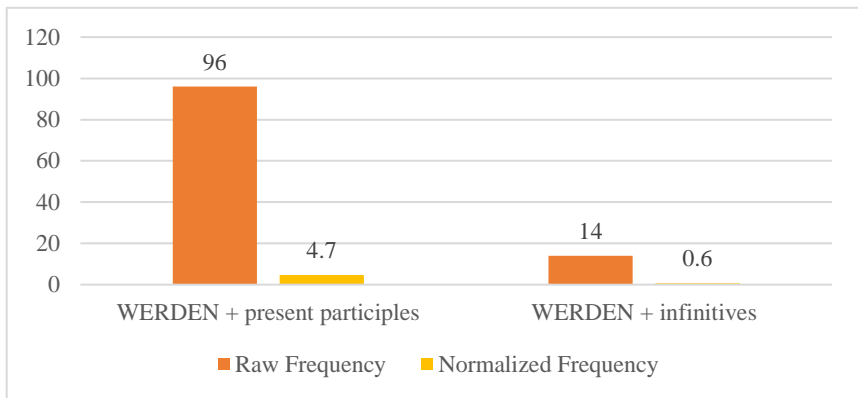


Figure 1. Raw and normalized frequencies of the instances of *werden* with present participles and infinitives.

The majority of the instances of *werden* occurred with present participles, with a total of 96 occurrences. Of these instances, 48 were in the present tense, 47 in the preterite, and 1 in the present perfect. There was a total of 14 instances with infinitives, and in all of them *werden* was used in the present tense. The ability of *werden* to appear in different tense forms is discussed in more detail in section 5.

Figures 2 and 3 show the raw and normalized frequencies of the distribution of the instances of *werden* for each century.

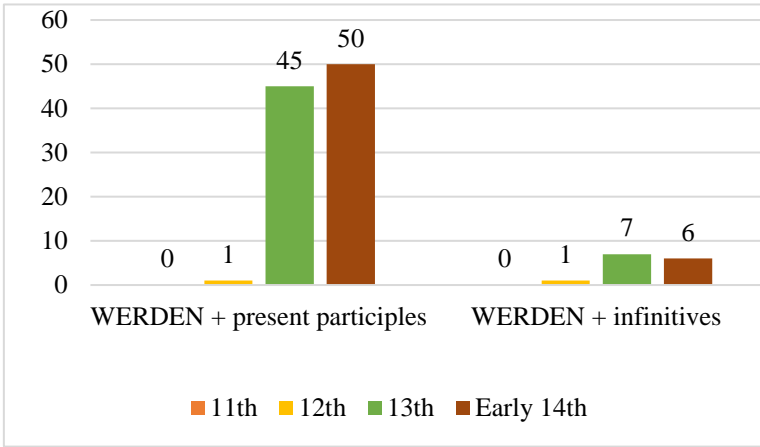


Figure 2. Raw frequency per century of the instances of *werden* with present participles and infinitives.

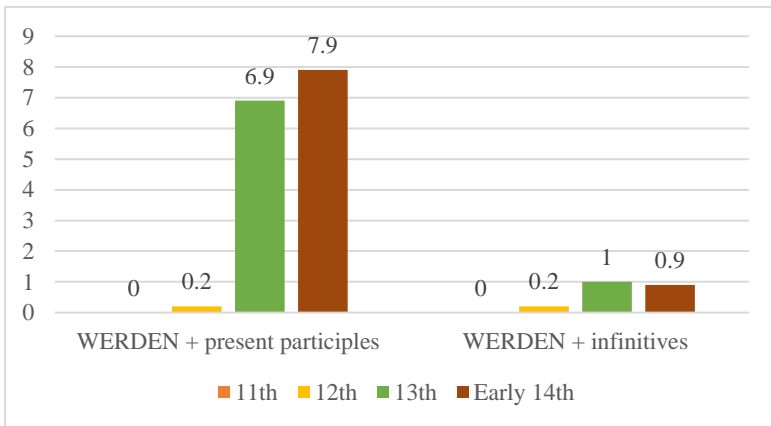


Figure 3. Normalized frequency per century of the instances of *werden* with present participles and infinitives.

