Open Syllable Lengthening in Middle Dutch: Evidence from Verse

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This paper attempts to determine a more precise timeline for the onset of Open Syllable Lengthening in Dutch. We examined two late 14th-century Brabantic texts in the *Manuscript Marshall 29* (1375 AD), *Mellibeus* and *Saladijn*, and compared these with an older Brabantic text *Lutgart* to ascertain when exactly Open Syllable Lengthening originated in (Brabantic) Middle Dutch. A combination of diachronic correspondences and a careful examination of the texts written in verse during the course of approximately 75 years has helped us to establish the synchronic systems of 13th- and 14th-century Middle Dutch, and, furthermore, has allowed us to determine the onset of prosodic changes such as Open Syllable Lengthening. Orthographic, rhythmic, and metrical evidence from the three texts suggests that the process was incomplete in the earliest period and was finalized in the late 14th century in Brabant, thereby refuting the standard assumption that the lengthening was completed before the onset of Middle Dutch in general.[*]

Keywords: Open Syllable Lengthening, Middle Dutch, iambic meter, trochaic meter

1. Introduction.

Open Syllable Lengthening (OSL) has continued to be a much debated topic in Germanic phonology.[1] Although all WGmc languages underwent

[1] The following abbreviations are used throughout the article: Old English = OE; Middle English = ME; Modern English = ModE; Old Saxon = OS; Middle Dutch = MNL (*Middelnederlands)*; Modern Dutch = ModD; Old High German = OHG; Middle High German = MHG; Middle Low German = MLG; Proto-Germanic = PGmc; West Germanic = WGmc.

OSL during the medieval period, it is still not entirely clear when the process was finalized in individual languages. This includes ME, MHG, MLG and MNL (see Minkova 1982, 1985; Lahiri & Dresher 1999 and references therein). ModD still shows evidence of OSL, particularly in a set of singular–plural noun pairs with a short vowel in closed syllables and a long vowel in open syllables, for example, *god* [xɔt]–*goden* [xoːdə] 'god–gods', *dag* [dax]–*dagen* [daːxə] 'day–days'. It is generally assumed that at some point during the MNL period, short vowels in stressed open syllables were lengthened in disyllabic forms, and that ensuing paradigmatic alternations still prevail.[2] Lengthening in open syllables also occurred in English and German. In ME, for instance, OSL did take place but was obscured in words of three syllables due to Trisyllabic Shortening, as in *hāmor–hamores* 'hammer–hammers' (cf. Lahiri & Fikkert 1999). In contrast, in MHG, medial geminate fricatives resulting from the Second Consonant Shift blocked OSL in cases where English and Dutch show lengthening in open syllables, for example, OE *open* [o], ME and ModE *open* [oː], MNL and ModD *open* [oː], but OHG and MHG *offen* short [ɔ].[3]

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[2] The MNL period is generally dated 1150–1550 (see Sytsema et al. 2014).

[3] Views differ on why OSL has occurred. However, this is not the context to discuss the various theories regarding the source and cause of OSL; what is crucial is that it did occur in most WGmc languages around the same period. There is plenty of evidence that ME as well as MHG short stressed vowels were also lengthened, although there are conditions in which the lengthening has become opaque on the surface. For instance, Trisyllabic Shortening in ME makes all stressed vowels short thereby eradicating evidence of OSL in the plural, for example, OE *hamor–hamoras*, ME *hāmor* (OSL)–*hamores* (Trisyllabic Shortening). Evidence from ModE suggests that analogy leveled the lengthening in both directions; some words survived with long vowels, for example, *beaver*, while some remained short, for example, *hammer* 'devil'. In MHG, the Second Consonant Shift caused gemination of medial voiceless stops, thereby blocking the lengthening in the first syllable in forms where OE and ModD do show OSL, for example, OE *wæter* (V)–ModD *wāter* (V:)–OHG *wazzer* (V) 'water'. OSL did take place in disyllabic forms with other medial consonants (including nasals and fricatives), where the preceding syllable remained open, as in OHG *namo* (V)–OE *nama* (V)–Modern German *Name* (V:) 'name'.

Since we focus on Dutch, we should note that almost all the vowels in words with no nominative singular suffix, such as *dag~dagen*, show a V~V: pattern in ModD. OSL was not obscured by any other obvious phonological processes, and so Dutch has the clearest set of examples of heterosyllabic words in which the original short vowels became lengthened. There has been no systematic leveling as in English, other than in a few cases, such as *sap~sappen* 'juice–juices'.[4] Furthermore, since Dutch did not have a rule of Trisyllabic Shortening, all disyllabic words with open stressed syllables underwent lengthening, and all of these have long vowels in ModD, as in *vogel* [ō] 'bird'*, hamer* [ā] 'hammer'*, water* [ā] 'water'*, koning* [ō] 'king'*, weduwe* [ē] 'widow', etc*.

Nevertheless, the timing of OSL in the history of Dutch remains uncertain. Generally, grammars have assumed that OSL was complete by the time the earliest MNL texts were written (Franck 1910:§13; Schönfeld 1970:§30; Van Loey 1968:II, 2; Van Bree 1987:86, 91; Zonneveld 2000; Van Loon 2014). However, the MNL texts cover a period of approximately 350 years (1200–1550; see, for example, Pijnenburg et al. 1997 and Willemyns & Van der Horst 1997). It is not obvious if evidence in support of OSL is available through the entire period. Indeed, Fikkert (2000) argues that OSL cannot have taken place in the 13th-century *Life of St. Lutgart,* one of the earliest texts in this period.[5] She concludes, on the basis of rhyme, that there is no clear evidence that original long vowels rhyme with original short vowels that could have undergone OSL. Our intention here is to examine a range of texts in rhyming verse written in this period, to glean further evidence (from orthography, rhyme, and metrical structure) that allows us to pinpoint more precisely the onset of OSL. The chosen texts cover a period of approximately 75 years.

The earliest text is the *Life of St. Lutgart* along with two 14th-century texts attested in *Manuscript Marshall* 29—*King Saladijn* by Hein van

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[4] Compare ModD *sap~sappen* from earlier MNL forms *saeps* 'juice.GEN.SG'*, sape* 'juice.DAT.PL'; see Verwijs et al. 1885; see also Lahiri & Dresher 1999:216, Appendix.

[5] Other texts before 1300 include the literary texts *Der naturen bloeme* by Jacob van Maerlant and his *Rijmbijbel*, the Arthur novel *Perchevael, Reynaert, Sinte Kerstine*, and various fragments, all of which are published in Gysseling & Pijnenburg 1977; see Van Oostrom 1992:73 for an overview.

Aken and *Mellibeus* by Jan van Boendale. The *Life of St. Lutgart*, based on Thomas de Cantimpré's *Vita piae Lutgardis*, was written in MNL by Willem van Afflighem (born in 1210), who was the abbot of the monastery of St. Truiden. He completed the *Life of St. Lutgart* in 1274. This work is known from just one manuscript dating back to around 1300, which contains books 2 and 3.[6] Lutgart, a mystic born in Tongeren in 1182, entered the monastery in Aywières near Lièges in 1206. In a vision, the Holy Virgin granted her request never to be able to speak French, so that she did not have to become an abbess in a French-speaking monastery. The book is the story of St. Lutgart's life.

The second text, *Van den coninc Saladijn ende van Hughen van Tabaryen* 'About King Saladijn and Hughen van Tabaryen', is based on an Old French work *Ordène de chevalerie, par Hues de Tabarie*. It relates the story of the captured crusader and knight Hughe van Tabaryen, who is brought before King Saladijn. The King has an earnest desire to become a knight and requests the captured knight to make him one. Since only a free man is allowed to grant knighthood, King Saladijn releases his captive. This "sproke", or tale, by Hein van Aken perhaps goes back to the late 13th or early 14th century. Finally, *Mellibeus* is a dialogue between Mellibeus and his wife Prudentia concerning leading a moral life, based on *Liber consolationis et consilii* by Albertanus van Brescia. The work was completed in 1342.

Manuscript Marshall 29, in which *Saladijn* and *Mellibeus* are handed down, dates back to around 1375 and is about 75 years younger than the *Lutgart* manuscript (Kienhorst 2005:799). This enables us to compare texts from different points in time and from a reasonably small geographical area.[7] All three texts are written in rhyming verse, which allows us to draw conclusions from rhyme and meter. *Lutgart* is written

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[6] Only books 2 and 3 of the *Life of St. Lutgart* have survived in *Kopenhagen, Ny kgl. Saml. 168 43*.

[7] The places where the manuscripts originate from form a triangle around 60 km apart. Boenaldale comes from Antewerp, while van Aken comes from Brussles, approximately 35 miles away. *Lutgart* was written in the monastery of St. Truiden, which is in the east of Brabant, 59 miles from Antwerp and 40 miles from Brussels. There were no obvious geographical barriers between these places. Thus, although the changes could have proceeded in a diffuse fashion, these locations were geographically close enough to be considered a single area.

in iambic verse (see Fikkert 2000, Zonneveld 2000), and, as we show, *Saladijn* is also iambic. In contrast, the *Mellibeus* text is written in trochaic verse. In terms of the original versions of the manuscripts, the *Lutgart* manuscript available to us is dated around 1300, while van Afflighem has been known to have written it in 1274. The *Manuscript Marshall* is dated around 1375, while the original texts are from around 1332 (*Mellibeus*) and 1300 (*Saladijn*).

For each text, we draw evidence from orthography, rhyme, and meter: Each aspect on its own would be insufficient. Since OSL almost definitely began during the medieval period of all the WGmc languages, for purposes of comparison with earlier periods we refer not only to reconstructed PGmc forms but also to OE and OHG where relevant, particularly since hardly any documented evidence of Old Dutch exists in literary texts.

The structure of the article is as follows: In section 2, we begin with a recapitulation of OSL effects in ModD and then trace them back to the three texts. In section 3, we discuss spelling evidence, in section 4—evidence from rhyme, and in section 5—evidence from meter. Section 6 is a conclusion.

2. OSL Effects in ModD.

ModD contrasts short and long vowels, and vowel length is clearly reflected in writing, as shown in 1. Short stressed vowels are indicated by a single grapheme and are always followed by two consonants in heterosyllabic words. Long vowels are written with two graphemes in closed syllables, but with just one grapheme in open syllables. In 1, we present pairs of nouns ending with an obstruent or a sonorant, four with short vowels and two with long vowels.

