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Declaration of Authenticity

I confirm to have conceived and written this paper in English by myself. Quotations from other authors and any ideas borrowed and/or passages paraphrased from the works of other authors are all clearly marked within the text and acknowledged in the bibliographical references.

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List of abbreviations

OSL	Open-Syllable Lengthening
MEOSL	Middle English Open-Syllable Lengthening
HOL	Homorganic Lengthening
TRISH	Trisyllabic Shortening
SHOCC	Shortening before Consonant Cluster
OE	Old English
ME	Middle English
ModE	Modern English
OF	Old French
AN	Anglo-Norman
ModF	Modern French
MD	Middle Dutch
OHG	Old High German
MHG	Middle High German
ModG	Modern German
OED	Oxford English Dictionary
e.g.	example given
i.e.	*ita est*, ‘that is’
n.b.	*nota bene*, ‘note well’
p.n.d.	*pagina non data*, ‘page not given’
cf.	*conferre*, ‘see also’

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1. Introduction

This thesis discusses quantity changes in French loanwords in Middle English (hereafter referred to as ME) by focusing on four major sound changes, namely Open-Syllable Lengthening, Homorganic Lengthening, Trisyllabic Shortening and Shortening before Consonant Cluster. These sound changes brought about a radical transformation of the ME lexicon, as has been acknowledged by a large number of researchers. However, up to the present day, the vast majority of research in this field has not differentiated between words of different etymological origins when presenting the outcomes of these sound changes. This oversight is due to the fact that researchers have generally assumed that French loanwords, which were frequently borrowed during the ME period, would not behave differently to native English words. Minkova epitomises this wide-spread stance among researchers when she says that "[there is] no need to unscramble words of [Old English] and [Anglo-Norman] origin – they behave in the same way" (1985: 167). Ritt shares this opinion, contending that "the difference in behaviour between Romance and Germanic items turns out to be so small as to be negligible" (1994: 37). However, these claims are problematic as they are not based on a sufficient amount of empirical evidence. This research project aims to fill this conceptual gap by providing empirical data for the ME quantity adjustment of French loanwords.

In the preliminary step, the four sound changes will be addressed from a theoretical viewpoint. First, each process will be presented from the traditional perspective; subsequently, these accounts will be complemented by more contemporary approaches. It will be demonstrated that a large number of researchers established different, sometimes mutually contradicting models of ME quantity adjustment. The purpose of this part of the paper is to acquire the necessary theoretical knowledge on ME quantity changes, so that the empirical data can be analysed more systematically.

The second part of this thesis shall focus on French loanwords and their most important characteristics. These insights are expected to facilitate an understanding of the adjustment of loanwords in terms of vowel quantity. It will be argued that it is problematic to determine the etymological vowel length of Romance language loanwords after their adoption into the English language. This is primarily due to the fact that Middle French, similar to Modern French, was characterised by a lack of phonemic vowel quantity distinctions.

Finally, in the main part of this paper, French loanwords will be analysed in terms of their behaviour with regard to ME quantity adjustment. Using the Oxford English Dictionary, a large data base will be collected, containing Romance words borrowed into English during the early ME period. These lexemes will be evaluated with respect to their phonological structure, so as to determine which factors were likely to trigger quantity adjustment, as well as which factors conversely inhibited the implementation of a quantity change. It should be mentioned at this stage that the aim of this research paper is not to provide or gain insight into the motivation for these sound changes and for ME quantity adjustment in general. Instead, the focus will be on the triggers for quantity adjustment and the outcome of these processes concerning French loanwords. Accordingly, various phonological aspects will be analysed quantitatively and subsequently compared to findings by other researchers. The results obtained in this empirical research are intended to fuel the discussion on ME quantity adjustment and to form the basis for a modification of the theory in the field, should the expectation be borne out that Romance loanwords behave differently from native words.

It should be added that a diploma thesis at the department of English and American Studies of Vienna University, written by Hafner (1999), has already addressed the role of French loanwords in ME quantity adjustment. However, the focus of that paper is on optimality theory, which is not given specific mention in this thesis. Hence, the two papers do not interfere with regard to the obtained results. Moreover, Ritt (1994) has undertaken the enterprise of analysing the four ME quantity changes empirically and devising his own probabilistic theory of quantity changes. While my paper will follow some of the basic guidelines and principles devised by Ritt (1994), it will concentrate on a group of lexemes that was not given special attention in his book, i.e. French loanwords borrowed during the ME period.

I. THE FOUR SOUND CHANGES

2. Open-Syllable Lengthening

This chapter will investigate several approaches to Open-Syllable Lengthening (henceforth OSL), which were established by researchers over the course of the last century. The first subchapter will summarise a well-known, traditional account of OSL, going back to Karl Luick. Subsequently, more recent approaches rejecting Luick's neogrammarian stance will be presented in order to show that researchers have interpreted the phenomenon of OSL in various different ways and that, even nowadays, no consensus has been reached as to the underlying processes and motivations of this sound change. The aim of this chapter is to give an overview of the main explanatory models, as well as to explain how these models were criticised. This discussion will serve as a basis for the empirical research in Part III, which will try to determine the most suitable model with regard to the sound changes affecting French loanwords.

The reason why OSL will be the first sound change to be presented in this diploma thesis is its great importance for the English lexicon (Minkova 1982: 42, Page 2006: 67), both on the level of native and French vocabulary. Also, it seems to be the quantity adjustment in the English language that has been most widely discussed in historical linguistics. Furthermore, reference to OSL will be made in later chapters.

2.1. Traditional account

One of the earliest models of OSL was established by Karl Luick in 1921. In his founding text *Historische Grammatik der englischen Sprache*, he describes the sound change which later came to be known in English as OSL. This classic account, as well as his account of the other sound changes addressed in this thesis, was reproduced in the majority of handbooks published in the 20th century, as is evidenced in the list of handbooks compiled by Bermúdez-Otero (1998: 170).

Luick argues that this major sound change started in the 12th century in the north of England, and was attested in the south somewhat later, in the first half of the 13th century. According to Luick, OSL affected the short non-high vowels /a/, /o/ and /e/, as well as, to a lesser degree, /œ/ and /ɔ/. In order to be lengthened, the vowel in question did not necessarily need to be followed by one consonant only, since consonant clusters such as /st/ could be interpreted as the onset of the second syllable. What was crucial in Luick's

eyes was the stress placement on the respective vowel. Hence, he argues that lengthening did not occur in vowels which typically lacked stress, such as the auxiliary verb *have*, as opposed to the full verb *behave*. (Luick 1921: 398-399)

Luick (1921: 398) includes a fairly extensive list of examples of OSL, which also contains a number of trisyllabic words, e.g. *benēoþen, benēþen* 'beneath', *befōren* 'before' or *bequēthen* 'bequeath'. This is somewhat surprising, since he argues that OSL affected vowels in open syllables in disyllabic forms. Nevertheless, he considers the above-mentioned lexical elements as OSL inputs. Therefore, OSL might not be restricted to disyllabic words, as shall be seen in the empirical research part of this paper. The crucial criterion for OSL to affect a word seems to be main stress, as indicated above.

