DEGREE OF GRAMMATICALISATION OF *BEHIND*, *BENEATH*, *BETWEEN* AND *BETWIXT* IN MIDDLE ENGLISH

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Abstract

The present paper traces the history of four selected adverbs with the prefix *be*- in Middle English. Already in Old English *behind, beneath, between* and *betwixt* are attested to function as both adverbs and prepositions, which demonstrates that the process of grammaticalisation accounting for the development of prepositions from adverbs started before that period. The focus of the study are the diachronic changes of the degree of grammaticalisation of the examined lexemes in the Middle English period as demonstrated by the ratio of their use with a respective function in the most natural context. Hence, specially selected Middle English prose texts are analysed.

The analysis shows that while *behind* and *beneath* are still frequently used as adverbs in the whole Middle English period, *between* and *betwixt* are predominantly used as prepositions already in Early Middle English. This clearly demonstrates that the degree of grammaticalisation of the latter two Middle English words was much higher than that of *behind* and *beneath*.

Keywords: adverb, grammaticalisation, Middle English, preposition

1. Introduction

The aim of the present paper is to investigate the history of four selected compound adverbs with the prefix be- in Middle English from the perspective of the degree of grammaticalisation. The analysed lexemes share some structural, functional, etymological and semantic characteristics and include behind, beneath, between and betwixt, i.e., ME bihīnde(n), binēthe(n), bitwēne and *bitwix(en)*. Structurally, these words are composed of the prefix *be-*, ME *bi-/be*and an adverb or a numeral, and are recorded in the function of both prepositions and adverbs already in Old English. All the examined compound adverbs have emerged in the process of grammaticalisation, specifically reanalysis of the preposition and adverb bī (big) 'about', which developed into the prefix bi-/be-, and respective adverbs with the originally locative sense. Further, the grammaticalisation continued, which is demonstrated by the rise of grammatical units, i.e., prepositions from lexical ones, i.e., adverbs. As confirmed by the presence of the discussed words functioning as prepositions in Old English, those two stages of grammaticalisation must have occurred before that period. The focus of the study is the Middle English period and the diachronic changes of the degree of grammaticalisation of ME *bihīnde(n)*, *binēthe(n)*, *bitwēne* and *bitwix(en)*. The degree will be tested on the basis of the ratio of their use with a respective function. The decrease in the adverbial use of the lexemes will be a sign of a higher degree of grammaticalisation.

2. Theoretical framework and methodology

The grammaticalisation framework applied in the study relies on the classical definition by Kuryłowicz (1965: 69) stating that "[g]rammaticalization consists in the increase of the range of a morpheme advancing from a lexical to a grammatical or from a less grammatical to a more grammatical status, e.g., from a derivative formant to an inflectional one" as well as on the more recently view of grammaticalisation as "the process whereby lexical items and constructions come in certain linguistic contexts to serve grammatical functions, and, once grammaticalized, continue to develop new grammatical functions" (Hopper and Traugott 2003: xv).

The special context in which the degree of grammaticalisation of $bih\bar{n}de(n)$, *binēthe(n)*, *bitwēne* and *bitwix(en)* will be examined is intended to be the most natural, or neutral, i.e., closest to spoken Middle English. Hence, the selection of special prose texts for the analysis will guarantee the exclusion of occurrences which might have been motivated by such poetic devices as rhyme, rhythm or alliteration. As noticed by Markus, "prose, on an average, employed a language less stylised than verse and was, thus, relatively close to the language really used by people." (http://www.uibk.ac.at/anglistik/projects/icamet/) The linguistic material selected for the present investigation relies on the recent achievements of corpus linguistics and specifically on Manfred Markus's (2010) Innsbruck Corpus of Middle English Prose¹ (henceforth Innsbruck Corpus). This extensive electronic corpus is a collection of complete texts, not of text samples, which ensures the completeness of the analysed data. However, not all the 129 texts amounting to as many as c. 7.8 million words have been employed in the present study. The intention is to analyse the behaviour of *bihīnde(n)*, *binēthe(n)*, *bitwēne* and *bitwix(en)* only in the texts with most reliably identified localisation and dates, the information of which has been derived from A Linguistic Atlas of Early Middle English (LAEME) and an electronic version of A Linguistic Atlas of Late *Mediaeval English (eLALME)* (cf. Esquibel and Wojtyś 2012; Wełna 2013, 2015). Such a procedure will guarantee the highest accurateness and reliability of the obtained results relating to the chronological and dialectal distribution of the examined lexemes. Thus, a total number of 56 Middle English complete prose texts will be subject to further analysis. The Early Middle English material consists of 21 texts (599,583 words) and the Late Middle English one of 35 texts

¹ I hereby gratefully acknowledge the *Innsbruck Corpus of Middle English Prose* (version 2.4) to its compiler, Professor Manfred Markus from the University of Innsbruck.

(1,900,729 words). Altogether, the study is based on about 2.5 million words. Other extensive and acknowledged databases employed for the analysis include the *Oxford English Dictionary online* (henceforth *OED*), the *Middle English Dictionary online* (henceforth *MED*) as well as the *Dictionary of Old English* (A-H online) (henceforth *DOE*) and the *Dictionary of Old English Corpus* (*DOEC*).

3. Previous studies on the grammaticalisation of Medieval English adverbs

Middle English adverbs and their development into prepositions and conjunctions/subordinarors viewed in the grammaticalisation framework have been recently of interest to a few scholars. Molencki, Rissanen and Kahlas-Tarkka, who performed detailed qualitative studies richly illustrated with quotations from various corpora and dictionaries, deserve a special mention here.

Molencki studied the topic most extensively. Molencki (2003, 2005, 2007abc, 2008) offers a detailed analysis of ME *as, after, before, since, because* and their path of development from adverbs to conjunctions. Moreover, he investigates a group of Middle English prepositions and conjunctions borrowed from Romance sources, e.g., *according to, during, purveyed/provided, save, except, maugre, (a)round* and *sans* (Molencki 2011a). Molencki (2011b) discusses the development of the preposition *forward* in Middle English. He bases his studies on the *DOEC*, the *OED* and the *MED*. Moreover, in his extensive book devoted to the rise of Medieval English causal conjunctions in the process of grammaticalisation Molencki (2012) thoroughly discusses the development of *because* from the noun *cause*. The author employs not only the databases mentioned above but also the *Corpus of Middle English Poetry and Prose*, the *Anglo-Norman Dictionary* and the Helsinki corpora.