(1)   Singular   Plural

    a. bok (V)   bokken (V)   'billy goat'
       bal (V)   ballen (V)   'ball'

    b. maag ($\bar{V}$)   magen ($\bar{V}$)   'stomach'
       boom ($\bar{V}$)   bomen ($\bar{V}$)   'tree'

    c. dak (V)   daken ($\bar{V}$)   'roof'
       hol (V)   holen ($\bar{V}$)   'hole'

In general, other than showing the effects of OSL, the quantity of PGmc vowels has largely remained constant in ModD. In 1a, both vowels are short because the medial consonant in the plural was originally a geminate, which blocked OSL. Degemination occurred throughout the phonological grammar later in MNL (Van Loey 1968:109, Schönfeld 1970:58, Van Bree 1987:155; see also Lahiri & Dresher 1999). We discuss this in more detail later. In 1b, the vowel is underlyingly long and remains so in both singular and plural. In 1c, however, one can see the effects of OSL in the plural: The vowel in the singular is short, but long in the plural. Consequently, there is a short/long vowel alternation in some words in the nominal paradigm.[8] Evidence that PGmc original long vowels were retained in Dutch is provided in 2.[9]

(2)   PGmc   OE   ModD
   a. †sprēkō- (V̄)   sprǣc (V̄)   spraak (V̄)   'speech'
   b. †drauma- (V̄)   drēam (V̄)   droom (V̄)   'dream'
   c. †blōda- (V̄)   blōd (V)   bloed (V̄)   'blood'[10]
   d. †baina- (V̄)   bān (V̄)   been (V̄)   'bone, leg'
   e. †swīna- (V̄)   swīn (V̄)   zwijn (V̄)   'pig'
   f. †hūsa- (V̄)   hūs (V̄)   huis (V̄)   'house'

The examples in 3 show reflexes of PGmc short and long stressed vowels in di- and trisyllabic stems in ModD. That OSL applied whenever

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[8] Lahiri & Dresher (1999:681–682) provide a complete list: *bad* 'bath', *dag* 'day', *gat* 'gap', *glas* 'glass', *hof* 'yard, court', *blad* 'leaf', *dak* 'roof', *dal* 'dale', *gebed* 'prayer', *gebod* 'order', *gebrek* 'lack', *god* 'god', *lid* 'lid', *lot* 'fate', *pad* 'path', *schip* 'ship', *smid* 'smith', *staf* 'staff', *tred* 'step', *vat* 'vessel', *weg* 'way', *zwad* 'swath' (a-nouns).

[9] The PGmc reconstructed forms are given on the basis of the following etymological dictionaries: Bosworth et al. 1964, Philippa et al. 2003–2009, Kroonen 2013.

[10] The ModD equivalent of /ū/ < PGmc /ō/ is not pronounced as long. According to Van Loey (1968:§85), /ū/ was long in certain dialects in the 14th century. In ModD, /u/ occupies two length positions just like long /a:/. Phonologically /u:/ behaves like a long vowel in most cases, although it is phonetically short (Booij 1995:15). Considering the phonological qualities of vowels, we regard /u:/ in ModD as long.

possible is obvious from original disyllabic words. Whenever the stressed vowel was in an open syllable, as in 3a,b, this vowel was lengthened irrespective of the quality of the following syllable. The long vowel has generally survived in ModD even when the word has become monosyllabic, as in 3a,f. Original short vowels in closed syllables remain short as predicted, as in 3c,d. In contrast, as we mentioned earlier, in English analogical restructuring took place, particularly due to the interaction with Trisyllabic Shortening. As a result, in many words originally long OE vowels became short, as shown in 3e. In 3a, one can see the effect of OSL maintained in ModE.

(3)   PGmc   OE   ModD

       V_{OPEN SYLL}
   a. †nakwada-   nacod   naakt ($\bar{V}$)   'naked'
   b. †wat-r-   wæter   water ($\bar{V}$)   'water'

       V_{CLOSED SYLL}
   c. †wulkan-   wolcen   wolk(en) (V)   'cloud'
   d. †apla-   æppel   appel (V)   'apple'

       $\bar{V}$
   e. †wēpna-   wǣpen   wapen ($\bar{V}$)   'weapon'
   f. †haub-id-   hēafod   hoofd ($\bar{V}$)   'head'

Original disyllabic words were not the only ones affected by OSL. Monosyllabic words would become disyllabic if a suffix was added that began in a vowel. In a new disyllabic word, the original stressed vowel would appear in an open (first) syllable. This is particularly evident in nominal paradigms, when a plural suffix is added. It is precisely this category of monosyllabic nouns where one would expect OSL to have applied, leading to a vowel length alternation in the nominal paradigm. If, however, the noun stems ended with a consonant cluster or a geminate, the vowel would remain short. Examples of PGmc monosyllabic CVC- and CVCC-stems ending in a geminate are given in 4, and a list of words is provided in note 8.

(4)   PGmc   OE   ModD

   a. †dag-az   VC-V   dæg   dag–dag-en   V-V̄   'day'
   b. †gud-a-   VC-V   god   god–goden   V-V̄   'god'
   c. †paddō-   VCC-V   paddle   pad–padd-en   V-V   'toad'
   d. †muþþō-   VCC-V   moðða   mot–mott-en   V-V   'moth'

Thus, short vowels that were followed by an original geminate or one that was derived by a rule of gemination never underwent OSL and have remained short even now in ModD. Examples of underlying geminates are visible in, for example, OE *moðða* in 4d. These short vowels would not have escaped OSL if degemination had preceded it. After degemination, double consonants were used in orthography in later stages of Dutch to indicate that these vowels remained short.

    OSL was also evident in original disyllabic nouns with single medial consonants in both singular and plural forms. Apocope of final schwa, which followed degemination, was morphologically determined: All final vowels in the nominative singular were deleted (with very few exceptions such as *weduwe* 'widow'). Once apocope occurred after OSL, one would expect long vowels to appear in monosyllabic forms. This is precisely what one finds in 5. Both singular and plural forms underwent OSL in MNL—for example, in $talu_{SG}$–$tala_{PL}$ > $tāle_{SG}$–$tāle(n)_{PL}$, the final schwa was deleted, and the word was reanalyzed with a long vowel: *taal* 'language'. The long vowel of the singular form can only be explained under the assumption that OSL applied in MNL when the word was still disyllabic.

(5)   OE   MNL   ModD

   a. nosu-SG   nōse-SG   neus-SG   'nose'
      nosa-PL   nōse(n)-PL   neuzen-PL [ø:]

   b. talu-SG   tāle-SG   taal-SG   'language'
      tala-PL   tāle(n)-PL   talen-PL [a:]

   c. sunu-SG   sōne-SG   zoon-SG   'son'
      suna-PL   sōne(n)-PL   zonen-PL [o:]

   d. hamor-SG   hāmer-SG   hamer-SG   'hammer'
      hamoras-PL   hāmeren-PL   hamers-PL [a:]

What remains uncertain is the period at which OSL really began in MNL. In the following sections, we investigate three types of evidence to determine whether OSL had indeed taken place in the Brabantic texts discussed above: evidence from orthography (spelling), rhyme, and meter. We found clear evidence from rhyme and meter that OSL is established in *Saladijn* and *Mellibeus*, but not in *Lutgart*. Evidence from spelling suggests that OSL had just begun in *Lutgart*.

3. Spelling Evidence.

In the texts we have examined, vowel length was indicated in different ways in closed and open syllables. In closed syllables, length was marked by double graphemes or as a single grapheme followed by a lengthening <e>. Short vowels were always written with only one grapheme, for example, *dag* 'day', *spel* 'play', *appel* 'apple', *bedde* 'bed'. The double consonants were geminates. However, in open syllables—which are the focus of our investigation—vowel length was marked differently. Unlike the ModD spelling, the spelling in the texts we have examined allowed for variation in open syllables. Recall that in ModD, single vowels in open syllables are always long but are not written with a lengthening marker, as in *maag–magen* 'stomach', *boom–bomen* 'tree', *dag–dagen* 'day', *god–goden* 'god'. If OSL had taken place, one might expect vowel length to be indicated consistently in open syllables—either by a single grapheme or by lengthening markers. Furthermore, one would also expect that original long vowels and vowels that have undergone OSL would be written in the same fashion. Comparing closed and open syllables, we found a difference in orthography between *Lutgart* on the one hand and *Mellibeus* and *Saladijn* on the other.

We first examine *Mellibeus* and *Saladijn*, whose spelling is very similar to ModD. Each text is written in a different hand but both show consistency in their spelling (Sytsema et al. 2014).[11] The only variation that occurs across the texts is confined to the orthography of a specific vowel in closed syllables, namely, the descendent of PGmc †/au/, which is written as <oe> in *Mellibeus* but as <oo> in *Saladijn*. Thus, ModD

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[11] Copyists may have used their own dialect (see Van den Berg & Berteloot 1994), as follows from the slightly different spelling that each of the two hands used in *Manuscript Marshall* 29.

groot 'great' and *dood* 'dead' are written as *groet* and *doet* in *Mellibeus*, but as *groot* and *doot* in *Saladijn*.

We first look at *Saladijn*. In this text, original long vowels in closed syllables are always written with two graphemes—either as identical vowels or with an additional lengthening <e>, as in 6a. See below for discussion. In open syllables, original long vowels are consistently written with a single grapheme; the only exception is when <r> follows <a>, so *jaere* 'year' (1x), *scaere* 'multitude' (1x), *vaere* 'fare, sail' (1x) are found alongside *iaren* (1x), *scaren* (2x), and *varen* (1x).[12] Apocope was not yet obligatory, and therefore one finds the same word with and without a final schwa, as in table 1, for example, *sere~seer* 'very' in row 1, *dade~daet* 'deed' in row 7. Thus, long vowels in closed syllables were always written with two graphemes, while long vowels in open syllables—with one grapheme. One finds the same alternation when a suffix is added, for example, *groot~grot-e* 'great' in row 5. Clearly, a single vowel in an open syllable could represent an original long vowel. The word *lone* 'reward' in row 4 is interesting: When *es* 'it' encliticizes to the host word, the ensuing form remains monosyllabic and the length of the vowel is indicated by two graphemes.