Many instances of *werden* with present participles date from the early 14th century, followed by the 13th and the 12th centuries. The number of instances of *werden* with infinitives is almost the same in the 13th and early 14th centuries.

German *werden* future emerged. First, *werden* + present participle and *werden* + infinitive are both found in Old High German (Diewald & Wischer 2013) and in the first two centuries of Middle High German. The coexistence of these constructions during this period suggests that the combination with the present participle was probably not the source of the development of the *werden* future, which allegedly took place in the 13th century. Second, the aspectual properties of infinitival verbs make *werden* + infinitive a more likely candidate for a periphrastic future construction: In 4b, *werden* can position the time of the action in the future, so one can say that the meaning expressed here resembles the future as it is known today.

The two constructions continue to coexist well into the Middle High German period. In the texts from the 13th century, there are several instances of *werden* combined with present participles, as in 5a, and with infinitives, as in 5b.

- (5) a. ier **werdent** mich ain clain wil niht **sehente**
 you become.AUX.PRS me a short time not see.PTCP.PRS
- und dar nach so **werdent** ier mich
 and then so become.AUX.PRS you me
- ain clain wil aber **sehente**
 a short time but see.PTCP.PRS
- ‘You won’t be seeing me for a while and then you will be seeing me shortly after’ (Schwarzwälder Predigten, 010, ra15)
- b. ir de nu **werdent** **sehende**
 you the now become.AUX.PRS see.INF
- de mich die iuden **werden** **vahende**
 the me the Jews become.AUX.PRS catch.INF
- ‘you will see that the Jews will catch me’
 (Schwarzwälder Predigten, 009,va10)

The examples in 5 also show that the same verbs could occur with *werden* as present participles and infinitives—the verb *sehen* ‘see’ in this case. More specifically, in the attestations with present participles, *werden* combined with atelic verbs, that is, verbs that do not specify temporal boundaries, such as *sehen* ‘see’, *hören* ‘hear’, *wundern* ‘wonder’,

sprechen ‘speak’, *weinen* ‘cry’, *herrschen* ‘rule’, and *streiten* ‘fight’ (see Schumacher 2005:151 and references there). A comparison with the instances of *werden* and verbs in their infinitival forms reveals a similar distribution: Among the verbs found in the infinitival form, there are verbs such as *sehen* ‘see’ and *führen* ‘lead’. One exception is the telic verb *vahende* ‘catch’, as in 5b.

The constructions with present participles and with infinitives found in the early 14th century have a similar distribution to the ones observed in the previous centuries. The periphrases with present participles conveyed the meaning of entering into the particular event or state expressed by the verb, as shown in 6. Note that the auxiliary in 6b is in the past tense, which becomes relevant in section 5, where I discuss the grammaticalization process.

- (6) a. an dem dritten tage **wirt** er **vftande**
 on the third day become.AUX.PRS he rise.PTCP.PRS
 von dem tovede
 from the death

‘On the third day, he will rise from death’

(Nikolaus von Straßburg: Predigten, 37ra,17)

- b. Du an irre sucheden me **minende** inde me
 you at her the.same more love.PTCP.PRS and more
begerende **wart**
 desire.PTCP.PRS become.AUX.PST

‘You started loving and desiring more like her’

(Rede von den 15 Graden, 089r,15)

The instances with infinitives found in the 14th century express a comparable meaning to the same type of constructions in Modern German, as shown in the examples in 7.