Another important aspect of Luick's explanatory model is the assumption of paradigmatic levelling. Luick (1921: 401) points out that inflection could give rise to disyllabic word forms of otherwise monosyllabic words. Likewise, disyllabic word forms could become trisyllabic due to inflection. As a consequence, unchecked vowels in disyllabic word forms are presumed to have lengthened, while the shortness seems to have been maintained in mono- or trisyllabic forms. According to Luick, this vowel length alternation is not retained in ModE because of "Ausgleich" (1921: 401), which can be paraphrased as 'paradigmatic levelling'. The examples provided by Luick to support this hypothesis include some of the problematic cases of OSL which have yielded controversies in more recent research, such as OE *hwal* 'whale' (e.g. Bermúdez-Otero 1998, Minkova 1982). In Luick's view, the vowel /a/ was lengthened in the plural form *hwāles*, while no lengthening could affect the vowel in the singular form *hwal* due to the syllable being closed. However, as Luick claims, the long vowel came to be levelled into the singular, which is the reason why ModE 'whale' has a long vowel. As for *god* 'god', which is another frequently cited 'exception' to regular OSL, Luick says that the plural form *gōdes* was originally affected by lengthening. Yet, the long vowel was lost due to gemination, therefore the long vowel could not be levelled into the singular, which yielded the ModE short vowel in *god*. (Luick 1921: 402)

Despite the merit of Luick's account as one of the early models on OSL in ME and its impact on later research in the field, it should be noted that his argument has a few major flaws, which have been pointed out by various researchers. Bermúdez-Otero (1998: 172) notes that Luick was deeply rooted in the Neogrammarian tradition and hence considered sound change as a regular process that follows rules. Exceptions could only be explained in terms of levelling or interdialectal borrowing. Since the starting point of

Luick's reflections was the assumption of a hard and fast rule, potentially leading to a number of exceptions, he did not focus on the empirical testing of his hypotheses. To put it in Bermúdez-Otero's words, "there was no inducement to formulate and check the predictions of what was, after all, the only theoretically respectable explanation" (1998: 172). Fisiak (1988: 16) is slightly more cautious when analysing Luick's relation to the Neogrammarian movement, arguing that Luick was not an orthodox Neogrammarian and that he used a systematic approach to language change at least in some contexts, as is the case with regard to quantity adjustment in OE and ME. Ritt (1994: ix) acknowledges Luick's findings, but stresses that the concept of sound laws as promoted by Neogrammarians does not hold and was thus rejected by more modern research into historical linguistics.

When looking closely at the phonetic environment for OSL as outlined by Luick, another problematic aspect becomes obvious with regard to the intersyllabic consonants. As already indicated above, Luick argues that certain intervocalic consonant clusters did not inhibit OSL, since they were analysed as the onset of the second syllable. Therefore, he claims the following: "Die Verbindung Geräuschlaut + Liquida wurde wohl immer zur Folgesilbe gezogen, wofern nicht der erstere geminiert worden war. Dies war geschehen bei *dr, tr* und wohl auch *tl*" (Luick 1921: 400). While this claim might hold true for /dr/ and /tr/, the role of /tl/ is more problematic as it never occurs word-initially and clearly constitutes a violation of English phonotactics.

Luick's (1921: 407) argument is somewhat inconsistent when he discusses the role of final schwa. With regard to the lengthening of /i/ and /u/, he argues that these vowels were lengthened later than the non-high vowels /a/, /o/ and /e/, namely at a time when final *-e* had already been lost. If this were true, the lengthening of /i/ and /u/ would not constitute an instance of open-syllable lengthening, since the syllable would have been closed by the loss of schwa. Consequently, Luick rejects any connection between the loss of schwa and the lengthening of high vowels. He tries to corroborate this claim by stating that words which did not etymologically have a schwa also underwent lengthening. The examples he provides are questionable, because the vowels *ēvel* and *mēkel* are [-high]. As for his example of a word with a short vowel in ModE despite the loss of final schwa, *dide*, it needs to be stated that the shortness in this case is most likely due to the fact that the vowel in auxiliary verbs is generally unstressed (see above). The role of final schwa was interpreted differently by Minkova (1982), as shall be seen in the subsequent subchapter.

In terms of methodology, Luick can be criticised for having used as evidence a large number of words which are not retained in ModE, e.g. **haver* for ModE oats (1921: 401). The use of this kind of data is problematic, as pointed out by Ritt. He argues that "[…] in light of the difficulties of reconstructing historical quantity, Modern English seems to provide the only data against which any hypothesis about OSL and the other quantity changes can be tested at all" (1994: 15). It follows that analysing data lacking ModE reflexes remains speculative and cannot yield satisfactory insights. This will be taken into consideration in the empirical research in Part III.

The discussion surrounding OSL radically changed with the publication of Minkova's reformulation in 1982, which was qualified as "a pioneering and extremely important paper" (Lass 1985: 245). Quite contrary to Luick's traditional account, Minkova attributes a crucial role to the final schwa and regards OSL as a type of compensatory lengthening, which is to say that lengthening sets in to compensate for the loss of schwa. This approach will be outlined in greater detail in the subsequent subchapter.

2.2. OSL as compensatory lengthening

The starting point of Minkova's account of OSL (1982) is the observation that, on its own, the condition of a vowel being unchecked does not suffice to trigger lengthening. While she agrees with Luick (1921) that lengthening affected stressed unchecked vowels followed by one consonant only or a consonant cluster which could occupy the onset position of the second syllable (Minkova 1982: 29), she argues that the type of second syllable was crucial with regard to the lengthening potential of the tonic vowel in the first syllable (1982: 42). Based on a list of potential OSL inputs which are compared to their ModE counterparts, she concludes that OSL "operates unfailingly *only* [emphasis in the original] in cases when there is syllabic restructuring in ME, i.e. when the second syllable of the original form is lost due to final schwa deletion in ME" (1982: 42). Minkova (1982: 42-43) recognises that this idea is not entirely new by referring to earlier scholars who had seen a relationship between the loss of final schwa and the lengthening of unchecked vowels (e.g. Sarrazin 1898, Minkoff 1972). The argument of an interdependence of schwa loss and lengthening is corroborated by the relative chronology of these sound processes. Minkova (1982: 43) points out that both sound changes started in the north and eventually spread to the south, where they were completed only one hundred years later. This is strong evidence for the two sound changes co-occurring and being closely related to one another. Minkova's stance is strikingly different from that of earlier researchers, including

Luick (1921), who had claimed that /a/, /e/ and /o/ were lengthened prior to schwa loss while the high vowels /i/ and /u/ were lengthened afterwards, which has led him into argumentative trouble. (Minkova 1982: 43-44)

However, as acknowledged by Minkova (1982: 54) herself, some exceptions still remain even if her revised formulation of MEOSL is applied. These problematic lexemes are monosyllabic in ModE, but were disyllabic in OE. Excluding words with intersyllabic clusters, the following items remain: *beck, crack, fret, get, knock, rot, tread* and *wag* (Lass 1985: 246, based on Minkova 1982: 54). In Minkova's calculation, these exceptions make up 3.3% of the total number of OSL candidates. Lass (1985: 246) points out that all of these words have final velars or dentals, which typically triggered shortening in English. Thus he assumes that the vowels were subjected to OSL in ME, but were shortened at a later stage. The evidence he provides for this is the pronunciation of a long vowel in *tread* in northern parts of England.