Rissanen (2000a and 2004) studies the grammaticalisation of *according to* and *beside(s)* respectively, relying mainly on the Medieval English parts of the *Helsinki Corpus* and the *ARCHER Corpus*. Rissanen (2005) investigates the development of the Early English *till* and *until* into conjunctions and Rissanen (2007) discusses the replacement of the Old English preposition and subordinator *op* by Old Norse *till*. The latter study relies on Old and Middle English samples from the *Helsinki Corpus* as well as on the *DOEC* and the *Middle English Compendium*.

Kahlas-Tarkka (2010) describes Old and Middle English low frequency temporal expressions consisting of the prepositions *in*, *at*, *to* or *till*, the noun *time* and the particle *be*. Her data are retrieved from the *Helsinki Corpus* and, similarly to Molencki's studies, from the *DOEC* and the *OED*.

Additionally, Iglesias-Rábade (2011) examines twelve Middle English prepositions, i.e. *aboue, after, at, bi, bifore, bihinde, biside, in, on, ouer, purgh* and *under*. Relying on the occurrences recorded in the Middle English part of the *Helsinki Corpus* he analysed the development of these prepositions from lexical items as well as their semantic erosion. Moreover, he conducts the analysis of the

frequency and dialectal distribution of the prepositions, which, however, due to the size of the corpus may pose the question of the reliability of his results.

ME *bihīnde(n)*, *binēthe(n)*, *bitwēne* and *bitwix(en)* have not been investigated in the grammaticalisation framework so far. Some aspects of those lexemes have been of interest to a couple of scholars, though. Hotta (2014) analyses recorded spelling variants of ME *betwixt* and *between* and the competition between them. Ciszek-Kiliszewska (2014) compares the semantics of ME *twēne* and *bitwēne* and provides the textual distribution of *bitwēne* and *bitwix(en)* in texts employing *twēne*. Moreover, Ciszek-Kiliszewska (2017a) investigates the semantic features as well as the temporal, textual and dialect distribution of ME *bitwix(en)*.

Ciszek-Kiliszewska (2017b) thoroughly discusses various aspects of *bihīnde(n)*, *binēthe(n)*, *bitwēne* and *bitwix(en)* as well as *bifōre(n)* and *biyōnd(e)* relating to the use of those lexemes in complete Middle English prose texts. The author devotes a considerable part of her book to the semantic analysis of the analysed words, including the distinction between their prepositional and adverbial uses. Ciszek-Kiliszewska recognises the prototypical locative senses, the temporal and the abstract/metaphoric (neither locative nor temporal) senses. She also provides the textual and dialectal distribution of the analysed words accompanied by their frequencies. In terms of the obtained detailed quantitative results, the study is intended to provide a reliable overview of the use of the examined lexemes in specific periods, dialects and texts as well as a comprehensive database for further studies. Hence, the author does not distinguish between the frequencies of the prepositional and of the adverbial uses of the words in particular texts. Ciszek-Kiliszewska (2017) will serve as a source of some data and a point of reference for the present paper, which delves into the frequencies and the proportions between prepositional and adverbial uses as well as the degree of grammaticalisation of the four ME bi- words analysed there.

4. Etymology

The *MED*, the *OED* and the *DOE* point to OE *bi-*, *behindan* (see *DOE behindan*) as the ancestor of ME $bih\bar{n}de(n)$. Regarding the structure of OE *behindan*, the *OED* recognises the word as composed of the Germanic prefix *be-* and the adverb *hindan* 'from behind, behind', specifying the direction. The adverb goes back to the root *hind-* found in words like *hinder* and *hindmost* and the adverbial suffix *- ana*. The prefix *be-* adds the meaning relating to the location. As mentioned above, the same prefix appears in all the words analysed in the present study.

ME *binēthe(n)* is recognised by the *MED* and the *OED* as going back to OE *bineopan*, *-nipan* (see *DOE beneopan*). *Moreover, the OED*'s *claim that* "[o]riginally an adverb, but already in Old English construed with dative (of reference), as a preposition" may point to the grammaticalisation path. *Be-niðan/neoðan* is *analysed as consisting of the prefix be- and niðan, neoðan*

'below, down', originally 'from below,' earlier *neoðane*, *neoðone*; *cf*. OS *nithana*, OHG *nidana*, MHG *niden*(e) < Gmc *niþar* 'lower, farther down, down' plus the adverbial ending *-ana*.

As claimed by the MED, the ME bitwene originates in OE betweenum, -an & *bitwin(um)*. The *OED* provides a similar origin, yet the dictionary distinguishes two related Old English forms, i.e., OE bi-, betweonum, etc., which developed into Middle English bitwenen, -twene, and the exclusively Northern OE bi-, betweon, etc., which evolved into ME bitwen. "[A]fter 1400, when final -e became mute, and was omitted in writing, or retained only as a sign of a preceding long vowel, both forms necessarily coalesced in *betwene* (= *betwen*)". Additionally, the OED recognises OE betweonum as originating in the Old English construction bi sam *twēonum*, lit. 'by seas twain', in which *twēonum* is derived from the original Old English dative plural *twihnum, *tweohnum². Phrases like frið freondum bi tweon 'peace friends between' represent the further step towards the merger of the preposition bi and tweonum/tweon. Regarding the early forms of between, the DOE, which, similarly to the MED and the OED, identifies the Old English preposition and adverb *betweonan* as the ancestor of Middle English *bitwene*, "here are all forms derived from be + tweonum (dat.) with medial -n-, and all forms derived from be + *twihn (acc.) with final -n, -nh." (DOE betweonan)