- (7) a. daz man z doch von im **wirt** **vber haben**
 that one it anyway from him become.AUX.PRS over have.INF
 ‘that one will have it over from him anyway’

(Würzburger Polizeisätze, 250va,15)

- b. mit dem **wirdet** **tragen** ûf daz hûs, daz zeichene
 with that become.AUX.PRS carry.INF on the house the sign
 ‘(he-she) will carry the sign on the house with that’
 (Nürnberger Stadtbuch, 10ra,14)

In the early 14th century, the verbs found in the present participle were both atelic, such as *sehen* ‘see’, *beten* ‘pray’, *hassen* ‘hate’, and *achten* ‘respect/pay attention to something’, and telic, such as *kreuzigen* ‘crucify’, *verdammen* ‘condemn’, and *fangen* ‘catch’. The verbs found in the infinitive were also both atelic, such as *hassen* ‘hate’ and *lachen* ‘laugh’, and telic, such as *erkennen* ‘recognize’ and *kaufen* ‘buy’:

- (8) a. vñ **werdent** in geisslende
 and become.AUX.PRS him take.hostage.PTCP.PRS
 vnd kruzⁱigende
 and crucify.PTCP.PRS
 ‘And (they) will take him as a hostage and crucify’
 (Nikolaus von Straßburg, 37ra,12)

- b. **werden** sie des gebetten kauffen
 become.AUX.PRS they of prayers.DEF buy.INF
 ‘They will buy from the prayers’
 (Würzburger Polizeisätze, 37ra,12)

This overlap between the types of verbs that could appear in *werden* + present participle and *werden* + infinitive in the early 14th century confirms the trends observed in the 12th and especially the 13th century. The question is why the two constructions coexisted in the language for such a long time. Kotin (2003:162) refers to *werden* + present participle and *werden* + infinitive as “twin constructions” in the sense that they looked very similar but served different purposes. He argues that speakers chose one or the other depending on how they wished to describe the event in question. As discussed in the review of the literature, in Old and Middle High German, the present participle had a strong “adjective-like nature” and indicated a long-lasting event or state (Kotin 2003:152). Conversely, the infinitive was more “verb-like” than the present participle, and the combination of *werden* and the infinitive was similar to *werden* + past

participle (the *werden* passive), in that the two elements clearly had a “verb-like nature” (Kotin 2003:160).

The different properties of the present participle and the infinitive determined the aspectual interpretation of each construction. Combined with *werden*, the present participle indicated the beginning of a particular event or entering into a particular state for an indefinite amount of time, independently of the type of its base verb—durative or resultative (Kotin 2003:152). Thus, *werden* + present participle always denoted temporally unbounded events regardless of whether or not the main verb was atelic or telic. In contrast, when infinitives combined with *werden*, the aspectual properties of their base verb mattered: As the infinitive did not impose any aspectual restrictions, durative verbs kept their temporal indefiniteness, whereas resultative verbs retained their telic aspectual features (Kotin 2003:152). Thus, *werden* + infinitive described either unbounded or bounded events, depending on the main verb. Based on this difference, Kotin (2003) argues that *werden* with present participles and *werden* with infinitive verbs were not related through a parental relationship; they originated from different sources and coexisted in the language for a long time until the periphrasis with the present participle disappeared.

German speakers in the 12th– early 14th century seem to have been aware of the aspectual differences between *werden* + present participle and *werden* + infinitive. As claimed by Eve Clark, “when speakers choose an expression, they do so because they mean something that they wouldn’t mean by choosing an alternative expression” (Clark 1990:417). The occurrence of the same verbs in both *werden* constructions—with present participles and infinitives—as shown in 5 reveals that speakers were aware of the differences between these two periphrases.

To summarize, a total of 110 instances of *werden* with the present participles and the infinitive were found in the Middle High German corpus. The data from this period provided insightful information on the use of the *werden* constructions with present participles and infinitives, and shed light onto the possible origins of the Modern German *werden* future. In particular, the data suggest that, contrary to previous analyses (such as Bech 1901 and Kleiner 1925), *werden* + present participle was not the source from which the *werden* future emerged. First, both these periphrases were attested in Old High German (Kotin 2003). Second, the texts from the 12th century had attestations of these periphrases, suggesting that the combination of *werden* with infinitives was well

established in this period or even earlier. Finally, in the texts from the 13th and early 14th century, these constructions were used with the same or similar types of verbs, and in analogous contexts. These findings seem to support the analyses of scholars such as Kotin (2003), who claimed that *werden* + present participle and *werden* + infinitive were “twin constructions” rather than being genetically related by a parental relationship.