An important consequence of Minkova's reformulation is that a large number of words which had to be treated as exceptions by the traditional account of OSL no longer pose a problem, since Minkova narrows down the potential inputs of OSL to those words having an unstable second syllable (1982: 42). Minkova (1982: 30) revises the traditional explanations of apparent exceptions such as words ending in *-ig*, e.g. *bodig* 'body' or *hevig* 'heavy', only to discard these words as potential OSL inputs altogether.

In an article published in 1985, Minkova reacts to the criticism of her reformulation of OSL and refines the latter in terms of insights into foot structure. In the preliminary discussion, Minkova defends her use of data from poetry, arguing that this type of evidence "is the closest we can hope to come to speech phenomena in a diachronic study" (Minkova 1985: 14). Nevertheless, she is aware of the fact that poetic data is not entirely unambiguous either.

Minkova (1985: 168) adds that the effects of OSL can be traced on two levels, i.e. the syntagmatic and paradigmatic level. The change with regard to the former is manifest in terms of the modification of a word's prosody, while the adaptation of the phoneme system accounts for the change on the paradigmatic level.

Minkova also addresses the question of syllable count. She claims that

> [b]y abandoning the disyllabic condition for the lengthening we would allow it to affect words of originally more than two syllables. This never happens: and if it did, it would intersect the trisyllabic shortening rule. (1985: 166)

This is a reaction to a hypothesis postulated by Danchev (1983: p.n.d., cited in Minkova 1985: 166), who had rejected the idea that words had to be disyllabic so as to be affected by OSL. Minkova's counterargument to Danchev's hypothesis is questionable, since she seems to overlook the effect of the main stress. It seems plausible that there is a difference between a trisyllabic word being stressed on the first syllable and a trisyllabic word bearing stress on the second syllable, as will be argued in Part III.

Minkova (1985: 167) states that a foot-based explanatory model of OSL might be more powerful than a model based on syllable structure, due to its non-linearity. When looking at the foot of a potential OSL candidate corresponding to Minkova's reformulation of OSL, it can be seen that the increase of the stressed syllable's weight, by means of lengthening, functions as a compensation for schwa loss. The foot structure visually reveals the necessary condition for OSL, namely that the rhyme in the word-final syllable must not contain branching nodes. Conversely, lengthening is inhibited in words whose word-final rhyme does contain branches. This difference in foot structure becomes clear when comparing the words *tale* and *talent* (Minkova 1985: 168).

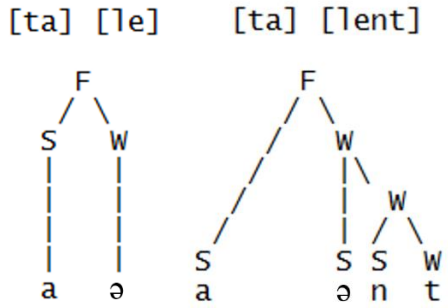

Figure 1 Difference in foot structure between *tale* and *talent* (Minkova 1985: 168)

Based on Giegerich's observations (1985) on the phonological isochrony of mono-, bi- and polysyllabic feet, Minkova (1985: 167-171) assumes that the process of OSL adheres to "[t]he principal of isochrony [of the foot]", which "remains fundamental" (Minkova 1985: 167). Once the word-final schwa is lost, the foot's original duration and prominence cannot be restored by means of consonant gemination in English. Instead, vowel lengthening sets in to maintain phonological isochrony. Minkova (1985: 170-171) further explains that OSL and concomitant schwa loss led to a reorganisation of the foot structure, since the formerly branching foot becomes non-branching. Hence, it can be said that the foot structure has an impact on phonological processes. Speaking in terms of hierarchy, the higher level, i.e. the foot level, influences processes on the lower level, i.e.

the phonological level (Minkova 1985: 171). This top-down influence can easily be captured by a foot-based model.

Hayes establishes a similar model to that set forth by Minkova, though he draws on mora theory, which she had rejected (1985: 175). Building on Minkova's findings, Hayes (1989: 266) argues that the transition from /talə/ to /ta:l/ did not have any intermediate stage, since the syllable would have been closed and, according to him, words of this structure did not lengthen. He concludes that "lengthening was genuinely compensatory". In addition, the hypothetical intermediate stage is empirically unattested and thus rejected.

In order to explain the phenomenon of compensatory lengthening, Hayes (1989: 254) employs the term 'mora', a theoretical concept which is used to distinguish between a light and heavy syllable. In mora theory, the former has one and the latter two morae. As Ritt (1994: 50) points out, a visual representation of a light syllable has a non-branching rhyme (i.e. nucleus plus coda), while the rhyme in a heavy syllable has two branches. Hayes (1989: 255) adds that languages with syllable weight contrasts typically also distinguish between long and short vowels, as is the case in English. It follows, then, that compensatory lengthening can only occur in languages which have weight contrasts (Hayes 1989: 254). Regarding compensatory lengthening, Hayes argues that it "can be defined as the lengthening of a segment triggered by the deletion or shortening of a nearby segment" (1989: 261). By referring to examples from Latin, Hayes (1989: 262-263) shows that if a mora-bearing element is deleted, its mora is stranded and subsequently becomes attached to the preceding vowel. However, if a consonant in onset position is deleted, it does not entail lengthening of the vowel, since an onset consonant is non-moraic in Latin (which also applies to English). Thus, the crucial aspect concerning compensatory lengthening is the creation of an empty prosodic position through the deletion of a mora-bearing element.

Hayes (1989: 266-269) also explicitly refers to ME when explaining compensatory lengthening in connection with loss of final schwa. He accounts for this phenomenon by what he calls 'parasitic delinking', i.e. the fact that the loss of the schwa leads to the destruction of syllable structure, since a nuclear element is the essential requirement for a stable syllable in every language. He explains that in the case of ME, the schwa detaches from its mora. The free mora can then be assigned to another element, namely to the preceding vowel, which becomes lengthened as a consequence of the adoption of an additional mora. In the last step, the stranded consonant is resyllabified and occupies the

coda position. A common example of an OSL input, *tale*, illustrates this process, which is shown in figure 2 below.

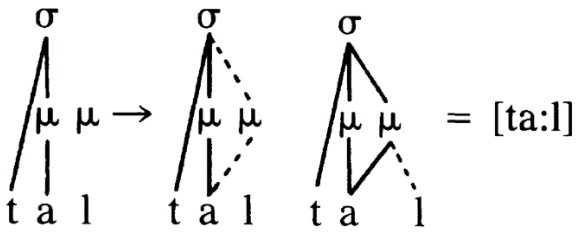

Figure 2 Compensatory lengthening in *tale* (Hayes 1989: 269)

Hayes (1989: 269) adds that compensatory lengthening is a process attested in various languages. These languages, including English, share the fact that only the vowel which is located to the left of the deleted vowel is lengthened, never the one to the right. To put it in moraic terms, a stranded mora exclusively moves to the left, which, however, does not seem particularly relevant for English, since OSL is triggered by word-final schwa loss.