ME bitwix(e), the ancestor of Present-Day English betwixt, is claimed by the *MED* to be going back to OE betwix,-tweox, -twux(t), -tux (cf. OFris. twiska, OS twisk). Likewise, according to the *OED*, ME bitwix goes back to OE betweohs, -tweox, -twux, -twyx, -tux, probably shortened from the dative *be-tweoxum, -tweox(a)n, preserved in Middle English as be-, bitwixe(n). OE *be-tweoxum, -tweohsum, originally OE *bi-twihsum < *-twicsum, *-twiscum is viewed as composed of the prefix be- and *twiscum, (dative plural of *twisc 'two-fold', adj.) (OS twisc, OHG zuiski, MHG zwisc, zwisch < OGerm. twiskjo-). *twisc can be further analysed as a complex form consisting of twa 'two' and the suffix -isc. The Old English ancestor of ME bitwix(en) provided by the DOE is the preposition and adverb betwux. The Old English forms authorized by the dictionary include "all forms derived from be + Gmc. *twisk- with final -x, -xh, -xs, -xt, -hs, -hx, or an -(a)n suffix and medial -x-, -hx-." (DOE betwux)

5. Grammaticalisation

The test demonstrating the degree of grammaticalisation of the examined Middle English words, $bih\bar{n}de(n)$, $bin\bar{e}the(n)$, $bitw\bar{e}ne$ and bitwix(en), conducted in the present study will rely on the proportion of the use of those lexemes with different functions. Specifically, the number of tokens of adverbial uses of respective words will be compared to the number of tokens of prepositional uses attested in the

² **twīhnum can be further analysed as twīh* + the collective suffix -n- + case inflection (Kitson 1993: 12).

examined specially selected Middle English prose texts. The ratios will be tested separately for Early and Late Middle English texts. This will allow us for the observation of some diachronic tendencies concerning the use of $bih\bar{n}nde(n)$, $bin\bar{e}the(n)$, $bitw\bar{e}ne$ and bitwix(en). The textual and dialectal distribution of the examined tokens is presented in the hope of providing some insight into the degree of grammaticalisation as perceived from those perspectives.

5.1. Grammaticalisation of *bihīnde(n)*

As evaluated by Ciszek-Kiliszewska (2017: 109), the examined 56 complete Middle English prose texts specially selected from the *Innsbruck Corpus* amounting to c. 2.5 million words contain 239 occurrences of $bih\bar{n}nde(n)$. Table 1 shows the distribution of numbers recorded in Early and Late Middle English prose texts.

Period	Number of all words	Number of tokens	Relative frequency per 100,000 words
EME	599,583	50	8.34
LME	1,900,729	189	9.94
ME	2,500,312	239	9.56

Table 1. The tokens of *bihīnde(n)* in Middle English prose

The relative frequency per 100,000 words shows that despite the uneven number of tokens in the texts representing the two Middle English subperiods, the relative use of $bih\bar{n}nde(n)$ is similar in both Early and Late Middle English.

Regarding the Early Middle English period, the investigation of the texts shows the use of $bih\bar{n}nde(n)$ in only about a half of them. Table 2 (in the Appendix) presents the distribution of the tokens in specific Early Middle English prose texts divided into groups representing particular dialects. Moreover, the instances are divided according to their function, i.e., adverbs and prepositions.

In total, $bih\bar{n}de(n)$ is recorded 35 times as an adverb and only 15 times as a preposition in the investigated Early Middle English texts. Figure 1 presents the absolute number of tokens of the adverbs and prepositions normalised to a relative frequency per 100,000 words.

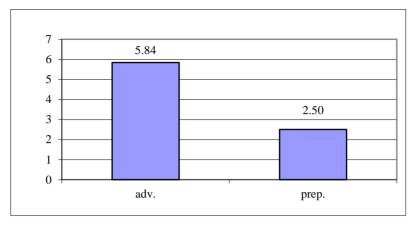


Figure 1. Early Middle English *bihīnde(n)*: relative frequency per 100,000 words

The general dominant function of $bih\bar{n}de(n)$ as an adverb in the examined linguistic material can be easily seen. Moreover, the same tendency is exhibited in all the dialects and in the analysed prose texts including $bih\bar{n}de(n)$. A minor exception is the text of *Ancrene Riwle* (Gon-Ca) in which the use of the adverbial and prepositional tokens is balanced.

The analysis of the Late Middle English prose texts demonstrates a radically different distribution of $bih\bar{n}nde(n)$. Generally, more tokens than in Early Middle English are recorded and almost all Late Middle English texts employ $bih\bar{n}nde(n)$. Table 3 (in the Appendix) presents the results of the investigation.

The total absolute numbers demonstrate that the function of $bih\bar{n}nde(n)$ notably changes in Late Middle English. The lexeme is attested to function as a preposition more frequently than as an adverb. Figure 2 presents those frequencies as relative per 100,000 words.

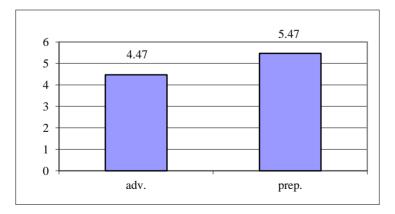


Figure 2. Late Middle English *bihīnde(n)*: relative frequency per 100,000 words

Figure 3 sets the data from Figures 1 and 2 together and demonstrates the changes in the frequencies of adverbs and prepositions between the Early and Late Middle English prose.

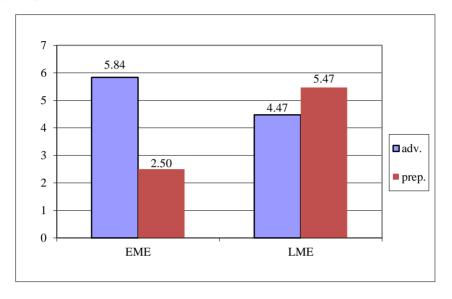


Figure 3. Early and Late Middle English *bihīnde(n)*: relative frequency per 100,000 words

While the frequency of use of *bihīnde(n)* as an adverb shows a tendency towards a decrease in the later period, the prepositional function of *bihīnde(n)* is employed noticeably more frequently in Late than in Early Middle English. The prevailingly adverbial use of *bihīnde(n)* in Early Middle English with time changes into a more balanced use of the word with both functions with a slightly higher frequency of *bihīnde(n)* employed as a preposition in Late Middle English. Thus, it might be assumed that ME *bihīnde(n)* shows an advancing yet still intermediate degree of grammaticalisation. Interestingly, a scrutiny of the dialectal and textual distribution of *bihīnde(n)* in Early and in Late Middle English reveals that while the EM micro-scale use overlaps with the global results obtained for Early Middle English, there are some discrepancies in Late Middle English. Specifically, one out of four West Midland texts, the only Kentish text and 11 out of 16 East Midland texts exhibit proportions of the adverbial and the prepositional use of *bihīnde(n)* different from those observed for the whole LME period. The adverbial use of *bihīnde(n)* in them is either higher or the same as the prepositional one, which exhibits a lower micro-scale degree of grammaticalisation than that estimated for Late Middle English prose.