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[12] Gussenhoven (2009:187) observed a lengthening of short tense vowels within one foot in ModD [i,y,u] before <r>. The fact that the scribes make an exception for words with /r/ could be related to the fact that there was always a lengthening effect of this consonant. Note that PGmc †ē lengthened to <ae> before <r> as well as before <t>.

| PGmc | OE | OS | *Saladijn* | | Gloss |
			Closed syllable	Open syllable	
†sairō	sāre	sēro	seer	sere	very
†-haida-	hād	hēd	-heit	-hede(n)	-ness
WGmc †hēra-	hearra	hērro	heer	here	lord
†launa-	lēan-NOUN	lōn	loon=s < lon-e=es[13]	lone	reward-NOUN SBJV (+it)
†grauta-	grēat	grōt	groot	grote	great
†laiz-jan-/ †laizō-	lǣran, lār-NOUN	lērian, lēra-NOUN	leer	lere	teach-1SG teaching-NOUN
†dēdi-[14]	dǣd	dād	daet	dade	deed-SG
†stē-	—	stān	staen	(te) stane	stand-INF stand-GRND

Table 1. Reflexes of PGmc long vowels in *Saladijn*.

The original short vowels in open syllables in *Saladijn* exhibit the same pattern as the original long vowels. In open syllables, the short vowel in PGmc †*guda* 'god' (row 1 in table 2 below) as well as the long vowel in PGmc †*dēdi* 'deed' (row 7 in table 1) are both written with a single grapheme: *gode, dade*. In closed syllables, however, these vowels are spelt differently. In closed syllables, one expects the original short vowel to be spelt with a single grapheme, but the long vowel to surface with two graphemes. This is exactly what one finds: The short vowel in PGmc †*guda* (row 1 in table 2) is spelt with a single grapheme (*god*), whereas the long vowel in PGmc †*dēdi* (row 7 in table 1) is spelt with two graphemes (*daet*). Thus, one finds the orthography in *Saladijn* to be similar to that of ModD; PGmc short vowels remain short in closed syllables but long in open syllables: *god~gode*. To distinguish vowel length in closed syllables, the original long vowels are written with two

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[13] From *Saladijn* line 15548 *God loons v heer menichfout* 'may God reward you for this, lord, manyfold'

[14] PGmc /ē/ became /ā/ in WGmc, and this is the vowel quality reflected in MNL.

graphemes. This leads to orthographic alternations found also in ModD:
PGmc †au is reflected in *Saladijn* as /o~oo/ *groot~grote*.[15]

PGmc	OE	OS	*Saladijn*	
			Closed syllable	Open syllable
†*guda-* 'god'	god	god	god	gode
†*meda* 'with'	mid	mid, midi	met	mede
†*nama-* 'name'	nama, noma	namo	–	name
†*dag-az* 'day, daily'	dæg	dag	dach	daghelix
†*wega-* 'away'	weg	weg	wech	–
†*langa-* 'long'	lang, long	lang	langhe	–
†*rehtu-* 'straight'	riht	reht	recht	–
†*andi-* 'and'	and	endi	ende	–
†*mildi-* 'mild'	milde	mildi	melt, milde	–

Table 2. Reflexes of PGmc short vowels in *Saladijn*.

We find the same evidence in *Mellibeus* (see tables 3 and 4). In
closed syllables, the original long vowels are spelt either with two
identical graphemes or with a single grapheme followed by a lengthening
<e>. In open syllables, however, these vowels are invariably spelt with a
single grapheme. The crucial comparison is as follows. PGmc long
vowels or diphthongs such as †/au/ appear in *Mellibeus* as two graphemes
in closed syllables (for example, *doet*) but as a single grapheme in open
syllables (for example, *dode*). In contrast, the PGmc short vowel †/o/ is
written in *Mellibeus* with a single grapheme in both open and closed
syllables: *god, gode*. The fact that both short and long vowels are written
with a single grapheme in open syllables suggests they were of the same
length. Note that in closed syllables, where the length is contrastive, the
original long vowels are always written with a lengthening grapheme, as

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[15] Our focus is on vowel length. However, before OSL took place, original †/u/
was lowered to /o/ in early Germanic, for example, OE *god*, OS *god*, OHG *got* <
PGmc †*guda-*, OE *hof*, OS *hof* < PGmc †*hufa-*.

in *doet, seer,* while the original short vowels are never written with such a grapheme, as in *god*, *spel*.[16]

PGmc	OE	OS	Mellibeus		Gloss
			Closed syllable	Open syllable	
†dauþu- †dauda-	dēaþ-NOUN dēad-ADJ	dōth, dōd	doet	doden	death.NOM.SG kill-INF
†launa-	lēan-NOUN	lōn	—	lon-e.SBJV	reward
†grauta-	grēat-ADJ	grōt	groet	grote	great-ADJ
†skauni-	scēne-ADJ	skōni	scoen	scone	beautiful-ADJ
†klaiþa-	clāþ-NOUN	—	cleet	clede	cloth.NOM.SG cloth.NOM.SG
WGmc †hēra-	hearra-NOUN	hērro	heer	here	lord.NOM.SG
†stē	—	stān	staen	(te) stane	stand-INF stand-GRND
†wēni	wēn-NOUN	wān	waen	wane	imagination.NOM.SG
†laiz-jan-	lǣran, lār-NOUN	lērian, lēra-NOUN	leer	lere	teach-1SG teach-SBJV

Table 3. Reflexes of PGmc long vowels in *Mellibeus*.

As in *Saladijn*, the original short vowels are always written with one grapheme: *god~gode* versus *cleet~clede* 'cloth'. Thus, vowels lengthened by OSL in open syllables were consistently written with a single grapheme, exactly like the original long vowels in open syllables.

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[16] The only exception is the word *meer* 'more' from PGmc †*maiza*, which could be spelt *meere* or *mere*, possibly due to the lengthening effect of /r/.

| PGmc | OE | OS | Mellibeus | |
			Closed syllable	Open syllable
†*guda-* 'god'	god	god	god	gode
†*meda* 'with'	mid	mid, midi	met	mede
†*nama-* 'name'	nama, noma	namo	—	name
†*spila-* 'play'	—	spil	spel	spela
†*staba-* 'rod'	stæf	staf	staf	—
†*hluta-* 'fate'	hlot	—[17]	lot	—
†*langa-* 'long'	lang, long	lang	langhe	—
†*rehtu-* 'straight'	riht	reht	recht	—
†*skeldu-* 'shield'	sceld, scild	skild	scilt	—

Table 4. Original short vowels in *Mellibeus*.

A much more interesting pattern is found in *Lutgart*, the oldest of our three texts. Fikkert (2000) claims that spelling is not really of much assistance and concludes that this text shows little evidence that OSL had already applied. Indeed, we found consistent graphemic differences between *Lutgart* and the other two texts, as we show below. First, in closed syllables, vowel length was exactly parallel to that in *Saladijn* and *Mellibeus*. Original short vowels are written with one grapheme, while original long vowels are written with an additional grapheme, a lengthening <e> (see tables 5 and 6): In short syllables, one finds *god*, *dag*, whereas in long syllables—*loen* 'reward', *doet* 'death', etc. Second, in open syllables, original short vowels are also written with a single grapheme, as in *Saladijn* and *Mellibeus*, for example, *gode*, *dage*.[18]

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[17] OS *hlōt* < PGmc †*hlauti-*

[18] There is a single occurrence of one word with an original short vowel marked with a lengthening <e>, *daenen: Comt **daenen**, gi gebenedide* 'Come from there, blessed one' *(< dan, OE thanon)*

| PGmc | OE | Lutgart | | ModD |
		Closed syllable	Open syllable	
†*rauda-* 'red'	rēad-ADJ	roet	rode/roede	rood, rode
†*launa-* 'reward'	lēan-NOUN	loen	lone/loene	loon, lonen
†*dauþu-* 'death'	dēaþ-NOUN dēad-ADJ	doet	dode/doede	dood, dode
†*maiza-* 'more'	māra, mǣra-ADJ	meer	mere/meere	meer
†*klaiþa-* 'clothes'	clāþ-NOUN	gecleedt	cleder/cleeder	kleden, kleding
†*wēni-* 'imagine'	wēn-NOUN	waen	wane/waenen	wanen

Table 5. Orthographic variants of PGmc long vowels in *Lutgart*.

	PGmc	OE	OS	*Lutgart*	ModD
Open syllable in *Lutgart*	†*dag-ōz* 'day-PL'	dagas	dagas	dagen	dagen
	†*nusō-* 'nose'	nosu	—	nose	neus
	†*guda-* 'god'	god	god	gode	god
	†*nama-* 'name'	nama, noma	namo	name	naam
Closed syllable in *Lutgart*	†*dag-az* 'day-SG'	dæg	dag	dag	dag
	Latin *saccus* 'bag'	sacc	sakk	sac	zak
	†*spila-* 'play, game'	—	spil	spel	spel
	†*fiska-* 'fish'	fisc	fisk	visch	vis
	†*meda,* †*medi* 'with'	mid	mid	met	met
	†*fata-* 'vat'	fæt	fat	vat	vat
	†*staba-* 'rod'	stæf	staf	staf	staf
	†*andi-* 'and'	and	endi	ende	ende
	†*rehta-* 'straight'	riht	reht	rechte	recht
	†*hufa-* 'court'	hof	hof	hof	hof
	†*wega-* 'way'	weg	weg	wech	weg

Table 6. Orthographic variants of PGmc short vowels in *Lutgart*.

However, a different pattern emerges with respect to original long vowels in open syllables, which are the only ones that show variability in spelling. Recall that in closed syllables, these vowels are always written with a lengthening marker, while in open syllables, both spellings are available, as shown in table 5. Thus, both *rode/roede* 'red' were permitted, while monosyllabic *roet* 'red' is always written with an <oe>. This alternation, however, does not apply to original short vowels in open syllables. In the following tables, where possible we have given OE and OS forms, which were probably closer in age to the ancestor of MNL. Our focus here is on the length of the vowels, not necessarily on the quality, which varies across languages.

Why should the length marking of original long vowels in open syllables be variable? Understandably, in closed syllables, contrastive vowel length was indicated graphemically by adding a lengthening <e> to mark a long vowel. Thus, a vowel length contrast existed in *Lutgart*. We have also established that the length contrast is neutralized in spelling in *Saladijn* and *Mellibeus* as in ModD, which probably suggests that the length of the vowel in open syllables is the same for both underlying short and long vowels. The question remains, what happens in *Lutgart*?

We propose that unlike in *Saladijn* and *Mellibeus*, OSL had not been fully established in *Lutgart*, but one can see its commencement. Overt marking of length in open syllables suggests an effort to distinguish between short and long vowels in this position: *loene* (originally long) versus *gode* (originally short). However, the very fact that the original long vowels are being marked only some of the time (*loene* versus *lone*) suggests variability and the probable onset of neutralization of length in open syllables applying in a diffuse fashion. Once OSL is fully established, it would eliminate the necessity of marking length in *loene* 'reward' and *waenen* 'imagine' to differentiate these vowels from the ones in *gode* and *dage*; both sets of words could be written without a lengthening <e>.