5. Early New High German: The Grammaticalization Path.

Using corpus data from FnhdC, in this section I discuss further development of *werden* + present participle and *werden* + infinitive and address the grammaticalization process that the latter underwent during the Early New High German period. The data show that at the beginning of this period, *werden* in *werden* + infinitive could still appear in the past tense in the indicative mood (preterite and perfect). Later on, however, *werden* lost this ability as past tense became incompatible with the future meaning of the construction. The data also suggest that the grammaticalization process concluded around the 16th century.

5.1. Results.

A total of 410 instances of *werden* with present participles and *werden* with infinitives from FnhdC were analyzed. shows the raw and normalized frequencies of the instances of *werden* in Early New High German.

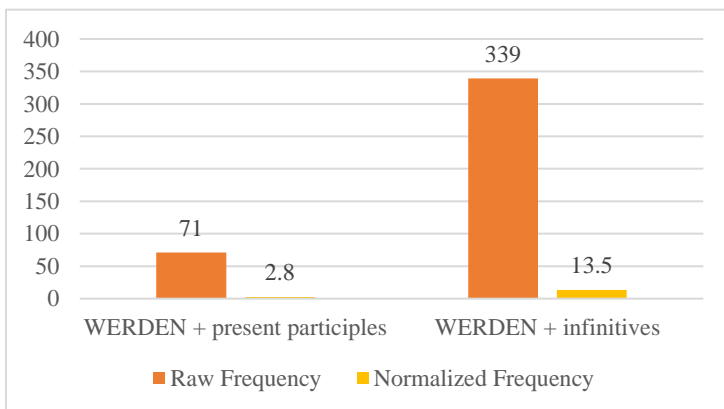


Figure 4. Raw and normalized frequencies of the instances of *werden* with present participles and infinitives.

Contrary to what was found in Middle High German, in Early New High German the majority of the instances of *werden* were with infinitives, with a total of 339 occurrences. Note that of these instances, 269 had *werden* in the present tense, whereas 70 had *werden* in the preterite, which is a construction that not exist today. It is also during this period that *werden* + infinitive is attested for the first time in the subjunctive mood: Among the instances with *werden* in the present tense, 241 were in the indicative mood, while the remaining 28 were in the subjunctive mood. Among the instances with *werden* in the preterite, five were in the indicative mood, while the rest were in the subjunctive.

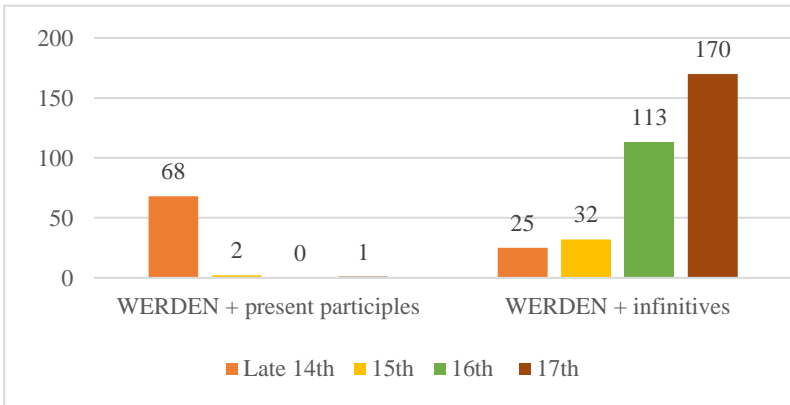


Figure 5. Raw frequency per century of the instances of *werden* with present participles and infinitives.