Based on Kavitskaya (2002) and Blevins (2004), Smith (2007: 108-109) sees a link between compensatory lengthening and the perception of speech, or, to put it differently, a connection between OSL and listener-speaker interaction. He argues that in the course of the process of quantity adjustment, previously long allophonic realisations eventually become interpreted as phonemically long. This view is shared by Page (2006: 62-63), who links OSL more generally to acoustic phenomena such as assimilation and coarticulation. As a preliminary observation, Page states that vowel duration and height are interrelated, i.e. the lower the vowel, the longer the intrinsic duration. This characteristic accounts for the fact that /a/, /o/ and /e/ were more systematically lengthened than /i/ and /u/. Furthermore, the phonetic length of a vowel is greater if it is in unchecked position (Page 2006: 71). Regarding compensatory lengthening, Page (2006: 67) agrees with Kavitskaya (2002: 13), who explains that compensatory lengthening can be seen as a subtype of hypocorrection, a term coined by Ohala (1981, 1993). According to Page (2006: 67), hypocorrection refers to "[a] predictable property [being] reanalysed as underlying". To put it differently, a listener reinterprets coarticulatory phenomena as underlying, i.e. as part of the phonemic system. In the case of OSL, this means that a phonetically long vowel is interpreted by a listener as phonologically long (Page 2006: 71), which is illustrated by Page (2006: 71) in the following way:

Table 2.1 MEOSL as hypocorrection

	Pre-OSL	OSL
Production	/aCə/ → [a:C(ə)]	/aCə/ → [a:C(ə)]
Perception	[a:C(ə)] → /aCə/	[a:C(ə)] → /a:C/

Page (2006: 71) adds that the listener interpretation of /a:C/ was possible, because words of this structure had already existed in the English vocabulary and were thus permissible.

Bermúdez-Otero is yet another researcher in the field who aligns his argument to Minkova's hypothesis of complementary lengthening (1998: 1972). He assumes that lengthening in ME could only occur by means of mora transfer from a deleted element to another segment, while mora insertion was formally impossible. Based on this hypothesis, words ending in schwa were subjected to lengthening in a regular way, since schwa was categorically lost in final position. As for words preserving their second syllable, e.g. *bodi* 'body' and *ganet* 'gannet', these items could not have their vowel lengthened due to the lack of a mora donor. If an unstressed vowel was syncopated in words of this type, the resulting word would have been ungrammatical, e.g. **bod*, or would have contained a consonant cluster entailing SHOCC, e.g. OE *munuc* → ME *munec* → ModE *monk* (Bermúdez-Otero 1998: 176-177).

In Bermúdez-Otero's view, words whose second-syllable rhyme contains either a nasal or a liquid constitute a somewhat special case and therefore require deeper consideration. Bemúdez-Otero points out that words such as *distant* can be pronounced alternatively with a syllabic consonant or a schwa in the post-tonic syllable, which does not trigger a difference in meaning. This characteristic of ModE can be traced back to early OE times. Consequently, it seems plausible to assume that such free variation of schwa and syllabic consonant was also common in ME. Bermúdez-Otero continues with a thought experiment, according to which ME speakers are likely to pronounce /ravən/ 'raven' as [ravn̩]. Due to an error of pronunciation or perception, the word 'raven' might come to be represented as [ra:vn̩] and its underlying phonology interpreted as containing a long vowel. This would not violate ME grammar, since a schwa is deleted, which can thus serve as a mora donor. The likeliness of a vowel being lengthened in such a context increases in terms of acoustic factors mentioned above, i.e. that low vowels are more prone to lengthening than high vowels. Similarly to Page (2006), Bermúdez-Otero argues that

compensatory lengthening of this type can be described as hypocorrection. (Bermúdez-Otero 1998: 177)

Lass argues for OSL as compensatory lengthening, as well, though he does not draw on terminology from mora theory. Furthermore, he looks at OSL from the perspective of foot structure and syllable weight. He explains that the rhyme structures VCC and VVC, whereby VV refers to a long vowel, are regarded as heavy. When a sequence of the type VCV, which is considered as heavy by Lass (1985: 250), loses its final vowel, but needs to preserve the overall weight (Minkova 1982: 51), its vowel can either lengthen or the final consonant can geminate. If only the schwa were deleted, the resulting word would be 'overlight'. With regard to ME, consonant gemination is not permissible in the context of OSL, thus vowel lengthening remains as the only possibility for maintaining the overall weight. Lass concludes that in the course of this sound process, nothing changes in terms of the word's prosody, meaning that one heavy syllable equates to two light syllables. (Lass 1985: 247-250)

It is noteworthy that Lass rejects the term compensatory lengthening, though his reflections do not contradict Minkova's reformation of OSL. Lass argues that pre-OSL and post-OSL forms are merely alternatives of the same foot type. Hence, OSL does not involve the restoring of a lost balance or the addition of rhythmic weight to the first syllable. Instead, OSL constitutes a change from one foot type to a different one which is equivalent in terms of quantity, but prosodically preferred. (1985: 251)

It does not come as a surprise that Minkova's revolutionary reformulation of OSL has not only been praised and further developed by other researchers, as has been illustrated above, but has also been heavily criticised. Some of the main counterarguments to her hypotheses and the idea of compensatory lengthening shall now be outlined.

While acknowledging the merit of Minkova's article from 1982, Ritt (1994: 31-32) argues that her claims resemble that of Neogrammarian sound laws, since no words without a deletable second syllable would have lengthened according to her reformulation. The closeness of Minkova's hypotheses to Neogrammarian sound laws had already been indicated by Lass (1985: 245), who rejects the notion of *Lautgesetze* and instead aims at discerning "prosodic tendencies in the evolution of English" (1985: 257).

Ritt (1994: 32) points out yet another flaw of Minkova's account of OSL, namely the fact that she does not explain why certain stressed vowels in ModE disyllabic words were lengthened, despite their post-tonic syllable being retained. Even though Minkova is aware of these cases and therefore explicitly states that she does not intend to include these

apparent exceptions in her description of OSL (Minkova 1982: 51), Ritt argues that the number of these words is simply too high to ignore them in an account of OSL. He concludes that "[Minkova's] reformulation of OSL was probably a bit too radical" (1994: 32).

Murray (2000: 620) questions the existence of compensatory lengthening in ME altogether and provides a critical revision of Minkova's hypotheses. Murray rightly points out that there is no justification for Minkova's claim that the foot of an originally disyllabic word is defective once schwa was lost (Minkova 1985: 170). According to Murray (2000: 620), counterexamples to this claim form an intrinsic part of the English vocabulary, e.g. words such as *god* and *ship*. Moreover, these words are among the most stable forms in English, hence they have not been affected by lengthening.