To reiterate, the writing system does reflect the original length of PGmc vowels.[19] This is transparent in closed syllables, as in *roet*, *doet*,

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[19] A reviewer raised the issue of whether texts available to us have changed or not. As we said earlier, the original texts have not survived. However, we are basing our arguments on the manuscripts available to us, which we assume to be as close as possible to the original text. We have no reason to doubt this. It is entirely possible that in further copying, changes have been made; but here, our comments are based on consistent and systematic findings.

etc. In addition, it is only the original long vowels as in *lone/loene* that show variation. If OSL had been fully established—and if this is what the lengthening marker was indicating—then its effects would have been visible in original short vowels in open syllables, as in *name*; such words would have shown the same variation, namely, †*naeme*, which they do not.[20] However, the variation is only limited to original underlying long vowels. Clearly, the neutralization of length of original long and short vowels in open syllables was not yet evident in *Lutgart*.[21]

To summarize, all three texts, *Saladijn*, *Mellibeus*, and *Lutgart*, are consistent in the spelling of vowels in closed syllables: Original long vowels are always spelt either with two identical graphemes or with a lengthening <e>, and original short vowels are spelt with a single grapheme (see table 7). There can be no doubt about the length interpretation of these vowels, since they all have the same quantity in ModD. The difference between the texts is only apparent in open syllables: All original short vowels in open syllables are written with a single grapheme (see table 8). However, the spelling of original long vowels varies: They are spelt with single or double graphemes in *Lutgart*, but they are consistently written with a single grapheme in *Saladijn* and *Mellibeus* (see table 9). In *Lutgart*, graphemes <o> and <oe> in open syllables both represent the long vowel derived from PGmc †/au/ (as in *lone/loene*). The same holds for the other alternations such as <e>~<ee> and <a>~<ae> in open syllables, where these long vowels are inherited from PGmc. In

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[20] If this variation is a result of dialect differences between the scribe and the exemplar, then the variation would have occurred in original short vowels as well. Throughout the history of Dutch there is no evidence that original long vowels were shortened in open syllables. Thus, the spelling variation in long vowels must reflect the fact that the scribe views indicating length marking in open syllables as redundant. In closed syllables, the scribe shows no variation; original short vowels are written with one letter, while original long vowels have a lengthening <e>.

[21] A reviewer has raised the question of whether or not /i/ lowering in MNL could be an indication of OSL. Given that long /i/ is usually lowered in Dutch (for example, *schip–schepen* 'ship–ships' [i~eː]), MNL must have undergone OSL, since *Lutgart* has words such as *schepen*. However, *Lutgart* also shows evidence of original short /i/ vowels being lowered in closed syllables such as *spel* from †*spil-*.

contrast, original short vowels in open syllables are invariably written with one grapheme in *Lutgart*. Clearly, the writing system reflects the difference in the quantity of the vowels in open syllables: Original long vowels vary in graphemic representation, while original short vowels do not. This suggests that the original short vowels had begun to lengthen, and perhaps there was allophonic lengthening. Thus, a need was felt to clearly distinguish the original long vowels in open syllables (which were phonemically long) from the free variants of the short vowels (which were sometimes lengthened and sometimes not). It was not the case that the original long vowels were sometimes pronounced as short.

In contrast, *Saladijn* and *Mellibeus* are entirely consistent in their spelling of vowels in open syllables; both original long vowels and original short vowels are always written with a single grapheme (see table 8). Evidently, there was no longer a necessity to distinguish these vowels in open syllables. Thus, to establish the onset of OSL one relies crucially on the alternation in original long vowel spelling in open syllables (see table 9).[22]

PGmc	OE	OS	*Lutgart*	*Mellibeus*	*Saladijn*
†*guda* 'god'	god	god	*te dragene over wilde* **got** 'to carry over wanted god'	*van braba*nt *dien* **god** *verhoghe* 'of Brabant, may God elevate him'	*ende* **god** *spant der den koningen crone* 'and God bestows the kings crowns'
†*neman-* 'to take'	niman	niman	*doe hi* **vernam** *dat si van rowe* 'when he heard that she with	*doen* **nam** *hi al sonder pine* 'then he took without pain'	*hi* **nam** *orlof ende voer wech sciere* 'he took leave and went

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[22] PGmc /ē/ as in †*dēdi-* in table 9 became /ā/ in WGmc, and this is the vowel quality reflected in MNL.

PGmc	OE	OS	*Lutgart*	*Mellibeus*	*Saladijn*
			sorrow'		quickly'
†*meda* 'with, including'	mid	mid, midi	*dat hijs* **met** *eeren mochte plegen* 'that he might do with honor'	*dat ic v* **met** *mire pine* 'that I with my pain'	*ouer zee* **met** *groten scaren* 'across sea with large multitude'
†*dauþu-* 'death'	dēaþ-NOUN dēad-ADJ	dōth-NOUN dōd-ADJ	*so ijammerlic dat si die* **doet** *(begerde…)* 'so lamentably that she (desired) death'	*om dat sijn lieue sone was* **doet** 'because his dear son was dead'	*ende dat ghi recht al totter* **doot** 'and that you judge to death'
†*dēdi-* 'deed'	dǣd	dād	*ten inde al sonder arge* **daet** 'in the end without evil deed'	*allene wreken har mes***daet** 'alone avenge their evil deed'	*en es niemen vroet in domme* **daet** 'and nobody is wise in silly deed'
†*laiz-jan-/* †*laizō-* 'teach'	lǣran, lār-NOUN	lērian, lēra-NOUN	*dis was die maget wel* **geleert** 'about this the virgin had been taught'	*Seneca* **leert** *ons de manier al* 'Seneca teaches us the way already'	*wat dat bediet* **leer** *ic v* 'what that means I teach you'
†*klaiþa-* 'clothes'	clāþ-NOUN	—	*dengenen die dat omme***cleet** 'those who the over coat'	*es een goet omme* **cleet** 'is a good over coat'	—

Table 7. Spelling of original short and long vowels
in closed syllables across three texts.

PGmc	OE	OS	*Lutgart*	*Saladijn*	*Mellibeus*
†*guda* 'god'	god	god	*T Aiwires mettin* **Godes** *bruden* 'in Aiwires with God's bride'	*inden yrsten aenroepic* **gode** 'first I call on God'	*Voer* **gode** *ende op ertrike* 'for God and on earth'
†*namōn-* 'name'	nama, noma	namo	*Lutgarden, die den* **name** *dreget* 'to Lutgard who carries the name'	*wildi des boecs* **name** *weten* 'if you want to know the name of the book'	*dats soberheit een reyne* **name** 'that is simplicity a clean name'
†*meda* 'with, including'	mid	mid, midi	*ende oc bi andren beesten* **mede** 'and also by other animals included'	*alle sine vriende ende maghe* **mede** 'all his friends and relations included'	*wedewen ende wesen* **mede** 'widdows and orphans included'

Table 8. Spelling of original short vowels
in open syllables across three texts.

PGmc	OE	OS	*Lutgart*	*Saladijn*	*Mellibeus*
†*grauta-* 'great, big'	grēat	grōt	*Onteleeden met so* **groter** *haest/So seldi van der* **groeter** *plagen* 'dissected in such great haste, so you will of the great plagues'	*Dat er* **grote** *ontfarmeche de* 'that there great grace'	*Jeghen sine* **grote** *cracht* 'against his great strength'
†*dēdi-*[23] 'deed'	dǣd	dād	*Van sonden ende van mes***daden** 'of sins and of evil deeds'	*Altoes selt vorderen goede* **dade** 'ever shalt encourage good deeds'	*Om dat si hem in* **daden** 'because they him in deeds'
†*skēpa-* 'sheep'	scēp	scāp	*So was en* **schaepere** *en goet man/ Aldaer hi stont bi sinen* **schapen** 'thus was a shepherd a good man, where he stood with his sheep'	—	—

Table 9. Spelling of original long vowels
in open syllables across three texts.

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[23] PGmc /ē/ became /ā/ in WGmc, and this is the vowel quality reflected in MNL.

Our data show that the orthography of long and short vowels is generally regular. In *Lutgart*, the variation occurs in a specific category, namely, original long vowels in open syllables, which are often spelt with double graphemes. We interpret this variation as a way of ensuring that the difference in underlying length is still reflected in writing, at least some of the time, in order to distinguish any allophonic lengthening that may have begun to affect the short vowels in open syllables. In contrast, the ModD writing system is exactly parallel to the system in *Saladijn* and *Mellibeus*, where two graphemes are used in closed syllables to indicate length; in contrast, in open syllables both underlying short and long vowels are written with a single grapheme, if they are long, as in *god~goden* versus *boom~bomen*. To indicate long vowels in closed syllables in ModD as well as in our three texts, two vocalic graphemes are used. In table 10 we provide a summary of our results, where the shaded last row represents the variation context.

PGmc		*Lutgart*	*Mellibeus*	*Saladijn*
†V	Closed	<a><o>	<a><o>	<a><o>
†V̄	syllable	<ae> <oe>	<ae> <oe>	<ae> <oo>
†V	Open	<a><o>	<a><o>	<a><o>
†V̄	syllable	<ae>~<a> <oe>~<o>	<a><o>	<a><o>

Table 10. Graphemic representation illustrated with <a> and <o>.

Thus, PGmc vowels in closed syllables have not altered, which is reflected in spelling in all the texts: Long vowels in closed syllables are written with two graphemes, and short vowels with one grapheme. The difference between *Lutgart* on the one hand, and *Saladijn* and *Mellibeus* on the other lies in long vowels in open syllables. A comparison reveals a clear attempt to ensure that original long vowels in open syllables were marked with an extra lengthening grapheme, which is not the case for original short vowels in open syllables. The spelling system used in *Lutgart* did provide the means to indicate vowel length, and those means were consistently used in closed syllables to mark original length. In *Saladijn* and *Mellibeus*, the lack of contrast in open syllables suggests that lengthening of short vowels has taken place. We conclude that in *Lutgart*, it was necessary to indicate length by adding a lengthening <e>

to contrast those vowels with original short vowels in open syllables, where there could have been variable lengthening if OSL had been fully established. As we show below, further evidence suggests that OSL was securely embedded in *Saladijn* and *Mellibeus*, while it is possible that in *Lutgart* the difference between original long and short vowels in open syllables was in a state of fluctuation.[24]

PGmc	*Lutgart*	*Mellibeus*	*Saladijn*	ModD
†V closed syllable	V	V	V	V
†V open syllable	V~V̄	**V̄**	**V̄**	V̄
†V̄ closed syllable	V̄	V̄	V̄	V̄
†V̄ open syllable	V̄	V̄	V̄	V̄

Table 11. Vowel quantity: V, V̄.
The shaded section highlights the differences across the texts.