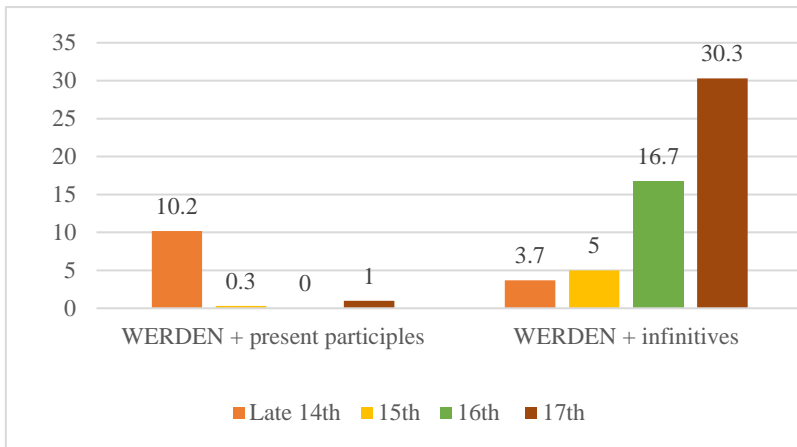


Figure 6. Normalized frequency per century of the instances of *werden* with present participles and infinitives.

There was a total of 71 instances of *werden* + present participles, 45 with *werden* in the present tense, 25 in the preterite, and one in the present perfect. Figures 5 and 6 show the raw and normalized frequencies of the distribution of the instances of *werden* for each century. A significant portion of the instances of *werden* with infinitives was found in the last two centuries of the Early New High German period (that is, the 16th and 17th centuries). In contrast, the highest number of instances with present participles comes from the late 14th century, whereas in the following centuries the number of occurrences is extremely low. These results indicate that while *werden* + infinitive was on the rise, *werden* + present participle was gradually disappearing during the same period.

5.2. Discussion.

The data from FnhdC show that at the beginning of the Early New High German period, *werden* in both constructions could appear in past tense (preterite and present perfect). These observations show that at that point, *werden* was not yet a future auxiliary. The data from the second half of the 14th century still show a high number of *werden* + present participle constructions, even though their occurrence begins to decline later. The examples of *werden* + present participle in 9 show *werden* in present tense, whereas in 10 it appears in past tense.

- (9) a. ir **wert** her nach **weinent** vurege trehen
 you become.AUX.PRS after cry.PTCP.PRS fiery tiers
 ‘Thereafter you will cry with burning tears’
 (Altdeutsche Predigten, 8, 14)

- b. ich minen lichamen also gar vbele
 I my body therefore totally badly
hassende wart
 hate.PTCP.PRS become.AUX.PRS
 ‘I started hating my body therefore so badly’ (Mannen, 6, 15)

- (10) a. Ioseph **wart** **weinent** vnd sprach
 Joseph become.AUX.PST cry.PTCP.PRS and talked
 ‘Joseph started crying and talked’ (Buch der Könige, 3va 28)

- b. vnd **wart** si ser **drvKent**
 and become.AUX.PST they very pressure.PTCP.PRS
 ‘and (he) started pressuring them’ (Buch der Könige, 03vb,23)

The combination of *werden* with the present participle appears to have kept a meaning similar to the same type of constructions from the 13th and the first half of the 14th century.

As for *werden* + infinitive, the data contained a total of 25 instances of this construction, including three instances with *werden* in past tense, as in 12.