A direct counter-evidence to compensatory lengthening can be found when comparing MEOSL to OSL in other Germanic languages. In German, for instance, vowels in open syllables were lengthened despite the maintenance of the final syllable. A prominent example from German is OHG *namo,* which became ModG *Name* [a:] 'name'. The fact that final schwa is preserved while the vowel is lengthened contradicts the presumption of the two sound changes being dependent on one another. (Murray 2000: 620-621)

Furthermore, Murray argues that mora counting does not corroborate compensatory lengthening, as purported by Minkova, but instead contradicts this hypothesis. Contrary to Minkova's claims, the loss of final schwa combined with OSL did not preserve syllable weight, since the overall number of moras was increased. However, schwa loss on its own did in fact lead to a preservation of syllable weight. This can be seen in the figure 3 below. (Murray 2000: 621)

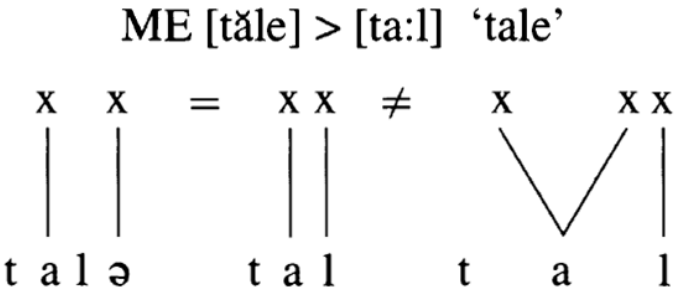

Figure 3 Mora count of *tale* (Murray 2000: 621)

Murray's argument is based on the assumption that each individual element of a syllable's rhyme bears one mora and that long vowels bear two moras. As a consequence of this

revised syllable count, Murray (2000: 621) explains that the hypothesis of OSL as compensatory lengthening does not hold, for the syllable weight is modified in the process of OSL.

Murray makes another critical comment on compensatory lengthening, referring to the motivation for quantity changes in ME. Murray (2000: 621) observes that Minkova presents compensatory lengthening as the motivation for OSL. However, compensatory lengthening cannot account for quantity adjustment in terms of HOL, TRISH or SHOCC. Since all of the quantity changes discussed in this thesis occurred during the ME period, Murray assumes that they must have had a "common cause" (2000: 621). This, yet again, contradicts the hypothesis of compensatory lengthening.

In conclusion, it can be said that the account of OSL as compensatory lengthening has put the focus on various factors that had an impact on this sound change, most importantly the role of word-final schwa. Lass (1985: 258) notes "a complex interaction between syllable-count, syllable-weight, […] and foot-quantity". Based on this type of factors, Ritt (1994) attempts to develop a general formula of quantity adjustment in ME so as to break with the Neogrammarian tradition of sound laws. Instead of explaining quantity adjustment in terms of hard and fast rules, he proposes to describe the four major ME sound changes in probabilistic terms, which shall now be outlined in greater detail.

2.3. OSL in probabilistic terms

Similarly to Minkova (1982), Ritt compares ModE words to their pre-OSL counterparts in order to determine which conditions had to be met so that this phonological change affected a potential OSL candidate on a synchronic level (1994: 16). However, Ritt does not strive to describe the sound changes in terms of rules, since this would yield inconvenient 'exceptions', but instead aims at accounting for quantity adjustment by means of statistical tendencies or laws. The motivation for a description of this kind is the fact that ModE features a large number of exceptions to rules for OSL, which were devised by earlier researchers. (Ritt 1994: 24-25)

The example of high vowels illustrates the struggle of traditional accounts to provide a comprehensive description of OSL. Due to the relatively low number of potential OSL inputs whose high vowel is long in ModE, traditional accounts dismissed [+high] vowels as being eligible for OSL. However, some words with high vowels were indeed subjected to OSL, such as *wiku* 'week', *yvel* 'evil' and *duru* 'door', which renders the above exclusion problematic. Therefore, rather than rejecting words with high vowels as

OSL candidates altogether, Ritt proposes to treat the difference in behaviour between [+high] and [-high] vowels "as a matter of degree" (1994: 26). He adds that a description in probabilistic terms is more appropriate and flexible. (Ritt 1994: 25-26)

The above-mentioned vowel height is only one of several factors influencing the probability of vowel lengthening in terms of OSL. Another important factor, according to Ritt (1994: 30), is the type of post-tonic syllable, which is reminiscent of Minkova's findings (1982). Ritt argues that the likeliness of a stressed vowel to be lengthened by OSL increases if the second syllable is unstable. Moreover, lengthening is more probable if the final syllable is light, i.e. containing a short vowel. When comparing words with heavy and very heavy second syllables, it can be seen that those with heavy syllables are more likely to be lengthened than those with very heavy second syllables. The term 'heavy syllables' refers to syllables containing a short vowel followed by a consonant; all other non-light syllables are labelled 'very heavy'. Ritt summarises that "the implementation of vowel lengthening depended on the structure of the second syllable". (1994: 30-31)

Besides vowel height, vowel frontness also plays a role with regard to the likeliness of vowel lengthening. As pointed out by Ritt (1994: 33), front vowels were less likely to be subjected to OSL than back vowels.

Furthermore, the probability of vowel lengthening was higher if the stressed vowel was followed by one consonant only, rather than by a consonant cluster that could be interpreted as the onset of the subsequent syllable and thus did not violate the conditions for OSL. (Ritt 1994: 34)

Ritt provides data which, at first sight, indicates that the likeliness of lengthening was influenced by the syntactic category of the word in question. He observes that adjectives were least likely to be affected by OSL, followed by nouns. Verbs are the word class which shows lengthening most consistently. However, Ritt explains that the higher percentage of long vowels in verbs can be related to the fact that the final syllables of verbs are, in comparison, more often unstable than those of nouns and adjectives. Once this is taken into account, the difference in behaviour between these syntactic categories seems to vanish. (Ritt 1994: 35-36)

Moreover, Ritt (1994: 40) addresses the effect of the consonant quality of the intersyllabic consonant, which is a factor completely disregarded by earlier researchers. Ritt points out that sonorant consonants, i.e. nasals and liquids, behave essentially differently from obstruents. As for sonorants, they seem to increase the likeliness of lengthening if the word's second syllable is unstable. Conversely, few items with a

sonorant as an intersyllabic consonant and a stable second syllable lengthened. Ritt does not elaborate any further on this striking behaviour, but merely states that sonorants "had opposite effects on the probability of the preceding vowel's being lengthened, depending on whether the final syllable of a word was stable or unstable" (1994: 40).

The odd behaviour of sonorants might become less obscure when drawing on evidence from research into phonetics. Content, Kearns & Frauenfelder (2001) conducted experiments on syllabification processes in order to obtain information on the role of the intersyllabic consonant. Their findings suggest that listeners have a tendency to interpret sonorous consonants as codas of the first syllable in disyllabic words. Conversely, less sonorous consonants, i.e. obstruents, are more likely to be interpreted as onsets of the second syllable (Content, Kearns & Frauenfelder 2001: 193).