Additional spelling evidence is found in *Saladijn* and *Mellibeus*, where some original short vowels appear as long in syllables closed by an inflectional suffix, as shown in table 12. This lengthening can only be explained by an analogical restructuring of the verb root after OSL. For example, the short stem vowel in PGmc †*makōn-* must have undergone OSL, after which the verb root was reanalyzed as having a long /ā/. Consequently, the past tense suffix /t/ was added to the restructured lengthened verb root, *maect* 'make'.[25] *Saladijn* and *Mellibeus* both contain such reanalyzed long vowels, as in *vroomste/vroemt* 'devout' and *(ghe)maect* 'made'.

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[24] Exceptions are only found in words ending in *-r*, where the *-r* had a lengthening effect and allowed *ijar* in *Lutgart* to be spelt with a single <a>. One would have expected the original long vowel in *ijar* < PGmc †*jēr-* to be indicated as long in writing. Probably under the lengthening influence of the following *-r* this was not considered necessary. The lengthening effect of *-r* is recognized by Van Bree (1987:139) and Gussenhoven (2009:187; see note 10).

[25] A reviewer comments that this could have happened to a particular verb. The relevant point is that one finds a lengthening marker in closed syllables with an original short vowel only in *Saladijn* and *Mellibeus*, but not in *Lutgart*.

In contrast, in *Lutgart*, the original short vowels in these words are always spelt with one grapheme in closed syllables, which suggests that the root vowel has remained short, as shown in table 12. However, not all words show the same pattern. For instance, the stressed vowel of the verb *comen* 'come' is written with two graphemes in *Saladijn* when /t/ is added, but not in *Mellibeus*. However, the lengthening in *vroemt* 'devout' and *maect* 'make' is observable in both texts. As a reviewer points out, a change in underlying vowel length often occurs word by word by lexical diffusion (Labov 1994). What is important is that OSL must have been properly established in *Mellibeus* and *Saladijn*; otherwise, these vowels would not show lengthening in a closed syllable.

PGmc	OE	OS	*Saladijn*		*Lutgart*		*Mellibeus*	
†*kuman-* 'come'	cuman	kuman	**coomt** V̄ (1x)	comen V̄	comt V (22x)	comen V	comt V (6x)	comen V̄
†*frumō-* †*fruman-* 'devout'	fruma	fruma	**vroom** V̄ (2x)	vrome V̄	—	vromen V	**vroemt** V̄ (1x)	vrome V̄
†*makōn-* 'make'	macian	makōn	**maect** V̄ (7x)	maken V̄	makt V (21x)	maken V	**maect** V̄ (41x)	make V̄

Table 12. PGmc short vowels manifested as long in closed syllables in *Saladijn* and *Mellibeus*.

Thus, in terms of orthography, there are two pieces of evidence to the claim that OSL had taken place in *Saladijn* and was nearly finished in *Mellibeus*, but had not yet been well established in *Lutgart*. First, the original long vowels are distinguished from original short vowels in open syllables only in *Lutgart*, where the former vary in orthography, for example, *loene/lone* 'reward'. This does not occur in *Saladijn* and *Mellibeus*: In open syllables, all vowels are written with a single grapheme, whereas in closed syllables, the original long vowels are written with a lengthening <e> or as two identical graphemes.

Second, original short vowels in the infinitival forms of certain verbs, such as *vromen* 'to benefit', must have been lengthened due to OSL. Only in *Saladijn* and *Mellibeus* were these vowels reanalyzed as

long. When they appear in closed syllables with consonantal inflectional suffixes, they are written with lengthening markers, as in *vroomste, vroemt*. This phenomenon is absent in *Lutgart*. A count of the variable spelling of the words with original long vowels in table 1 shows that more than half of them are marked with a lengthening marker in open syllables. It is thus possible that OSL was beginning to have an effect in *Lutgart*. The crucial difference, however, is that no lengthening markers in open syllables are found in *Saladijn* and *Mellibeus*—only in *Lutgart*, where the length of vowels in open syllables must have been neutralized after the application of OSL. As we show below, other evidence also points to the difference between *Lutgart* and the other two texts with regard to OSL.

4. Evidence from Rhyme.
Since the texts we examine are written in verse, they provide us with the opportunity to compare rhyming words on the basis of vowel quality and vowel quantity. If OSL had already occurred, then original long vowels and vowels lengthened by OSL should rhyme. To obtain evidence from rhyme we had to distinguish between rounded and unrounded vowels. Sytsema et al. (2014) have shown that round vowels of the same PGmc origin rhyme in *Saladijn* and *Mellibeus* even if they are spelt differently (see tables 13 and 14), whereas vowels of different origins do not appear in rhyming pairs even if they are spelt the same (see table 14). Descendants of PGmc [†]/ō/ are consistently spelt <oe>, whereas descendants of PGmc [†]/au/ could be spelt <oe> or <oo>. Descendants of PGmc [†]/ō/ never appear in rhyming pairs with descendants of PGmc [†]/au/, from which we concluded that they must have been of different quality. This is true in all the manuscripts. Thus, in some texts in *Manuscript Marshall* 29, *goet* 'good' rhymes with *vloet* 'flood' (both from PGmc [†]/ō/) and *groet* 'great' rhymes with *doot* 'dead' (from PGmc [†]/au/), but *groet* never rhymes with *vroet* or *goet* (from PGmc [†]/ō/, Sytsema et al. 2014). Later the spelling was leveled, as can be seen in ModD. *Saladijn* and *Mellibeus* are consistent in their spelling.

PGmc	OE	OS	*Saladijn*	*Mellibeus*	ModD
†gōda- 'good'	gōd	gōd	15592 *Dit dochte den coninc alte goet* 'this seemed too good to the king'	734 *Raet nutelijc ende goet* 'advice, useful and good'	goed [u:]
†frōda- 'wise'	frōd	frōd	15594 *Her hughe sprac hi nv maect mi vroet* 'lord hughe he said, inform me'	735 *Dien soudi doen waerdi vroet* 'what you should do if you were wise'	vroed [u:]
†grauta- 'great, big'	grēat	grōt	15610 *Here sprac hi dat ghi cleyne ende groot* 'lord he said that you small and big'	264 *Een man hadde wilen rouwe groet* 'a man had meanwhile great sorrow'	groot [o:]
†dauda- 'dead'	dēad	dōd	15612 *Ende dat ghi recht al totter doot* 'and that you rightly to death'	265 *Om dat sijn lieue sone was doet* 'because his dear son was dead'	dood [o:]

Table 13. Descendants of PGmc †/ō/ and †/au/ in *Saladijn* and *Mellibeus*.

Thus, rounded vowels of different PGmc origins never appear in rhyming pairs, since they are qualitatively different, although in ModD, these vowels are identical and do rhyme, as in table 14.[26]

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[26] In the literature, the difference in vowel quality between original long and lengthened vowels is known as the difference between *scherplang* (original long, /ê/, /â/, /ô/) and *zachtlang* (lengthened after OSL /ē/, /ā/, /ō/), for example,

PGmc		OE	OS	MNL	ModD
†*guda-* 'god'	V	god	god	god [ɔ] /gode [ɔ:]	gode [o:]
†*rauda-* 'red'	V̄	rēad	rōd	root [o:] /rode [o:]	rode [o:]

Table 14. No rhyming pairs with vowels of different origins
in *Saladijn* and *Mellibeus*.

In contrast, unrounded vowels do allow one to establish if OSL had occurred or not. One would expect original unrounded long and short vowels to rhyme, if OSL had taken place, and, indeed, such evidence exists. As tables 15 and 16 show, in *Saladijn* and *Mellibeus* original /a/ and /aː/ occur in rhyming pairs, as do /e/ and /eː/.[27]

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dâden 'deeds', –*schāde* 'damage', *bômen* 'trees', –*kōmen* 'come'. The phonemic difference between the two was still maintained in the 19th century in the De Vries & Te Winkel spelling rules and dictionary (Te Winkel 1863; De Vries & Te Winkel 1882; Van Bree 1987:§17.4, §18.3, §20.3): Single letters in open syllables /e/, /a/, /o/ are used for lengthened vowels, whereas double letters in open syllables—for the original long vowels /ee/, /aa/, /oo/. Van Bree (1987:§17.4) assumes that the difference between original long /ê/ and lengthened /ē/ was lost as early as the 16th century in some Holland dialects. The difference between /ô/ and /ō/ still exists in Brabant dialects (§18.2 and 18.3; Goossens et al. 1998: II.5 and III.4.2; Weijnen 1958), whereas /â/ and /ā/ must have coincided in the 16th and 17th century (Van Bree 1987:§20.3). In our texts, the difference between original long and lengthened vowels in open syllables is not indicated in spelling.

[27] PGmc did not have /ā/; we therefore looked at the WGmc /ā/ < PGmc †/ē/.

PGmc		OE	OS	line	*Saladijn*
†*dēdi-* 'deed'	V̄	dēd, dǣd	dād	15613	*Altoes selt vorderen goede* **dade** 'always shall encourage good deeds'
†*skaþa-* 'disadvantage'	V	sceaða	skađo	15615	*Moeti bescermen hare* **scade** 'he has to protect her shadow'
†*-haida-* 'holiness'	V̄	hād	hēd	15569	*Ende sijn so vol heilic***hede** 'and are so full of holiness'
†*sidu-* 'customs'	V	seodu, sidu	sidu	15571	*Ghi en wert van kerstenen* **seden** 'you become of Christian custom'

Table 15. Rhyming pairs in *Saladijn*.

PGmc		OE	OS	line	*Mellibeus*
†*rēdan-* 'advise-INF'	V̄	rǣdan	rādan	744	*Maer alse quade wiue* **raden** 'but when bad women advise'
†*skaþa-* 'harm'	V	sceaða	skaðo	745	*Den sot valt hi in* **scaden** 'the silly one ends up in harm'
†*-haida* suffix '-ness'	V̄	hād	hēd	1556	*Can onmate ghierec**hede*** 'Can measureless greed'
†*sidu-* 'customs'	V	seodu, sidu	sidu	1557	*Toe bringhen hets haer* **sede** 'bring, it is her custom'

Table 16. Rhyming pairs in *Mellibeus*.