5.2. Grammaticalisation of *binēthe(n)*

The examined Middle English prose texts of c. 2.5 million words include 75 instances of $bin\bar{e}the(n)$ (Ciszek-Kiliszewska 2017: 130). Table 4 shows the distribution of tokens attested in Early and Late Middle English prose.

Period	Number of all words	Number of tokens	Relative frequency per 100,000 words
EME	599,583	26	4.34
LME	1,900,729	49	2.58
ME	2,500,312	75	3.00

Table 4. The tokens of *binēthe(n)* in Middle English prose

The relative frequency per 100,000 words shows that despite the uneven number of tokens in the texts representing the two Middle English subperiods, the relative use of $bin\bar{e}the(n)$ is similarly low in both Early and Late Middle English.

 $Bin\bar{e}the(n)$ can be found in about a half of the analysed Early Middle English texts. Nevertheless, texts representing all the dialectal areas employ the lexeme. Table 5 (in the Appendix) presents the distribution of tokens according to the syntactic function.

The obtained results show that the adverbial function of $bin\bar{e}the(n)$ is represented by a higher number of occurrences, i.e., 17 than the prepositional one attested in 9 cases. Figure 4 presents the absolute number of the adverbs and prepositions normalised to a relative frequency per 100,000 words.

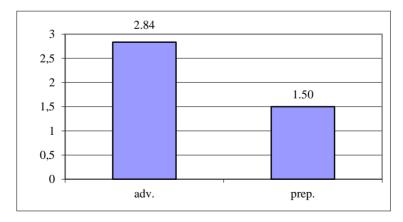


Figure 4. Early Middle English *binēthe(n)*: relative frequency per 100,000 words

Figure 4 clearly demonstrates that the adverbial function of $bin\bar{e}the(n)$ is employed about twice as frequently as the prepositional function in Early Middle English prose. Hence, it can be concluded that the degree of grammaticalisation of $bin\bar{e}the(n)$ in Early Middle English is low. When the same phenomenon is observed from the perspective of specific dialects or single prose texts, generally, a similar conclusion can be drawn. There are, however, some Southern and West Midland texts which exhibit minor deviation from the overall tendency (cf. Table 5).

The investigation of the Late Middle English prose texts demonstrates a higher number of attested tokens of $bin\bar{e}the(n)$ in comparison to the Early Middle English linguistic material. Table 6 (in the Appendix) illustrates the results of the analysis including the textual distribution of the occurrences with a respective function.

The total absolute numbers of $bin\bar{e}the(n)$ divided according to the function of the lexeme show a similar tendency to that exhibited in Early Middle English prose. Specifically, $bin\bar{e}the(n)$ is employed as an adverb about twice as frequently as with the prepositional function. Figure 5 presents the proportion of the relative frequencies normalised to the number of instances per 100,000 words.

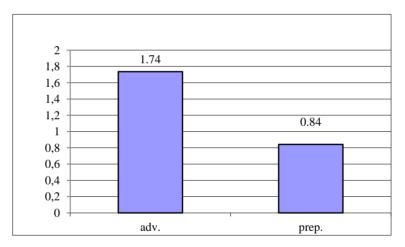


Figure 5. Late Middle English *binēthe(n)*: relative frequency per 100,000 words

Figure 6, combining the data from Figures 4 and 5, illustrates the changes in the frequencies of the adverbial and prepositional functions between Early and Late Middle English prose.

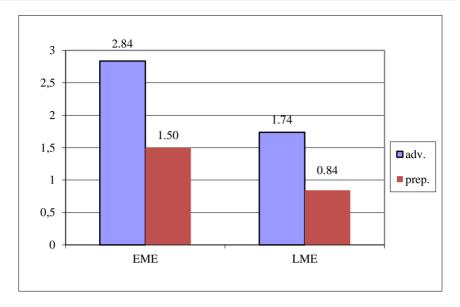


Figure 6. Early and Late Middle English binēthe(n): relative frequency per 100,000 words

The frequency of use of *binēthe(n)* with both functions decreases in Late Middle English. The ratio of the relative frequency reduction is similar in both cases and amounts to about 40% each. Hence, *binēthe(n)* becomes employed less frequently in general and its function stays stable in both Early and Late Middle English. In both examined subperiods $bin\bar{e}the(n)$ functions as an adverb about twice more frequently than as a preposition. Consequently, it may be argued that even though ME *binethe(n)* is grammaticalised to the extent that it can function not only as an adverb but also as a preposition already in Old English, the degree of its grammaticalisation in Middle English seems low because the lexeme exhibits a tendency towards functioning prevailingly as an adverb both in Early and in Late Middle English. However, a detailed examination of the dialectal and textual distribution of *binethe(n)* in Early and in Late Middle English reveals that all the EME Southern texts and some West Midland texts employing $bin\bar{e}the(n)$ (see Table 5) as well as some LME West Midland (one out of two), Southern (the only one) and East Midland (four out of 12) texts including *binēthe(n)* (see Table 6) slightly deviated from the general tendency and thus the generally low degree of grammaticalisation. This might be indicative of the dialectal and textual variation with respect to that specific examined lexeme. Moreover, one might speculate that the listed dialects and texts are the leaders initiating and signalling the presupposed change towards a higher degree of grammaticalisation of *binēthe(n)* in Early Modern English.

5.3. Grammaticalisation of bitwēne

There are 829 instances of *bitwēne* in the investigated Middle English prose texts (Ciszek-Kiliszewska 2017: 150). Table 7 presents their distribution in Early and Late Middle English prose.

Period	Number of all words	Number of tokens	Relative frequency per 100,000 words
EME	599,583	181	30.19
LME	1,900,729	648	34.09
ME	2,500,312	829	33.15

Table 7. The tokens of bitwene in Middle English prose

The relative frequency per 100,000 words shows that despite the uneven number of tokens in the texts representing the two Middle English subperiods, the relative use of *bitwēne* is similar in both Early and Late Middle English.