- (11) di **wirt** noch mer **hungern**
 that become.AUX.PRS even more be.hungry.INF
 ‘They will become even more hungry’
 (Altdeutsche Predigten, 6, 10)

- (12) a. ich do **wart** gelosen sehen
 I there become.AUX.PST calm see.INF
 ‘I was seen calm there’ (Mannen, 19, 11)

- b. **wart** aber in dem blicke gelosen **sehen**
 become.AUX.PST but in the look calm see.INF

vnd **bevinden** solliche wunder
 und find.INF such wonders

‘[I] was seeing with a calm gaze and I was finding such wonders’
 (Mannen, 19, 8)

It should be mentioned that some data may potentially call into question the infinitival status of *sehen* in 12: In the same period, the sequence *gelosen sehen* appears in perfect constructions with *haben*, as in *het gelosen sehen* lit. ‘has calm seen’ (Mannen, 13,30). In Old and Middle High German, some verbs did not take the prefix *ge-* in the past participle, and so the form *sehen* in 12 could potentially be a past participle and not an infinitive. Note, however, that verbs without the prefix *ge-* in the past participle were telic and had perfective semantics, such as *bringen* ‘bring’ and *finden* ‘find’ (Kotin 2003:239). In contrast, *sehen* is an atelic verb, which denotes an ongoing state. Further, 12b also contains the second infinitive *bevinden* ‘find’, which is another complement of *werden* joined with *sehen* by *und* ‘and’.⁶ Assuming that only elements of the same category may be conjoined by *und*, it is reasonable to conclude that *sehen* in this case appears in its infinitival form and that the entire construction therefore is an instance of *werden* (in the past tense) + infinitive.

In the second half of the 14th century (that is, at the beginning of the Early New High German period), periphrases with *werden* in the subjunctive mood + infinitive were first attested (Smirnova 2006:269). These constructions were used to express desire or to describe a hypothetical situation and appeared in subordinate clauses, with the main clause being in the past tense (Smirnova 2006:271):

(13) ein ygeliche mensche unser herren got vil
 a [unknown] human our lord god a.lot

innerliche **würde** **bitten**
 interiorly become.AUX.SBJV.PST beg.INF

‘A man would interiorly beg our lord god a lot’
 (Altdeutsche Predigten, 10, 33)

⁶ The corpus annotated the form *bevinden* as an infinitive. Also, both *finden* and *bevinden* change in the past participle to *funden*.

The texts from the 15th century begin to show a different distribution of the constructions with the present participle and the infinitive. Only two attestations of *werden* combined with the present participle were found. One of them is shown in 14.

- (14) die selbigen wreck **werden**
 the same works become.AUX.PRS
 vil lustiger **smeckende** und **messende**
 more fancier taste.PTCP.PRS and measure.PTCP.PRS
 ‘The same works get a better taste and a better measurement’
 (Pillenreuth, 191)

In 14, the verb *werden* appears with two present participles that function as adjectives describing *wreck* ‘works’. This example shows that the present participle still keeps its adjective-like nature, which was observed in the examples found so far and which are preserved in Modern German.

In contrast, the occurrence of *werden* combined with infinitives during the same period is much higher: Thirty-two attestations were found. Two examples are given in 15.

- (15) a. ir **wert** morgen nicht gen Prespurgk **faren**
 you become.AUX.PRS tomorrow not to Prespurgk go.INF
 ‘You all won’t go tomorrow to Prespurgk’
 (Denkwürdigkeiten, 19, 23)

- b. so **-wirt** er dich teilhaftig **machen**
 so become.AUX.PRS he you partially do.INF
 seiner pitter marter
 his bitter martyrdom
 ‘He will let you participate in his bitter martyrdom’
 (Pillenreuth Mystik, 167, 18)

Note that at this point, the majority of the instances with *werden* in the past combined with the infinitive (19 in total) were in the subjunctive mood, with only two forms still in the indicative mood, as shown in 16. Eventually, *werden* could no longer appear in the preterite when combined

with an infinitival form, which is a clear sign of its grammaticalization status.