Fikkert (2000) stated that in *Lutgart*, original short vowels in open syllables do not rhyme with original long vowels; she suggested that this was another piece of evidence against OSL having occurred in *Lutgart*. Her observation is probably due to the fact that she was focusing on rounded vowels. For unrounded vowels, we do find some examples in *Lutgart* as well, but much less than in the other texts.

PGmc		OE	OS	line	*Lutgart*
†*frēgō-* 'ask-INF'	V̄	NA	frāgon	10505	*Van u, so soudic gerne* **vragen** 'of you, so I would like to ask'
†*hagō-* 'please-INF'	V	gehagian, onhagian	bihagon	10506	*Wie sijn die mi dos wel* **behagen** 'who are they who please me thus'
†*wēni-* 'suspect-SBJV'	V̄	wēnan	wānian	10262	*Dat ic van rowen sterven* **wane** 'that I for sorrow thought of dying'
†*ana* 'on'	V	on, an	an(a)	10263	*Want desen kinde es comen* **ane** 'because this child has arrived'

Table 17. Rhyming pairs in *Lutgart*.

Each of the rhyming pairs in the three tables above consists of an original long vowel and an original short vowel. As the short vowels rhyme with the long vowels, the former must have lengthened in order to rhyme with the original long vowels, so in these cases the original long and the lengthened vowels must have merged.[28]

However, there are differences across the texts in the three different time periods when each of the texts was written. Although one does find rhyming pairs with original short and long unrounded vowels in *Lutgart*, these examples are rather limited. We sampled all rhyming words in the three texts (see table 18). Although *Lutgart* is the longest text, it has only 42 short/long rhyming pairs (84 lines, 42 pairs, of which 32 are different word pairs; 50 individual words). In contrast, *Saladijn* has 25 short/long

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[28] Length is maintained in ModD, with possibly a few exceptions such as *(on)gemak* 'ease'.

rhyming pairs involving 31 individual words, which comes to 17%. *Mellibeus* is in between.

	Lutgart 20,000 lines	*Saladijn* 291 lines	*Mellibeus* 4,000 lines
rhyming pairs	42	25	77
proportion of all pairs	0.4%	17%	3.9%
individual words	58	46	33

Table 18. Short/long rhyming pairs in the three texts.[29]

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[29] **Lutgart** shows the following individual words in short/long rhyming pairs: *wale* 'well', *male* 'time', *tale* 'language', *quale* 'angry', *halen* 'fetch', *wane* 'illusion', *ane* 'on', *tranen* 'tears', *dwane* 'do', *plagen* 'tease', *dagen* 'days', *jagen* 'hunt', *dragen* 'carry', *vragen* 'ask', *behagen* 'please', *magen* 'blood relations', *gewagen* 'relate', *spraken* 'spoke', *maken* 'make', *saken* 'things', *wraken* wroth.PL, *geraken* 'get to', *quamen* 'came', *name* 'name', *lichame* 'body', *staden* 'confirm', *laden* 'load', *daden* 'deeds', *genade* 'mercy', *schade* 'damage', *badet* 'bath.3SG', *bestadet*, *laten* 'let', *baten* 'benefit', *maten* 'measures', *mede* 'with', *dede* 'deed', *sede* 'custom', *heide* 'heather', *treden* 'tread', *genede* 'mercy', *(ge)beden* 'prayers', *stede* 'stead', *geleden* 'suffered', *besneden* 'circumcised', *leven* 'live', *schreven* 'wrote', *geven* 'give', *heven* 'lifted', *dreven* 'drifted' (words with medial –Vr- have been disregarded to eliminate any possibility of lengthening through -r).

  Saladijn shows the following individual words in short/long rhyming pairs: *ane* 'on', *stane* 'stand', *zwane* 'swan', *quame* 'came', *name* 'took', *betame* 'may fit', *maken* 'make', *saken* 'things', *genaken* 'approach', *gheraken* 'end up', *laken* 'blame', *onghemake* 'inconvenience', *sprake* 'speech', *ghebrake* 'might lack', *dade* 'deed', *spade* 'spade', *scade* 'damage', *-hede*.SUFF, *seden* 'customs', *stede* 'town', *ghestreden* 'fought', *dede* 'did', *lede* 'members', *mede* 'with', *vermeten* 'measured', *vergheten* 'forget', *eten* 'eat', *ghespleten* 'split', *gheuen* 'give', *leuen* 'live', *verheuen* 'lifted up', *verdreuen* 'expelled' (words with medial -Vr- have been disregarded to eliminate any possibility of lengthening through -r).

  Mellibeus shows the following individual words in short/long rhyming pairs: *strale* 'radiance', *wale* 'well', *staen* 'stand', *ane* 'on', *ghewagen* 'relate', *vragen* 'ask', *sake(n)* 'things', *wrake(n)* 'revenge', *sprake(n)* 'spoke', *onghemake* 'inconvenience', *maken* 'make', *bate* 'benefit', *mate* 'measure', *ondersate* 'support', *late* 'let', *samen* 'together', *quamen* 'came', *namen* 'took', *bequame* 'easy', *scade(n)* 'damage', *rade(n)* 'advise', *beraden* 'advise', *gheraden* 'advise', *stade(n)* 'occasion', *laden* 'load', *daden* 'deeds', *-hede*.SUFF, *lede(n)* 'members', *vrede* 'peace', *stede* 'town', *clede* 'cloth', *sede* 'custom', *dede* 'did'.

As table 18 shows, *Mellibeus* and *Saladijn* have a larger percentage of rhymes that involve original short and long vowels. In *Lutgart*, such rhymes constitute less than 1%. In contrast, in *Saladijn*, which consists of less than 300 lines and has approximately the same number of individual words as *Lutgart*, such rhymes constitute 17%. Not only are there more words that participate in such rhymes, but there are also other differences. In *Saladijn*, for instance, one finds verses of four rhyming lines with original short and long words. For example, in a single verse in *Saladijn*, a word ending with the suffix *-hede* (<†*haidu*) rhymes with *mede* (<†*meda*) 'with', *sede* (<†*sidu*) 'custom', and *lede* (<†*lidu*) 'lid', as shown in table 19.

15649	*Dat er grote ontfarmec**hede*** 'that there great mercy'
15651	*Wedewen ende wesen **mede*** 'widows and also orphans'
15653	*Bescermen haer lijf ende haer **lede*** 'protect their body'
15655	*Dats der karitaten **zede*** 'that is charity's custom'

Table 19. Four rhyming lines in *Saladijn*.

A further point to note is that in *Lutgart*, the rhyming pairs almost always consist of a noun and some form of a strong verb (for example, *genade* < †V̄ 'mercy'~*laden* < †V 'to load'), but there are no examples of two nouns. Note that the vowel length varied in the morphology of strong verbs, for example, OE *specan*-INF (V) 'to speak', *spæc*-PAST.1 3P (V), *spēcon*-PAST-PL (V̄), *gespecen*-PART (V). Given this, one could conjecture that the long/short rhyming pairs are restricted to noun-verb combinations due to morphological variation in length. In contrast, *Saladijn* does contain rhyming words of the same morphological class—see, for example, the rhyming nouns *dade* < †V 'deeds'~*scade* < †V 'damage' (see table 15). Such pairs are more reliable when drawing conclusions about original vowel length. In any event, as shown in table 18, *Lutgart* has fewer straightforward examples of rhyming pairs that contain original vowels of mismatching length.

Summarizing, for rounded vowels, one only finds rhyming pairs of the same PGmc origin. When lengthened, short PGmc †/u/ (WGmc †/o/) became MNL /ɔ:/; it did not have the same quality as MNL /o:/, which developed from PGmc †/au/. PGmc †/ō/ became MNL /u:/. Sytsema et al. (2014) have argued that this is why rhyming pairs with original long and

short rounded vowels in open syllables were not found in MNL. However, unrounded short and long vowels of different descent do have the potential to rhyme, if OSL applied, since the lengthened unrounded vowels would have the same vowel quality as the original long vowels. We found that this indeed occurred in *Saladijn* and *Mellibeus*, and to a much lesser extent in *Lutgart*. In *Lutgart*, not only are there fewer words that participate in such rhymes, but there are also no rhyming pairs that belong to the same syntactic class. This observation suggests that the process of OSL was more advanced in *Mellibeus* and in *Saladijn*, where a much greater number of unrounded vowels had undergone OSL, whereas in *Lutgart* the process had probably just begun.

5. Evidence from Meter.

Evidence from meter is possibly the most interesting indication of whether OSL had occurred. It has been assumed that *Lutgart* is the only text with iambic meter in MNL (see Fikkert 2000, Zonneveld 2000). However, we found that *Saladijn* is also written in iambic verse, whereas Mellibeus has trochaic rhythm (see table 20). Adapting the metrical principles of Halle & Keyser 1966, which were drawn up to describe principles of iambic pentameter in Chaucer, Fikkert (2000) concludes that the same principles *mutatis mutandis* are applicable to *Lutgart*. She argues that *Lutgart* is written in regular iambic tetrameter, where each line consists of eight positions or syllables to which an extrametrical syllable may be appended for feminine rhymes. If there are more than nine syllables, elision of unaccented vowels, mostly schwa, takes place to maintain the number of eight or nine syllables. Metrical beats fall on even positions. Since linguistically heavy syllables or stress maxima are always in even positions, the meter is clearly iambic. A similar pattern is observable in *Saladijn* but not in *Mellibeus*. In *Mellibeus*, stress maxima fall on odd positions. The different metrical patterns in our texts are illustrated in table 20. Generally, there were four beats per line in all of these texts.