Regarding the analysed Early Middle English prose texts, *bitwēne* can be found in all the dialectal areas but not in all texts representing them. Table 8 (in the Appendix) shows the textual and dialectal distribution of tokens according to their syntactic function.

Table 8 shows that there are only seven instances of the adverbial use of *bitwēne* in the examined complete prose texts of c. 600,000 words. Figure 7 normalises the obtained results to a relative frequency per 100,000 words. In that context, the adverbial function of *bitwēne* proves to be only slightly more frequent than one token per 100,000 words. The prepositional function of *bitwēne* is employed c. 25 times more frequently.

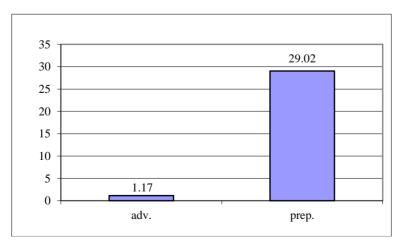


Figure 7. Early Middle English bitwēne: relative frequency per 100,000 words

Regarding the Late Middle English prose, there are generally more recorded cases of *bitwēne*. Table 9 (in the Appendix) introduces their distribution and functions before the data normalisation.

The table demonstrates that the use of *bitwēne* with the adverbial function in the Late Middle English prose is only sporadic. The dominating function of ME *bitwēne* is that of a preposition. Figure 8 presents the Late Middle English data normalised to the relative frequencies per 100,000 words. As can be seen *bitwēne* functioning as an adverb is attested less frequently than once per 100,000 words.

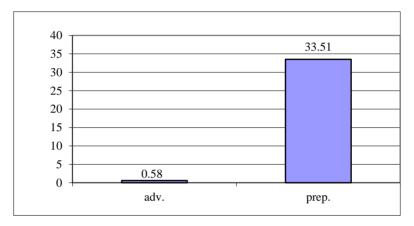


Figure 8. Late Middle English bitwēne: relative frequency per 100,000 words

Figure 9 shows the combination the Early and Late Middle English normalised data relating to *bitwēne*.

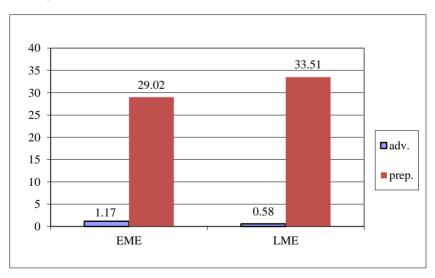


Figure 9. Early and Late Middle English bitwēne: relative frequency per 100,000 words

As demonstrated in Figure 9, *bitwēne* functions almost exclusively as a preposition in both Early and Late Middle English prose. Its adverbial function is even about twice less frequent in the latter period. Moreover, the relative frequency of the use of *bitwēne* as a preposition steadily grows between Early and Late Middle English. On the basis of those observations of the behaviour of *bitwēne* in the analysed Middle English prose, it can be claimed that *bitwēne* is highly grammaticalised in prose representing both examined periods. Those global results are also validated by the distribution of the tokens of *bitwēne* functioning as a preposition or as an adverb in every dialect and in every particular text employing *bitwēne*.

5.4. Grammaticalisation of *bitwix(en)*

The analysed Middle English prose texts employ 390 occurrences of *bitwix(en)* (Ciszek-Kiliszewska 2017: 176). Their distribution in Early and Late Middle English prose is presented in Table 10.

Period	Number of all words Number of tokens		Relative frequency per 100,000 words
EME	599,583	50	8.34
LME	1,900,729	340	17.89
ME	2,500,312	390	15.60

Table 10. The tokens of *bitwix(en)* in Middle English prose

The normalised frequency per 100,000 words shows that the relative use of bitwix(en) grows considerably between the two analysed subperiods. In Late Middle English it is about twice higher than in Early Middle English.

Interestingly, bitwix(en) appears in only two out of the 21 analysed Early Middle English texts (cf. bitwene above). Twelfth-Cent. Homilies in MS Vespasian representing the Kentish dialect include as many as 46 instances of bitwix(e) while Twelfth-Cent. Homilies preserved in MS Bodley 343 representing the Southern dialect contain four cases of bitwix(e). All the recorded tokens of Early Middle English bitwix(en) function as prepositions. Thus, the relative frequency of the preposition bitwix(en) equals the general relative frequency of bitwix(en) in the subperiod, i.e., 8.34 per 100,000 words (see Table 10 above).

The Late Middle English prose texts exhibit by and large a higher number of recorded tokens of *bitwix(en)* in comparison to the Early Middle English texts. Table 11 (in the Appendix) shows their textual distribution of the occurrences according to the syntactic function.

The table shows that the adverbial use of bitwix(en) in the Late Middle English prose is only marginal. Figure 10 highlights the LME data normalised to the relative frequencies per 100,000 words.

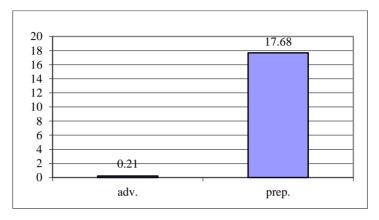


Figure 10. Late Middle English *bitwix(en)*: relative frequency per 100,000 words

Figure 11 combines the Early and Late Middle English data concerning *bitwix(en)*.

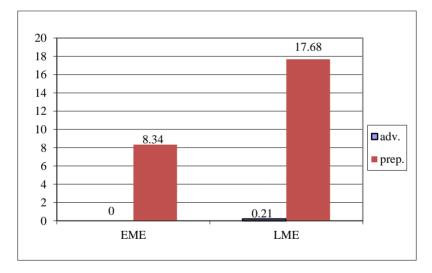


Figure 11. Early and Late Middle English *bitwix(en)*: relative frequency per 100,000 words

As can be seen, the word functions exclusively as a preposition in Early Middle English prose and almost exclusively so in Late Middle English prose. Moreover, the relative frequency of use of the preposition bitwix(en) increases about twice in the latter subperiod of Middle English. Hence, it can be claimed that bitwix(en) is highly grammaticalised not only in Late but already in Early Middle English prose. Those observations are also confirmed by the distribution of the

occurrences of *bitwix(en)* functioning as a preposition or as an adverb in every dialect and in every specific text including *bitwix(en)*.