Assuming that an ME and a ModE speaker apply similar mechanisms when decoding acoustic information, it might be argued that ME listeners had a tendency to perceive the first syllable of disyllabic words with an intervocalic sonorant as closed. This would have led to a violation of the open-syllable requirement and thus to the inhibition of lengthening. The reason why words whose intervocalic consonant is sonorant and whose second syllable is unstable were affected by lengthening fairly consistently might be that final schwa on its own was not likely to be interpreted as an independent syllable. Therefore, the sonorant was probably interpreted as the onset of the second syllable. Hence, the first syllable was open and could be subjected to OSL. However, these reflections remain purely speculative and would need further corroboration from empirical research. Nevertheless, it can be noted that the sonority of the intervocalic consonant was significant with regard to OSL (Ritt 1994: 40-41).

Ritt's approach deserves merit, for he lists and describes various factors which had an influence on the likeliness of a stressed vowel in unchecked position to be lengthened. His findings in this respect have been presented in detail, as similar criteria will be applied in the analysis of the data that was collected for this research. It will be discussed whether, and to what degree, Ritt's triggers for OSL are relevant for French loans, as well as if there is a difference between native and Romance words.

As for now, a fundamentally different approach to OSL will be presented, according to which OSL unfailingly affected vowels in open syllables. Following this hypothesis, the lengthened vowels were subsequently subjected to analogical levelling, which accounts for the variation of vowel length in ModE.

2.4. OSL and analogical levelling

Dresher & Lahiri (1999: 679) reject the idea of compensatory lengthening as it was conceived by Minkova (1982). Instead, they advocate a return to the traditional account, which considered the openness of a syllable as the prime requirement for OSL. Furthermore, as Dresher (2000: 47) explains, analogical levelling is crucial to their understanding of OSL. The connection between OSL and analogical levelling had already been postulated by Luick (1921), as outlined in Chapter 2.1. However, Lahiri & Dresher (1999) propose a revised formulation of analogical levelling.

Dresher's (2000: 48) initial assumption is that Minkova's reformulation of OSL was based on heterogeneous data, in the sense that she does not distinguish between words belonging to different word classes. Yet, according to Dresher, syntactic categories reveal essential differences in behaviour due to their inflectional paradigms. Therefore, he proposes to discuss them separately from one another, an approach which was rejected by Ritt (1994: 35-36) earlier on.

Another assumption postulated by Dresher (2000: 57) is that OSL occurred systematically in potential inputs. This is in stark contrast to Minkova (1982: 42), who argued that lengthening only affected words consistently if a word-final schwa was lost (see Chapter 2.2.). When applying Dresher's assumption of systematic vowel lengthening in open syllables to words with monosyllabic stems like *hwæl* 'whale', the singular retains a short vowel due to the fact that it is closed by a consonant. The inflected plural form, on the contrary, is disyllabic with an open first syllable and would thus be affected by OSL. The result would be an alternation of vowel length in singular and plural forms (Dresher 2000: 50). The following table quite clearly shows the expected outcome.

Table 2.2 Singular-plural vowel length alternation in words with monosyllabic stems (Dresher 2000: 50)

(C)VC nouns		
	Singular	Plural
OE	hwæl	hwalas
OSL	-	hwālas
expected	hwal	hwāls
ModE	whale	whales

Dresher (2000: 50) explains that a ModE reflex of such an alternation is *staff – staves*, which, however, is merely an exception. The vast majority of ME words with monosyllabic stems either have a long or a short vowel in their ModE counterparts. Dresher (2000: 50) provides a list of examples, including *back*, *god* and *shot* with a short vowel, as opposed to *bead*, *coal* and *yoke* with a long vowel, for instance. Consequently, he (2000: 50-51) assumes that the words which would have yielded singular-plural alternations underwent levelling, so that both the singular and plural form either had a long or a short vowel. This levelling is expected to have operated in both directions, i.e. causing the shortening of a long vowel or the lengthening of a short vowel.

As for monosyllabic words ending in a vowel in both the singular and plural form, such as *talu* 'tale', Dresher (2000: 51) observes that lengthening would have occurred in all inflected forms, since the first syllable remains open throughout the inflectional paradigm. The fact that all post-OSL forms of such words had a long vowel precluded levelling as a means to unify the different word forms in terms of vowel length. Nevertheless, despite the exclusion of high vowels from OSL, some exceptions remain, as Dresher (2000: 51) himself acknowledges. The words of this type constitute the classic inputs of Minkova's reformulation of OSL, since these were the forms which lost their final schwa during ME. However, Dresher (2000: 53) claims that the explanation in terms of compensatory lengthening is less powerful than his theory of OSL combined with analogical levelling, as the latter helps to account for monosyllabic stems ending in consonants, as well.

Concerning words with disyllabic stems, Dresher (2000: 53) argues that these were subjected to OSL in uninflected, i.e. disyllabic, forms. However, inflected forms were trisyllabic and thus inputs of TRISH (see Chapter 4 for a detailed discussion). Assuming that "[TRISH] had priority over OSL" (Dresher 2000: 53) in trisyllabic forms, the combined effects of OSL and TRISH would yield singular-plural alternations both in words with etymologically long vowels and words whose stressed vowel came to be lengthened by OSL (Dresher 2000: 53). Yet again, alternations of this kind are not found in ModE, which is the reason why Dresher (2000: 54) presumes that levelling has occurred. In his view, levelling was bidirectional and affected both lengthened vowels and those which had already been long in the first place. The ultimate reason for levelling is the language learner's preference for consistency of vowel length in inflectional paradigms, hence one stem type eventually ousts the other. As with monosyllabic stems, Dresher (2000: 55-56) argues that an explanation in terms of levelling is more powerful than Minkova's hypothesis of compensatory lengthening. The latter cannot explain the

lengthening of etymologically short vowels as in *cradel*, since the final syllable is stable. Furthermore, lengthening is unlikely to have occurred in inflected forms due to the effects of TRISH or because of medial vowel loss causing the left-most syllable to be checked. Dresher (2000: 56) adds that the large number of long vowels in ModE disyllabic stems contradicts Minkova's argument that OSL failed when the post-tonic syllable was not deleted (1982: 42).