Lutgart—iambic	*Saladijn*—iambic	*Mellibeus*—trochaic
T Ai'wires 'binnen, 'daer si 'sent 'In Aiwires where they are'	Ghe'uiel dat 'tfolc voor 'ende 'ghinc 'happened that the people went in front'	'Al tand'werpen 'daer ic 'wone 'In Antwerp where I live'
Hilt 'langen 'tijt in 'dat con'vent 'kept a long time in the convent'	Op 'enen 'dach men 'tstride 'vinc 'one day the fighting began'	'Maecte 'ic dit 'boexken 'scone 'I made this beautiful book'
O'wi ho 'blide 'was Lut'gart 'O, how happy was Lutgart'	Dit 'dochte den 'coninc 'alte 'goet 'this thought the king was too good'	'Die hi 'minde 'harde 'zere 'who he loved very much'
Doe 'si ver'horde 'dese 'wart 'when she heard this word'	Her 'hughe sprac 'hi nv 'maect mi 'vroet 'Lord Hughe, he said, inform me'	'Doen dus 'henen 'was die 'here 'so when the lord had gone'
Ende 'oc u 'beden, 'sonder 'waen Der 'silen 'sal in 'staden 'staen 'and also your prayer, without imagination of the soul will stand'	Her 'hughe was 'vroe maer 'sala'dijn Dat 'hi al'dus den 'riddere 'fijn 'Lord Hughe was happy but Saladijn' 'that he thus the fine knight'	'Salo'mon ons 'oec ghe'waget 'Also de 'motte die 'cleder 'knaget 'Salomon tells us also as the moth gnashes the clothes'

Table 20. Rhythmic patterns in *Lutgart*, *Saladijn*, and *Mellibeus*.

As one can see, lines in *Mellibeus* start and end with a stressed syllable followed by an unstressed syllable, which makes the feet trochaic. In both *Saladijn* and *Lutgart*, lines begin and end with iambic feet; the beat generally falls on the second syllable and the initial syllable is disregarded. Thus, the superheavy final syllable rhymes include *ghinc* 'went' and *vinc* 'caught' or *goet* 'good' and *vroet* 'wise'. Perhaps the name *Saladijn* encouraged the poet to use an iambic pattern, ending his rhymes frequently with such heavy syllables. Both *Saladijn* and *Lutgart* also contain feminine rhymes ending in schwa (see Zonneveld 2000).

Lutgart	*Saladijn*
11549 *Al 'oppen'bare in 'sinen 'wane* 'openly in his illusion'	15595 *Wat 'tbedde be'diet dat 'v god 'lone* 'what the bed means may God reward you'
11550 *Dat 'pijnlic 'ware hem 'tonder 'stane* 'that painful were to him to stand under'	15597 *V 'bedde te 'makene 'in gods 'trone* 'to make you a bed in God's throne'

Table 21. Feminine rhymes in *Lutgart* and *Saladijn*.

When examining metrical feet in verse to establish the presence or absence of OSL, one should focus on the syllables that can carry a beat. In Germanic in general, metrically strong syllables would be heavy; these would either be open syllables with long vowels or closed syllables with a coda consonant. However, metrical resolution occurred frequently in older Germanic languages (see OE, OHG, Gothic). Two consecutive light syllables (LL) and a sequence of one light and one heavy syllable (LH) would be treated as a single foot. This means that an LX sequence would be equal to H, where X could be either L or H (Russom 1987, Dresher & Lahiri 1991, Fikkert et al. 2006, and references therein).[30] Thus, an LH sequence carries a single main stress (for example, OE *wéreld* 'world', *cýning* 'king') and would constitute a single foot; it would never amount to two feet, and so the final H in this sequence could never carry a beat. As we show below, these sequences become crucial line-finally in iambic verse, where the beat could not fall on the final H (for example, "*ning*" of *cyning*): This syllable is not a foot by itself, but the word as a whole constitutes a single LH foot. However, before we discuss the relevance of LH feet for OSL, we need to discuss the similarities and differences across the three texts, particularly with respect to de-footing.

In most verses, there are various possibilities of de-footing in words with HH sequences, as shown in 6 (H̲ = de-footing, **H** = stress). Words with two heavy syllables need not carry two beats, and one heavy

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[30] Dresher & Lahiri 2005, Lahiri 2015 show that the asymmetric feet continued for quite a long time in ME. We would assume that the foot became a moraic trochee in ModD after the period in which these manuscripts were written.

syllable could be de-footed for rhythmic purposes (examples of verses are given later).

(6)   Form Expected Attested

    a. HH   (**H**) (<u>H</u>)   (**H**) (<u>H</u>) and (H) (**H**)   *ambacht* 'trade'
                                                                         erming 'poor person'
                                                                          archeit 'evil'
                                                                         vīant 'enemy'

    b. HHL   (**H**) (HL)   (H) (**H**L) and sometimes   *ambachte* 'trade'
                                       (**H**) (HL**)**   *erminge* 'poor person'

However, where open syllables are concerned, there are varying possibilities. To appreciate the differences across the three texts, we need to discuss them with respect to the two metrical patterns, iambic and trochaic. We first turn to *Lutgart* and *Saladijn*, and then discuss *Mellibeus*.

    Fikkert (2000) argued that the LX = H type of resolution was still in effect in *Lutgart*. Our contention is that the words with LX feet are crucial for establishing whether OSL has occurred or not. The argument proceeds as follows: If OSL has occurred, then original short vowels in open syllables would become heavy and would pattern with other heavy syllables; that is, the original light syllables would be treated as heavy. Thus, before OSL, a word with 'CVCVC structure would be treated as one foot, with a light syllable followed by a heavy syllable (for example, LH = LX) and with the first syllable carrying the only beat. The second syllable cannot bear a beat since it is part of a single foot and thus cannot bear stress. If, due to OSL, the first vowel is lengthened as in 'CV:ˌCVC, then the word would have two feet, HH, with potentially two beats. Alternatively, after de-footing only one H would carry a beat. However, without OSL, a 'CVCVC word could only be a single trochaic foot.

    Let us first consider footing possibilities in line-medial positions in *Lutgart* and *Saladijn*. Typically, whenever two consecutive closed syllables could potentially form two monosyllabic H feet, as in 6, one syllable could be de-footed for rhyming purposes. In line-final position, there are other possibilities. An LL foot was permissible sentence-finally with a final schwa, as shown in 7. However, Fikkert noticed that in

Lutgart, words with a closed penultimate syllable, such as *coninc* 'king' (LH) and *coninge* 'king' (LHL), are always comprised of a single foot. In contrast, words such as *erming(e)* 'poor person' (HHL) consist of two feet, one of which could be de-footed, if needed. Examples of footing of LH and HH feet line-medially in *Lutgart* are given in 7.

(7) ([L H])   ([L H] L)[31]   (H) (H)   (H) (H L)
     'co ninc   'co nin ge   'am ˌbacht   'am ˌbachte

Thus, in *Lutgart*, "*ninc*" can appear in a weak position, but never in a strong position, while *ambacht* 'trade' can consist of (H) (H̲) or (H̲) (H), allowing the final syllable to be strong. Although the final syllable in *coninc* 'king' is heavy, the word has an LH sequence, which is resolved into a single foot. That is, it carries only a single stress, which falls on the light syllable, not on the heavy one. Thus, "*ninc*" in *coninc* can never carry a beat since the main stress is on "*co*" and the entire word constitutes a single foot. The final schwa in *coninge* can of course be ignored. The contrast between *coninc* and *ambacht* exists because the first syllable in the former must have been light. In 8 and 9, and in tables 22 and 23, we provide examples of both words in *Lutgart*. It is obvious that in *ambacht*, either syllable can carry a beat, whereas in *coninc* and *coninge*, the main beat is always on "*co*" and never on "*ninc*".[32] As shown in 8, in *Lutgart* de-footing can apply to H in HH but not in LH.

(8) *(['L H̲])   (H̲) ('H)   ('H) (H̲)
     'co ninc   am 'bacht   'am bacht

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[31] Fikkert (2000) argues that the resolved moraic trochee of older Germanic languages was still valid, which required the trochee to be placed at the left edge of a word and the head to have two moras so it could branch: **([μμ]ₕₑₐ𝒹 μ)** (Dresher & Lahiri 1991, 2005; Fikkert et al. 2006; see Idsardi 1994). Consequently, *coninge* would still be a single foot.

[32] Following a reviewer's advice we counted the number of occurrences of medial *coninc* and its derivatives. In *Lutgart*, there were 59 occurrences in total, always with an initial beat. In *Saladijn*, we found medial *coninc* 18 times, 17 times with the beat on "*'co*", once with the beat on "*'ninc*", and once *coninc* was found line-finally, also with the beat on "*'ninc*", as shown in table 23.

10836	*Die **'coninc** 'van din 'para'dise* 'the king of the paradise'	LH(L) foot
14283	*Si 'bat vor **'coninge** 'ende 'grauen* 'she requested in front of king and earls'	
4060	*Dat 'sal v **'am<u>bacht</u>** 'wesen 'daer* 'that will be your trade there'	HH words with de-footing
5098-3	*Dats 'mijn <u>**am'bacht**</u> in 'hemel'rike* 'that is my trade in heaven'	

<div align="center">Table 22. (De)footing of HH and LH sequences in Lutgart.</div>

One finds similar patterns of footing and de-footing in HH sequences line-medially in *Saladijn*:

15586	*Dat 'ghi al 'oncuus'heit ver'smaet* 'that you despise all impurity'	HHH > H<u>H</u>H
15587	*Ende 'maect v 'alder **'scalcheit** 'scu* 'make you shy of all … wickedness'	HH > H <u>H</u>
15698	*Dats **'sober'heit** een 'reyne 'name* 'that is simplicity a pure designation'	HLH
15532	*Doe **'antwor'de** die 'coninc te 'hant* 'then the king replied at once'	HHL > H<u>H</u>L
15532	*Doe 'antwor'de die **'coninc** te 'hant* 'then the king replied at once'	HH > H<u>H</u>
15526	*'Doe **ant'worde** heer 'hugh<u>e</u> na 'desen* 'then lord Hughe replied after this'	HHL > <u>HH</u>L

<div align="center">Table 23. (De)footing of HH sequences in Saladijn.</div>

Now we turn to the end of a line. Here we draw attention to the lack of certain types of end rhymes in *Lutgart*, which were perfectly acceptable in *Saladijn*, and argue that this is because OSL did not apply in *Lutgart*. In iambic meter, the final foot in the end rhyme can consist of one heavy (H) syllable, possibly with a final schwa (HL), which is extrametrical. In iambic meter, as we observed above, the ideal final foot would be [L'H (ə)]. Fikkert observed that words such as *coninc/coninge* 'king' never occur sentence-finally in *Lutgart*, whereas words such as *ambacht* 'trade' clearly do. Since the final syllable can be either a de-

footed (<u>H</u>) or an (H) that carries a metrical beat, an (H)(H) sequence can appear sentence-finally, where one syllable could be de-footed due to clash, for example, 'ambacht ('H<u>H</u>) versus am'bacht (<u>H</u>'H). In contrast, "*ninc*" in *coninc* ('LH) has a heavy unstressed syllable and could not be ignored. Thus, several issues arise. First, "*ninc*" is a heavy syllable, but it could not bear stress since its preceding light syllable bore stress, 'LH. Second, "*ninc*" could not be ignored, since the final H is not a schwa. Finally, it could not be de-footed since it is not a foot. Consequently, words such as *coninc/coninge* were incompatible with the iambic line-final position and so they never appear there. In contrast, if a word consists of two heavy syllables, such as *ambacht*, it may carry two stresses, or one syllable can be de-footed. When it appears line-finally, the first syllable is de-footed, and the iambic metrical pattern is satisfied.