6. Conclusions

The aim of the present study was to investigate the degree of grammaticalisation of four selected complex adverbs with the prefix be-, ME bi-/be-, in the Middle English period. The examined words shared some structural, functional, etymological and semantic characteristics and included behind, beneath, between and betwixt, i.e., ME bihīnde(n), binēthe(n), bitwēne and bitwix(en). Moreover, all adverbs originally analysed complex emerged in the process grammaticalisation from the preposition and adverb $b\bar{i}$ (big) 'about' developing into the prefix *bi-/be-* and respective adverbs with the originally locative sense. The analysis was conducted on the basis of Middle English prose texts, which are unbiased by some poetic devices and thus closer to the spoken natural language. For that purpose 56 specially selected texts (c. 2.5 million words) from the Innsbruck Corpus of Middle English Prose (Markus 2010) were examined. The degree of grammaticalisation was tested on the basis of the proportion between their use with the adverbial and with the prepositional function.

The grammaticalisation of the four examined words, i.e., *bihīnde(n)*, *binēthe(n)*, *bitwēne* and *bitwix(en)* exhibits three different degrees. *Bitwēne* and *bitwix(en)* are similarly highly grammaticalised in both Early and Late Middle English prose. It is manifested by either no cases or only a marginal frequency of their use with the adverbial function in both examined subperiods. $Bih\bar{n}nde(n)$ is less grammaticalised showing the dominating adverbial use in Early Middle English prose, which, however, changes to the prepositional function being employed more frequently than the adverbial one in the Late Middle English prose. ME *binethe(n)* is the least grammaticalised. It is used as an adverb relatively about twice more frequently than as a preposition in prose representing both Middle English subperiods. Additionally, the scrutiny of every individual text and dialect and the behaviour of the analysed four lexemes there provided insight into some interesting peculiarities concerning the degree of grammaticalisation as viewed from those perspectives. While the degrees of grammaticalisation estimated for *bitwene* and *bitwix(en)* in Early and Late Middle English are also valid for every dialect and every single analysed text, *bihīnde(n)* and *binēthe(n)* display a somewhat smaller textual and dialectal compliance.

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Appendix

Text	Number of all words	Number of <i>bihīnde(n)</i>	ADV	PREP
West Midland				
Wohunge of Ure Lauerd	4,090	-	-	-
Seinte Marherete (MS Royal)	8,818	-	-	-
St. Julian (MS Bodley)	7,576	3	2	1
St. Julian (MS Royal)	7,002	1	1	-
Hali Meidenhad (Bodley)	9,193	-	-	-
Hali Meidenhad (MS Titus)	9,238	-	-	-
Hali Meidhad (crit)	9,200	-	-	-
Sawles Warde	4,937	1	1	-
Ancrene Riwle (MS Titus)	62,713	6	5	1
Ancrene Wisse (MS Corp-C)	75,185	9	7	2
St. Katherine (MS Royal)	11,804	-	-	-
Ancrene Riwle (Gon-Ca)	30,591	4	2	2
Seinte Marherete (MS Bodley)	8,877	-	-	-
Southern				1
Twelfth-Cent. Homilies (MS Bodley 343)	27,517	-	-	-
History of the Holy Rood-tree	7,456	-	-	-
Ancrene Riwle (MS Nero)	75,407	7	5	2
Old English Homilies of the 12th century (Trinity Coll. Cbr. MS. B. 14.52)	42,304	1	1	-
Kentish				
Twelfth-Cent. Homilies (MS Vespasian)	60,982	-	-	-
Kentish Sermons	3,996	-	-	-
Dan Michel, Ayenbite of Inwyt, or Remorse of Conscience	104,128	18	11	7
East Midland				
Vices and Virtues	28,569	-	-	-

 Table 2. Bihīnde(n) in Early Middle English prose

Text	Number of all words	Number of <i>bihīnde(n)</i>	ADV	PREP	
West Midland	worus	Dininue(n)			
	105,947	2	-	2	
Brut, or The Chronicles of England		Z	-	2	
Lingunu	116,492	20	3	17	
<i>Three Middle English Sermons</i> (MS Wor F. 10; 2 nd and 3 rd sermon)	24,408	2	1	1	
De Imitatione Christi	49,382	3	1	2	
Speculum Sacerdotale	110,513	7	3	4	
Southern					
The Book of the Knight of La Tour-Landry	80,078	3	-	3	
Two Fifteenth-Century Cookery Books (MS Harley 279)	25,809	5	1	4	
Kentish			•		
Merlin	22,0635	43	26	17	
East Midland					
Ancrene Riwle (MS Pepys)	77,272	4	3	1	
The Gospel of Nicodemus	13,836	-	-	-	
Pepysian Gospel Harmony	40,333	6	3	3	
John Metham: Christmas Day [1]	592	-	-	-	
John Metham: Christmas Day [2]	353	-	-	-	
Paston Letters	277,954	20	15	5	
Fistula in ano	40,066	3	-	3	
Adam and Eve	9,058	1	1	-	
Richard Misyn: <i>The Mending of</i> <i>Life</i>	12,668	-	-	-	
Richard Misyn: The Fire of Love	51,169	6	6	-	

Table 3. *Bihīnde(n)* in Late Middle English prose

Secreta Secretorum (MS Royal	16,441	1	1	-
18.A.7)				
Julian of Norwich: <i>Revelations of</i> <i>Divine Love</i> (Shorter Version)	15,151	-	-	-
John Trevisa: Methodius, The	3,674	_	-	-
Bygynnyng of the World	2,071			
John Mandeville: Mandeville's	25,393	2	1	1
Travels (MS. Bodl. e Mus. 116)	21.427	2	1	1
Speculum Christiani	31,427	2	1	1
Richard Lavynham: A Litil Tretys	12,119	-	-	-
Pater Noster of Richard Ermyte	28,855	-	-	-
John Metham: Days of the Moon	2,981	-	-	-
	5,633	2	-	2
John Metham: Palmistry	5,374	-	-	-
John Metham: Physiognomy	9,144	2	-	2
John Capgrave's Lives of St. Augustine	58,585	6	3	3
John Capgrave's <i>Chronicles,</i> <i>Abbreviation</i> of	87,590	6	2	4
Cely Letters	90,411	13	3	10
Spheres and Planets, in The Book of Quintessence	320	-	-	-
Book of Quintessence	9,830	1	1	-
Secreta Secretorum (MS Lambeth 501)	32,911	5	4	1
Agnus Castus. A Middle English Herbal	27,412	-	-	-
Northern				
Alphabet of Tales	90,250	13	4	9
	90,663	11	2	9
Total	1,900,729	189	85	104