In order to obtain more information on the processes at work in ME, Lahiri & Dresher (1999: 688) compare OSL in ME to other Germanic languages affected by OSL, namely Middle Dutch (MD) and Middle High German (MHG). Their analysis shows that MD and MHG were both affected by OSL without concomitant loss of final schwa, which precludes an account in terms of compensatory lengthening. The reason why the outcomes in these languages are at times fundamentally different is that other language-specific processes seem to have intervened, such as the process of consonant gemination in MHG. Thus, once the conditions for OSL were met in a Germanic language, the quantity adjustment did in fact occur, unless other factors inhibited lengthening. Besides, levelling is also likely to have obscured some of the developments during the Middle Ages, yielding differing reflexes in the Modern languages. As for English, TRISH constitutes one such language-specific process interacting with OSL, due to which singular-plural alternations were generated. The latter were subsequently eliminated by means of analogical levelling. (Lahiri & Dresher 1999: 688-689)

Lahiri & Dresher (1999: 698) address the question of the motivation for analogical levelling with somewhat greater detail than Dresher (2000: 54), who merely pointed to a connection with language acquisition. Lahiri & Dresher (1999: 698) argue that schwa in plural inflections was gradually lost during the ME period, beginning in hiatus position and in polysyllabic words, later expanding to all other contexts, except when following a sibilant. As a consequence of the schwa loss in plural inflections, the word's morphological structure was no longer transparent, i.e. the syllable count was the same for singular and plural word forms. Previously, monosyllabic stems had disyllabic plural forms. Likewise, the plural of disyllabic stems was trisyllabic. In the former inflectional paradigm, it was clear that a stressed unchecked vowel was long in disyllabic forms, while it was short in trisyllabic forms. Hence, the schwa loss in plural inflections caused "the vowel-length situation [to be] in a confused state" (Lahiri & Dresher 1999: 698). For instance, as a result of this loss the plural could be associated with either a lengthened or a shortened vowel. Therefore, it was impossible for language users to deduce a general

phonological rule or to discern a connection between vowel quantity and morphological category. Under these circumstances, analogical levelling is likely to occur. As Lahiri & Dresher put it, "language learners despair of a rule, and opt instead to choose a consistent vowel quantity on a word-by-word basis" (Lahiri & Dresher 1999: 698). They add that leaners do not give preference to short over long vowels or vice versa, thus the vowel length is randomly chosen. (Lahiri & Dresher1999: 698-699)

Concerning the supposed bi-directionality of analogical levelling, Lahiri & Dresher (1999: 699) propose to consider the relative dominance of the individual word forms of an inflectional paradigm. It seems that the nominative singular form plays a relatively greater importance when determining the declensional class to which a word belongs. Regardless of potential counter-evidence from other forms of the inflectional paradigm, a listener will assign a noun to the major inflectional class that is indicated by the nominative singular form.

However, Lahiri & Dresher (1999: 699) claim that the assignment to a declensional class is not relevant for levelling of vowel-length alternations in ME; instead, the aim here is to establish a unified phonological representation of the stem in question. In this case, according to Lahiri & Dresher (1999: 699), the nominative singular does not have a predominant role, since learners take into consideration all inflectional forms, together with their respective allomorphy. This seems to be an indication for Lahiri & Dresher that levelling does not only manifest itself in a unidirectional sense. Rather, any word form of the inflectional paradigm can be interpreted, in their view, as the underlying phonological representation and can eventually oust other forms.

Similar to earlier accounts of OSL, Lahiri & Dresher's (1999), as well as Dresher's (2000) version, have not been unanimously accepted as a standard model, but have been met with severe criticism by various researchers. Some of the arguments contradicting their hypothesis shall now be outlined and subsequently complemented by personal reflections.

A preliminary point of critique is linked to the fact that Lahiri & Dresher's (1999) and Dresher's (2000) hypothesis heavily relies on the interplay of OSL and TRISH. Although written prior to their texts on OSL, an article by Bermúdez-Otero implicitly contradicts their hypothesis, in that it questions the status of TRISH altogether or at least points out that genuine evidence for TRISH in OE is "extremely scarce" (1998: 173). Chapter 4 will discuss this issue at length. The rejection of TRISH and its supposed impact on inflected forms would entail the refusal of Lahiri & Dresher's model, as well.

With regard to analogical levelling, Murray (2000: 622) observes yet another flaw of Lahiri & Dresher's account (1999). In order to illustrate this problematic aspect, Murray (2000: 622) refers to three examples which, according to Lahiri & Dresher, were lengthened in the singular nominative and accusative form, but subjected to shortening in terms of TRISH in inflected trisyllabic forms. The examples are given in table 2.3.

Table 2.3 Examples of vowel length alternation (Murray 2000: 623)

Nom./Acc. Sg.	Gen. Sg.	Dat. Sg.	
*co:per	cŏperes	cŏperes	'copper'
*wa:ter	wăteres	wăteres	'water'
*we:der	wĕderes	wĕderes	'weather'

The flaw in Lahiri & Dresher's argument is their assumption that OSL operates unfailingly in disyllabic forms, as has already been noted above. Murray (2000: 623) rightly points out that this assumption is difficult to reconcile with the aforementioned examples because of the short vowels in the ModE reflexes. Lahiri & Dresher (1999: 699) claim that the short vowel in inflected forms is levelled into the nominative singular form, which, however, is highly implausible according to Murray (2000: 623), for these words rarely occurred in the plural form. As a consequence, levelling from the genitive and dative singular form into the nominative singular form would have to be assumed. It is questionable, though, that learners assign greater weight to the genitive and dative singular forms than to the nominative form. Furthermore, this presumption contradicts evidence obtained from language acquisition. (Murray 2000: 623)

According to data provided by Murray (2000: 623), approximately 58% of potential OSL inputs would undergo analogical levelling in the direction from derived form towards base form when applying Lahiri & Dresher's model. This high percentage casts doubt on the plausibility of Lahiri & Dresher's account, which is why Murray (2000: 624) argues that it might be more advisable to assume that words such as *water* were not affected by lengthening in the first place. This clearly contradicts Lahiri & Dresher's model and speaks in favour of Minkova's account.

It has already been mentioned that Dresher and Lahiri's account excludes high vowels altogether, claiming that these vowels "did not typically undergo OSL" (Dresher 2000: 51). However, since OSL does also affect high vowels, albeit to a lesser extent than [-high], it does not seem justified to disregard words containing a [+high] vowel in a

purportedly comprehensive account of OSL. In this respect, Ritt's probabilistic formulation (1994: 33) seems more capable of capturing and expressing in theory what empirical data shows. The issue of [+high] vowels will be returned to in Chapters 7 and 8.

Furthermore, Lahiri & Dresher's formulation of OSL appears to be clumsy at times, where Minkova's model describes lengthening phenomena more elegantly. For instance, Lahiri & Dresher (1999: 704) discuss the vowel length of strong verbs and observe that ModE words such as *drive* have a long vowel in the infinitive as well as in the past form, but a short vowel in the past participle. The seemingly odd behaviour of OSL is ascribed to the fact that the vowel in question is /i/. The vowel height supposedly explains why the unchecked vowel in *driven* is short. However, the researchers do not explain why the vowel was lengthened in the infinitive, which, in their view, should not have been affected by OSL either. From Minkova's perspective, it is clear why the inflectional paradigm of *drive* is characterised by vowel length alternation. The base form, *drive*, lost its final schwa, which triggered the lengthening of the stressed vowel. The same applies for the past form *drove.* As for *driven*, no word-final schwa was lost, therefore compensatory lengthening did not occur. It has to be noted though, that Minkova's reformulation of OSL does not account for verb paradigms such as *choose – chose – chosen*. Word forms such as *chosen* are excluded, since they were not affected by schwa loss and hence are not covered by her account of OSL.

On a more abstract level, Lahiri & Dresher's theory may be criticised for its lack of predictive power. After all, variation in vowel length is described as being the result of bi-directional analogical levelling, whereby learners of a language randomly choose either a short or a long vowel for the phonological representation of the stem. This assumption renders the whole theoretical reasoning somewhat redundant, as their model of OSL cannot predict which vowel length is likely to surface as an outcome of the process of ME quantity adjustment. Hence, OSL becomes a random sound change, which only allows for speculation.