- (16) das Liecht was vmbgefallen vnd **ward** **prýnnen**
 the light was fallen and become.AUX.PST burn.INF
 ‘The light had fallen and started burning’ (Denkwürdigkeiten, 11, 9)

Yet these two occurrences of the preterite *werden* + infinitive seem to suggest that by the 15th century, *werden* had not yet lost its mutative meaning that it had in Old and Middle High German. *Werden* was, indeed, still relatively autonomous at this stage, and, in the preterite, could be combined with verbs in their infinitive forms. In this case, this periphrasis had the capacity to convey the onset of a new state that was the result of previous actions (Smirnova 2006:246). Expressing the fact that the subject has entered into the new state of burning in 16 seems to be the direct consequence of the previous action of falling. The use of the infinitive combined with *werden* in the preterite signals that the subject entered the new state in the past because the action causing this new state also took place in the past.

In the texts from the 16th century, no instances of *werden* with present participles were found, whereas there was a remarkable number of combinations of *werden* with verbs in the infinitive (113 in total). While all the forms in past tense (9 in total) were in the subjunctive mood, among those in the present (104 in total), 79 were in the indicative mood, as shown in 17.

- (17) a. der heilig Geist **wird** **kommen**
 the holy spirit become.AUX.PRS come.INF
 ‘The holy spirit will come’ (Summaria, 18v, 19)
- b. An jenem tag **wird** es **offenbar werden**
 on a day become.AUX.PRS it obvious become.COP.INF
 ‘One day it will become obvious’ (Summaria, 29, 34)

The examples in 17 give some relevant information about the status of this periphrasis at that time. Example 17a shows that *werden* + infinitive is already very similar semantically to the *werden* future in Modern German. Example 17b, in which there are two forms of *werden* (one as an auxiliary

and one as a copula verb), shows that this verb is probably losing part of its original meaning and autonomy. According to Bybee (2003:7), with repetition, sequences of units that were previously independent come to be processed as a single unit. This repackaging has two consequences: First, the identity of the components is gradually lost, and second, the entire unit begins to reduce in form.

The increased frequency of the *werden* + infinitive construction that expresses future meaning is presumably influencing the way this combination is perceived in the language, namely, it is gradually reanalyzed as a single unit rather than a combination of two independent verbs. The direct consequence of this reanalysis is the gradual loss of the original autonomy and meaning that made it possible for the past tense form of *werden* to be used with infinitives; that is, *werden* has been undergoing the desemantization process (see Kotin 2003), which probably reaches its final stage in the 16th century.

Moving on to the 17th century, the data from this period show only one instance of *werden* in present perfect combined with a present participle in one finite construction (Breitbarth 2004, 2005), as shown in 18. The present perfect had also reached the final stage of its grammaticalization by this period (Concu 2016).

(18) zwey oder drey Monat alte Kinder auf den Armen
two or three months old children in the arms

ihrer Mutter **redend** **worden**
of.their mothers talk.PTCP.PRS become.AUX.PTCP.PST

‘Two or three years old children started talking in the arms of their mother’
(Deo Gratias, 25, 5)

Data from the 17th century contain the highest number of *werden* + infinitive constructions found so far (170 in total). The majority of instances of *werden* in the present tense were in the indicative mood, as shown in 19a, with only three instances being in the subjunctive mood, such as the one in 19b. In contrast, all the attestations of *werden* in the past tense were in the subjunctive, as shown in 19c. There were no instances of *werden* in the preterite indicative followed by an infinitive.

grammaticalization path, and that its grammaticalization was probably reaching its final stage at that time.

6. Conclusion.

The goal of this study was to track the historical development of the verb *werden* in Middle and Early New High German in order to explain the emergence of the *werden* future. This study has critically examined the hypothesis that the *werden* construction with infinitives derived from the combination of *werden* and the present participle in the 13th century (Weinhold 1883, Bech 1901, Behaghel 1924, Kleiner 1925, Ebert 1978, Betten 1987, von Polenz 1991). Hence, I focused on the relationship between the constructions with *werden* and the present participle and *werden* and the infinitive in Middle and Early New High German. The diachronic corpus analysis carried out in this study showed that these constructions could be found in the same or similar communicative contexts as early as the 12th century. These findings suggest that these constructions were already well established in the language, probably even before the 12th century. These results rule out a possible parental relationship between these two constructions and provide support for Kotin's (2003) position: *Werden* with the present participle and *werden* with the infinitive were "twin constructions."