Such a gap—the absence of LH(L) words (where the initial L was an open syllable consisting of only a vowel) at the end of a line in iambic rhythm—can only be explained if OSL had not yet taken place. Long vowels would constitute heavy syllables. Consequently, had OSL taken place, the initial syllable in *coning*, "*co*", would have been long, [coː], and the subsequent (H)(H) sequence would not have been treated as a single foot. Thus, with OSL, *cōning* would have behaved exactly like *ambacht*. We argue that OSL is well established in *Saladijn* but not in *Lutgart*, which explains why words such as *coninc* are allowed line-finally in the former but not in the latter. Examples of original LH and HH words are provided in 9.

(9) a. before OSL in *Lutgart*   b. after OSL in *Saladijn*
   (L H)   (H) (H)   (H) (H)   (H) (H)
   co ninc   am bacht   coː ninc   an   schijn

To support our hypothesis, in table 24 we present examples with line-final original HH sequences in a disyllabic word from *Lutgart* and *Saladijn* (where one H is de-footed). Then in table 25 we present examples of original LH sequences from *Saladijn*, which have become HH, but which do not occur in *Lutgart*.[33] We predict that words such as *coninc*, with a

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[33] Unlike in *Lutgart*, in *Saladijn* one does not find words with two heavy closed syllables, such as *ambacht* 'trade', sentence-finally. We have, therefore, given sequences of two H words, such as *heeft noot* 'has need'.

final beat on "*ninc*", would be allowed at the end of the line in *Saladijn*, where OSL had occurred, but not in *Lutgart*. This is exactly what one finds: *Coninc* never occurs line-finally in *Lutgart*, whereas it does in *Saladijn*. This contrast suggests that OSL had taken place in the latter, but probably not in the former. However, in *Saladijn*, all original LH sequences behave like HH, where either syllable can be de-footed, and the second H can be strong. This is impossible in *Lutgart*.[34]

L 4941	*Dats allewege dijn **ambacht*** 'that is always your trade'	HH > H͟H
L10436	*So dat opgaven har **ambacht*** 'so that gave up their trade'	HH > H͟H
S 15758	*Dat 'deedi 'wel te 'passe **an'schijn*** 'apparently he did that fittingly'	HH > H͟H
S 15495	*In heydenisse een rijc **sou'daen*** 'in heathendom a rich sultan'	HH > H͟H

Table 24. Examples of final HH feet
in *Lutgart* and *Saladijn* with final de-footing.

15584	*Her 'hughe 'ded͟e den **'coninc** 'dwaen* 'lord Hughe made the king do'	HH > H͟H
15502	*Tene͟n 'tid͟en dat 'des͟e **co'ninc*** 'at the time when this king'	HH > H͟H
15640	*Nu 'gordt hi 'den **co'ninc** sijn 'zweert* 'now he girds the king his sword'	HH > H͟H

Table 25. Original LH words sentence-medially and finally in *Saladijn*,
following the application of OSL.

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[34] Although there are not many words that contain an LH sequence, such as *coninc* 'king', we found words such as *besech* 'busy', *menech* 'many', and *blischap* 'joy'. These words also end with heavy syllables, although not of the CVCC type found in *coninc.* Nevertheless, none of these types of words appear sentence-finally in *Lutgart*, even though there are many of them sentence-medially. If OSL had occurred, then these would have been possible at the end of a line.

As we can see in table 25, in Saladijn, *coninc* can occur at the end of a line, where -*ninc* gets a beat in iambic meter (row 2), rhyming with *ghinc*, or *coninc* can occur line-medially with a beat on -*ninc* and with a defooted *co:* (row 3). This suggests that OSL must have lengthened the initial vowel, such that the word no longer consisted of one foot.

Furthermore, an 'LH word is a single foot; so even when it appears line-medially, it can only bear a beat on its first syllable, because its second (heavy) syllable is treated as light. Thus, in *Lutgart*, unlike in *Saladijn*, the word *coninc* occurs with a beat only on "*co*" and never on "*ninc*", as shown in table 26.

11675	*so 'gaf die **'coninc** 'vanden 'trone* 'Then gave the king from the throne'	'LH
1049	*den 'hogsten **'coninc** 'onsen 'here* 'the highest king, our lord'	'LH
10836	*Die **'coninc** 'van din 'para'dise* 'the king of the paradise'	'LH

Table 26. Original LH words sentence-medially in *Lutgart*, before the application of OSL.

Now we turn to *Mellibeus*. In this text, words such as *coninc* 'king' clearly consist of two heavy syllables, either one of which can be de-footed, exactly as in original HH sequences in words such as *ambacht* 'trade' and *wijsheyt* 'wisdom'.

1709	*'Salomon 'leert ons 'die **co'ninc*** 'King Salomon teaches us'	HH > H̲H̲
3081	*Daer om sprac die **'coninc** Dauid* 'therefore king David spoke'	HH > H̲H̲
620	*Wet 'dat es 'grote **wijs'heyt*** 'know that is great wisdom'	HH > H̲H̲
2228	*'Want te 'haren **'ambacht** 'des sijt 'vroet* 'because to her trade, be sure of that'	HH > H̲H̲

Table 27. Examples of HH feet from *Mellibeus*.

In sum, an initially stressed ('LH) foot could never occur sentence-finally in an iambic verse, since the final foot in iambic meter had to be (L'H). In *Lutgart*, words such as *'coninc* could not be placed sentence-finally, where the final heavy syllable had to remain unstressed. Such words, however, were permitted in this position in *Saladijn*. This can only be explained if OSL had not occurred in *Lutgart*, and so the parsing would lead to a single foot with resolution, as in *coninc* (['LH]) or *coninge* (['L H] ə). *Saladijn* treats these words as having two feet, ['H Ḥ] or ['H Ḥ ə], with a possibility of de-footing the initial H.

6. Conclusion.

Although it is well established that OSL occurred in MNL, the time of its commencement remains uncertain. We report evidence from orthography, rhyme, and meter in three medieval Dutch texts written in verse during the course of approximately 75 years. By carefully examining diachronic correspondences in the verses we were able to identify the synchronic systems of the 13th- and 14th- century MNL. Evidence deduced from texts written in Brabant helped us establish the timing of OSL. Of course, our evidence is based only on three texts. However, these were chosen for close scrutiny precisely because of their close geographical connections and the time in which they were written. Naturally, there are many gaps in such comparisons. Yet, for the phonological questions we are raising, rhyming texts are crucial, and in this period and area no other author is available. We could identify striking similarities and differences between the three texts in what could or could not occur in specific contexts.

Our conclusions are summarized as follows. First, there is orthographic evidence. Although orthography has been generally considered to be unhelpful, a closer look at the texts suggests that *Lutgart* has largely escaped OSL, while *Saladijn* and *Mellibeus* have not. Comparison between the vowels in the texts with reconstructed PGmc, as well as OE, OS, and OHG when relevant, indicated that the original long and short vowels in closed syllables were distinguished systematically in all three texts. Our examination of open syllables yielded differences in orthographic evidence. We have established that in *Saladijn* and *Mellibeus*—but not in *Lutgart*—the original long and short vowels in open syllables were written in the same fashion as they are in ModD (see section 3). In *Lutgart*, the spelling of the original long vowels varied

between a single grapheme and two graphemes, suggesting that there was a need to distinguish these vowels from original short vowels in open syllables. In all probability, the original short vowels had the tendency of becoming long, and this allophonic lengthening needed to be distinguished from the so-called real long vowels in open syllables. *Saladijn* and *Mellibeus*, in contrast, must have neutralized the length contrast in open syllables such that all vowels were written with a single grapheme in this context.

Second, there is evidence from rhyme. Once again there appears to be a difference between *Lutgart* on the one hand, and *Saladijn* and *Mellibeus* on the other. We hypothesized that had OSL taken place, the original unrounded short vowels in open syllables would rhyme with the original unrounded long vowels. For independent reasons, it was not possible to compare rounded vowels: When these were lengthened, the vowel quality altered (see Sytsema et al. 2014). However, the original short unrounded vowels in open syllables rhymed with the original long vowels in *Saladijn* and *Mellibeus*, but this is much less evident in *Lutgart* (see section 4).

Third, there is evidence from metrical parsing. Here we found clear evidence of the lack of OSL in *Lutgart* compared to *Saladijn* and *Mellibeus*. *Saladijn* and *Lutgart* are written in iambic verse, which requires a heavy stressed foot at the end of a line. Final light syllables are not tolerated unless they are schwas. Thus, original LH words such as *coninc* with only initial stress (and no stress on "*ninc*") were impossible at the end of a line in an iambic verse, which is observed in *Lutgart*. In *Saladijn*, however, such words were permitted, indicating that the initial light syllable in *coninc* must have lengthened by OSL. As a result, the initial syllable became heavy, leading to an HH syllabic sequence, just as in *ambacht*. Such sequences were allowed line-finally, since one of the syllables could be de-footed (see section 5). Thus, original LH syllables must have been lengthened by OSL, since they follow the same metrical pattern as words with original HH syllables in *Saladijn* but not in *Lutgart*. Furthermore, in *Saladijn*, after *coninc* acquired an HH syllabic sequence as a result of OSL, one H could be de-footed, and either syllable could bear a beat, even line-medially. Again, this is not found in *Lutgart*, where only the initial syllable could carry a beat, the word remained an LH sequence, and thus a single foot. Thus, there is evidence that OSL had been more established by the time of *Saladijn* and

Mellibeus than of *Lutgart*. Whether this is due to minor dialectal differences or to the individual authors is hard to conclude. Crucially, the authors come from the same area, and the manuscripts were produced within a period of approximately 75 years. It is likely, then, that during this period, OSL was gradually taking root in MNL: It had become well entrenched in the language by the time of the latter texts, but it was just beginning to apply in the time of the early one.

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