Text	Number of all words	Number of <i>binēthe(n)</i>	ADV	PREP
West Midland				
Wohunge of Ure Lauerd	4,090	-	-	-
Seinte Marherete (MS Royal)	8,818	1	1	-
St. Julian (MS Bodley)	7,576	1	1	-
St. Julian (MS Royal)	7,002	1	1	-
Hali Meidenhad (Bodley)	9,193	-	-	-
Hali Meidenhad (MS Titus)	9,238	-	-	-
Hali Meidhad (crit)	9,200	-	-	-
Sawles Warde	4,937	-	-	-
Ancrene Riwle (MS Titus)	62,713	2	1	1
Ancrene Wisse (MS Corp-C)	75,185	2	1	1
St. Katherine (MS Royal)	11,804	-	-	-
Ancrene Riwle (Gon-Ca)	30,591	1	-	1
Seinte Marherete (MS Bodley)	8,877	1	1	-
Southern				
Twelfth-Cent. Homilies (MS Bodley 343)	27,517	1	-	1
History of the Holy Rood-tree	7,456	-	-	-
Ancrene Riwle (MS Nero)	75,407	2	1	1
Old English Homilies of the 12th century (Trinity Coll. Cbr. MS. B. 14.52)	42,304	2	-	2
Kentish				
<i>Twelfth-Cent. Homilies</i> (MS Vespasian)	60,982	-	-	-
Kentish Sermons	3,996	-	-	-
Dan Michel, Ayenbite of Inwyt, or Remorse of Conscience	104,128	10	8	2
East Midland				

Table 5. *Binēthe(n)* in Early Middle English prose

Vices and Virtues	28,569	2	2	-
Total	599,583	26	17	9

Table 6. *Binēthe(n)* in Late Middle English prose

Text	Number of all words	Number of <i>binēthe(n)</i>	ADV	PREP
West Midland				
Brut, or The Chronicles of	105,947	-	-	-
England	116,492	3	1	2
<i>Three Middle English Sermons</i> (MS Wor F. 10; 2 nd and 3 rd sermon)	24,408	-	-	-
De Imitatione Christi	49,382	5	4	1
Speculum Sacerdotale	110,513	-	-	-
Southern				•
The Book of the Knight of La Tour-Landry	80,078	-	-	-
Two Fifteenth-Century Cookery Books (MS Harley 279)	25,809	4	2	2
Kentish				
Merlin	22,0635	10	б	4
East Midland				•
Ancrene Riwle (MS Pepys)	77,272	2	1	1
The Gospel of Nicodemus	13,836	-	-	-
Pepysian Gospel Harmony	40,333	-	-	-
John Metham: Christmas Day [1]	592	-	-	-
John Metham: Christmas Day [2]	353	-	-	-
Paston Letters	277,954	1	-	1
Fistula in ano	40,066	3	3	-
Adam and Eve	9,058	-	-	-

Richard Misyn: <i>The Mending of</i> <i>Life</i>	12,668	-	-	-
Richard Misyn: The Fire of Love	51,169	1	1	-
Secreta Secretorum (MS Royal 18.A.7)	16,441	-	-	-
Julian of Norwich: <i>Revelations of</i> <i>Divine Love</i> (Shorter Version)	15,151	3	-	3
John Trevisa: Methodius, The Bygynnyng of the World	3,674	-	-	-
John Mandeville: <i>Mandeville's</i> <i>Travels</i> (MS. Bodl. e Mus. 116)	25,393	-	-	-
Speculum Christiani	31,427	-	-	-
Richard Lavynham: A Litil Tretys	12,119	-	-	-
Pater Noster of Richard Ermyte	28,855	-	-	-
John Metham: Days of the Moon	2,981	-	-	-
John Metham: Palmistry	5,633	-	-	-
	5,374	-	-	-
John Metham: Physiognomy	9,144	3	3	-
John Capgrave's Lives of St. Augustine	58,585	4	3	1
John Capgrave's <i>Chronicles,</i> <i>Abbreviation</i> of	87,590	1	1	-
Cely Letters	90,411	1	-	1
Spheres and Planets, in The Book of Quintessence	320	-	-	-
Book of Quintessence	9,830	3	3	-
Secreta Secretorum (MS Lambeth 501)	32,911	2	2	-
Agnus Castus. A Middle English Herbal	27,412	2	2	-
Northern				
Alphabet of Tales	90,250	-	-	-
1	90,663	1	1	-
Total	1,900,729	49	33	16
Spheres and Planets, in The Book of Quintessence Book of Quintessence Secreta Secretorum (MS Lambeth 501) Agnus Castus. A Middle English Herbal Northern Alphabet of Tales	9,830 32,911 27,412 90,250 90,663	2 2 - 1	2 2 - 1	

Text	Number of all words	Number of <i>bitwēne</i>	ADV	PREP
West Midland				
Wohunge of Ure Lauerd	4,090	-	-	-
Seinte Marherete (MS Royal)	8,818	-	-	-
St. Julian (MS Bodley)	7,576	1	-	1
St. Julian (MS Royal)	7,002	-	-	-
Hali Meidenhad (Bodley)	9,193	1	-	1
Hali Meidenhad (MS Titus)	9,238	1	-	1
Hali Meidhad (crit)	9,200	1	-	1
Sawles Warde	4,937	-	-	-
Ancrene Riwle (MS Titus)	62,713	28	1	27
Ancrene Wisse (MS Corp-C)	75,185	31	3	28
St. Katherine (MS Royal)	11,804	1	-	1
Ancrene Riwle (Gon-Ca)	30,591	21	1	20
Seinte Marherete (MS Bodley)	8,877	-	-	-
Southern				
<i>Twelfth-Cent. Homilies</i> (MS Bodley 343)	27,517	3	-	3
History of the Holy Rood-tree	7,456	6	-	6
Ancrene Riwle (MS Nero)	75,407	30	2	28
Old English Homilies of the 12th century (Trinity Coll. Cbr. MS. B. 14.52)	42,304	7	-	7
Kentish				
Twelfth-Cent. Homilies (MS Vespasian)	60,982	7	-	7
Kentish Sermons	3,996	1	-	1
Dan Michel, Ayenbite of Inwyt, or Remorse of Conscience	104,128	37	-	37
East Midland				