Furthermore, the analysis has also provided insight into the period in which the *werden* future emerged. The occurrences found in Middle High German implied that this construction emerged earlier than the 13th century, as scholars such as Diewald & Wischer (2013) have suggested. The instances found in Early New High German also offered insightful information on the grammaticalization process of this construction, indicating that it possibly culminated in the 16th century. In sum, the findings of this study have ruled out *werden* together with the present participle as the origin of *werden* future. The factors leading to the development of the latter construction still require further investigation (for example, by analogy with modal verbs, *stantan* and *biginnan*).

APPENDIX

11th Century

Dialect Area	Text	Word Count
West Middle German	Rheinfränkische Interlinearversion der Psalmen	541
East Middle German	N/A	N/A
West Upper German	Rheinauer Gebete	1,484
	Älterer Physiologus	1,613
	Wessobrunner (Ahd.) Predigtsammlung A	1,413
	Wessobrunner (Ahd.) Predigtsammlung B	1,789
	Wessobrunner (Ahd.) Predigtsammlung C	701
East Upper German	Wiener Notker	4,501
	Wessobrunner Glaube u. Beichte I	1,687
	Otlohs Gebet	889
North Upper German	Hoheliedkommentar	14,601
Total		29, 219

12th Century

Dialect Area	Text	Word Count
West Middle German	Trierer Psalmen	15, 206
East Middle German	Schleizer Psalmen	2,454
	Wiggertsche Psalmen	1,350
West Upper German	Züricher Arzneibuch	2,714
	Alkuins Traktat	1,229
	Engelberger Gebete	1,092
East Upper German	Wiener Physiologus	5,938
	Krakauer Fragmente	4,962
	Seckauer Gebete A	1,083
North Upper German	Bamberger Glaube u. Beichte	3,330
Total		39,358

13th Century

Dialect Area	Text	Word Count
West Middle German	Mitteldeutsche Predigten	10,329
East Middle German	Jenaer Martyrologium	13,897
West Upper German	Schwabenspiegel	16,199
East Upper German	Buch der Könige	12,356

North Upper German	Salomon Haus	14,534
Total		66,935

Early 14th Century

Dialect Area	Text	Word Count
West Middle German	Rede von den 15 Graden	10,329
East Middle German	Evangelienbuch des Matthias von Beheim	13,879
West Upper German	Nikolaus von Straßburg: Predigten (C)	16,199
East Upper German	Oberaltaicher Evangelistar	13,012
North Upper German	Nürnbergger Stadtbuch	4,920
	Würzburger Polizeisätze	8,534
Total		66,873

Late 14th Century

Dialect Area	Text	Word Count
West Middle German	Benediktinerregel Oxford,	14,977
East Middle German	Altdeutsche Predigten I	14,278
West Upper German	Mannen	12,664
East Upper German	Rationale	13,847
North Upper German	Namen	10,740
Total		66,506

15th Century

Dialect Area	Text	Word Count
West Middle German	Johann Koelhoff: Chronik	12,020
East Middle German	Johannes Rothe: Chronik	12,809
West Upper German	Gerold Edlibach: Chronik	11,165
East Upper German	Denkwürdigkeiten	14,547
North Upper German	Pillenreuth Mystik	12,839
Total		63,380

16th Century

Dialect Area	Text	Word Count
West Middle German	Amerika	13,662
East Middle German	Johann Bange: Chronik	13,529

West Upper German	Gespenster	12,519
East Upper German	Moscouia	14,737
North Upper German	Summaria	13,211
Total		67,658

17th Century

Dialect Area	Text	Word Count
West Middle German	Schaubühne	11,734
East Middle German	Jugendlust	13,089
West Upper German	Mythoscopia	11,326
East Upper German	Deo Gratias	6781
North Upper German	Spiegel	13,058
Total		55,988

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