Table 8. Bitwēne in Early Middle English prose

Vices and Virtues	28,569	5	-	5
Total	599,583	181	7	174

Table 9. Bitwēne in Late Middle English prose

Text	Number of all words	Number of <i>bitwēne</i>	ADV	PREP
West Midland				
Brut, or The Chronicles of	105,947	115	-	115
England	116,492	126	2	124
<i>Three Middle English Sermons</i> (MS Wor F. 10; 2 nd and 3 rd sermon)	24,408	-	-	-
De Imitatione Christi	49,382	7	1	6
Speculum Sacerdotale	110,513	24	-	24
Southern				-
The Book of the Knight of La Tour-Landry	80,078	32	2	30
Two Fifteenth-Century Cookery Books (MS Harley 279)	25,809	5	-	5
Kentish				
Merlin	22,0635	135	1	134
East Midland				
Ancrene Riwle (MS Pepys)	77,272	26	1	25
The Gospel of Nicodemus	13,836	5	-	5
Pepysian Gospel Harmony	40,333	2	-	2
John Metham: Christmas Day [1]	592	-	-	-
John Metham: Christmas Day [2]	353	-	-	-
Paston Letters	277,954	91	2	89
Fistula in ano	40,066	1	-	1
Adam and Eve	9,058	2	-	2
Richard Misyn: <i>The Mending of</i> <i>Life</i>	12,668	-	-	-

				1
Richard Misyn: The Fire of Love	51,169	-	-	-
Secreta Secretorum (MS Royal 18.A.7)	16,441	-	-	-
Julian of Norwich: <i>Revelations of</i> <i>Divine Love</i> (Shorter Version)	15,151	-	-	-
John Trevisa: Methodius, The Bygynnyng of the World	3,674	-	-	-
John Mandeville: <i>Mandeville's</i> <i>Travels</i> (MS. Bodl. e Mus. 116)	25,393	8	-	8
Speculum Christiani	31,427	5	-	5
Richard Lavynham: A Litil Tretys	12,119	3	-	3
Pater Noster of Richard Ermyte	28,855	4	-	4
John Metham: Days of the Moon	2,981	1	-	1
John Mathamy Delwister	5,633	13	-	13
John Metham: <i>Palmistry</i>	5,374	13	-	13
John Metham: Physiognomy	9,144	6	-	6
John Capgrave's Lives of St. Augustine	58,585	-	-	-
John Capgrave's Chronicles, Abbreviation of	87,590	-	-	-
Cely Letters	90,411	13	2	11
Spheres and Planets, in The Book of Quintessence	320	-	-	-
Book of Quintessence	9,830	1	-	1
Secreta Secretorum (MS Lambeth 501)	32,911	10	-	10
Agnus Castus. A Middle English Herbal	27,412	-	-	-
Northern				
	90,250	-	-	-
Alphabet of Tales	90,663	-	-	-
Total	1,900,729	648	11	637

Text	Number of all words	Number of <i>bitwix(en)</i>	ADV	PREP
West Midland				
Brut, or The Chronicles of	105,947	1	-	1
England	116,492	2	-	2
Three Middle English Sermons (MS Wor F. 10; 2 nd and 3 rd sermon)	24,408	8	-	8
De Imitatione Christi	49,382	-	-	-
Speculum Sacerdotale	110,513	8	-	8
Southern				
The Book of the Knight of La Tour-Landry	80,078	1	-	1
Two Fifteenth-Century Cookery Books (MS Harley 279)	25,809	-	-	-
Kentish				
Merlin	22,0635	-	-	-
East Midland				•
Ancrene Riwle (MS Pepys)	77,272	6	-	6
The Gospel of Nicodemus	13,836	3	-	3
Pepysian Gospel Harmony	40,333	3	-	3
John Metham: Christmas Day [1]	592	-	-	-
John Metham: Christmas Day [2]	353	-	-	-
Paston Letters	277,954	104	1	103
Fistula in ano	40,066	-	-	-
Adam and Eve	9,058	-	-	-
Richard Misyn: The Mending of Life	12,668	2	-	2
Richard Misyn: The Fire of Love	51,169	14	1	13
Secreta Secretorum (MS Royal 18.A.7)	16,441	1	-	1
Julian of Norwich: <i>Revelations of</i> <i>Divine Love</i> (Shorter Version)	15,151	4	-	4

Table 11. Bitwix(en) in Late Middle English prose

John Trevisa: Methodius, The Bygynnyng of the World	3,674	3	1	2
John Mandeville: <i>Mandeville's</i> <i>Travels</i> (MS. Bodl. e Mus. 116)	25,393	-	-	-
Speculum Christiani	31,427	-	-	-
Richard Lavynham: A Litil Tretys	12,119	2	-	2
Pater Noster of Richard Ermyte	28,855	-	-	-
John Metham: Days of the Moon	2,981	-	-	-
John Metham: Palmistry	5,633	-	-	-
	5,374	-	-	-
John Metham: Physiognomy	9,144	-	-	-
John Capgrave's Lives of St. Augustine	58,585	25	1	24
John Capgrave's <i>Chronicles,</i> <i>Abbreviation</i> of	87,590	85	-	85
Cely Letters	90,411	25	-	25
Spheres and Planets, in The Book of Quintessence	320	-	-	-
Book of Quintessence	9,830	1	-	1
Secreta Secretorum (MS Lambeth 501)	32,911	1	-	1
Agnus Castus. A Middle English Herbal	27,412	-	-	-
Northern				
Alphabet of Tales	90,250	26	-	26
	90,663	15	-	15
Total	1,900,729	340	4	336