Finally, one needs to be aware of the implications of Lahiri & Dresher's account. If indeed analogical levelling were responsible for vowel length in ModE, and if the levelling were bi-directional, as affirmed by the researchers, half of the ModE reflexes would have a short vowel, while the other half would have a long vowel. This supposed outcome will be tested in the empirical part of this thesis.

In what follows, a further account of OSL will be outlined, which questions the status of English as a language with quantity distinctions. This approach interprets the

sound changes addressed in this paper as manifestations of the shift from a quantity language to a syllable-cut language. Due to limited space, this approach will only briefly be discussed so as to present the main ideas on which it is based.

2.5. OSL and syllable-cut theory

Vennemann (2000: 252) argues that older Germanic languages were quantity languages, meaning that these languages distinguished between light and heavy syllables, depending on vowel and consonant quantity. In this context, Vennemann (2000: 252) explains that "[a] full (i.e. non-reduced) syllable is LIGHT if it is an open syllable with a short nucleus, else HEAVY" [emphases in the original]. However, in his view, modern Germanic languages including English no longer make a distinction between long and short vowels. This binary opposition has been replaced by differences in tenseness, yielding lax and tense vowels. Still, tense vowels are associated with greater phonetical length than lax vowels (Vennemann 2000: 252). In Page's words, "[s]yllable cut occurs when a language is quantity sensitive but lacks underlying vowel quantity" (2006: 96).

Based on earlier researchers in the field, including Trubetzkoy (1939), Vennemann (2000: 252) outlines the concept of syllable-cut. The two opposing categories are labelled 'smooth cut' and 'abrupt cut'. The latter refers to vowels characterised by an "energy contour with a sharp drop at the very end of a syllable nucleus", while smooth cut are those vowels characterised by a "slow drop of the energy contour extending over a large portion of the syllable nucleus" (Vennemann 2000: 252). In Trubetzkoy's view (1939: 196), smooth cut constitutes the unmarked category.

Vennemann (2000: 253) further explains that smoothly cut syllables are those which have enough time to develop their full vocalic potential, which is why the vowels are peripheral and tense. As for abruptly cut syllables, the defining vocalic position cannot be reached due to a lack of time, therefore the vocalic positions are merely approximated, yielding centralised and lax vowels. Hence, the main difference between these types of syllables lies in the distribution of energy within the syllable (Vennemann 2000: 254).

Murray (2000: 637) bases his understanding of syllable cut on Vennemann (2000) and applies these insights to the spelling of *The Ormulum*, which he classifies as "one of the most important texts in the reconstruction of early Middle English quantity" (2000: 628). His research allows him to assume that syllable cut replaced the notion of quantity during the ME period, rendering vocalic length a redundant property of the respective syllable type. As Murray puts it, "[t]he major changes, rather than being quantity driven,

involve the phonologization of syllable cut and the concomitant elimination of quantity" (2000: 648). This view is shared by Vennemann (2000: 262), who considers so-called quantity changes to be syllable cut changes in reality.

With respect to OSL, Murray (2000: 648) states that open syllables were typically reanalysed as smoothly cut, whereas closed syllables were transformed into abruptly cut syllables. As a consequence, he does not regard OSL as a process by which vowels were lengthened, but as an indication for the "LOSS of nuclear length as a phonological feature" [emphasis in the original] (Murray 2000: 648). Vennemann adds that OSL in fact removes the distinction between light and heavy syllables, hence "eliminating the very basis for classical quantity" (2000: 268). He concludes that ME was no longer a language with quantity distinctions, which is attested by the sound changes themselves (2000: 269).

An explanation of ME sound changes in terms of syllable cut has several advantages according to Murray (2000: 649). One of these is the simplification of syllable types in terms of the theoretical description. The only remaining syllable types replacing a rather large number of quantity-based types are abruptly and smoothly cut syllables. Furthermore, syllable cut theory provides a unitary approach to ME sound changes (Murray 2000: 649), which was first established by Ritt (1994) in terms of his quantity adjustment formula. Furthermore, syllable cut helps to account for the importance of phonetic factors. Murray (2000: 649) points out that phonetically short vowels are preferably reanalysed as abruptly cut, which is the reason why OSL was scarce in words with high vowels. To mention another example, abrupt cut is preferred in words with an unstressed second syllable whose vowel is not schwa. This, according to Vennemann (2000: 270), is due to the fact that intersyllabic consonants in these words become ambisyllabic. Hence, words such as *water*, *gannet* and *body* become abruptly cut.

While Page (2006: 98) thinks that OSL has caused Middle Dutch to become a syllable cut language, i.e. lacking underlyingly bimoraic vowels, English still has underlying vowel length, in his view. It is on this point that he contradicts Venemann (2000) and Murray (2000). Page's argument (2006: 98) is linked to stress assignment in ModE. "Since long vowels in English are bimoraic, open syllables with long vowels attract stress in English because of the Weight-to-Stress Principle" (Page 2006: 98). This insight, he emphasises, can hardly be reconciled with syllable cut theory. Therefore, Page argues that a compensatory lengthening account of OSL is more powerful, since it acknowledges underlying vowel quantity.

The subsequent chapter will address an issue which is frequently linked to OSL, but which has not been included in the discussion thus far, namely vowel quality adjustment. Since this thesis focuses on quantity changes in the ME period, vowel quality modifications will only be given brief attention for the sake of providing a complete overview. Accordingly, the next chapter does not purport to outline a comprehensive picture of the connection between vowel quantity and quality changes.

2.6. OSL and vowel quality changes

In a preliminary statement, Lutz (2004: 209) observes that OE correspondences of vowel quality between long and short counterparts, such as /e:/ – /e/ and /i:/ – /i/, were modified in the process of ME quantity adjustment. This is attested in words that were affected by OSL, such as ME *weke* 'week' /e:/, deriving from OE *wicu* /i/, or ME *stelen* 'steal' /ɛ:/, going back to OE *stelan* /e/. While the other quantity adjustment processes presented in this thesis maintained the original vowel aperture correspondences, OSL generally led to a modification of the latter, i.e. /i/ > /e:/, /u/ > /o:/, /e/ > /ɛ:/, /o/ > /ɔ:/, /a/ > /a:/ (Lutz 2004: 214). Ritt adds that the openness of /a/ was not altered due to the fact that prior to OSL this sound was already pronounced with a maximally open tongue position (1994: 77), therefore its behaviour need not be regarded as exceptional.

Lutz mentions three possible reasons for the adjustment of vowel quality as a side-phenomenon of vowel quantity changes:

> (a) lowering of the short vowels
> (b) simultaneous raising of the long vowels and lowering of the short ones
> (c) raising of the long vowels (Lutz 2004: 214)

Lutz argues in favour of "a variant of assumption (b) close to (c)" (2004: 215), for, in her view, similar tendencies can be attested in later quality changes in English, namely that short vowels were either stable or moved downwards, while long vowels had a strong tendency to be raised. Based on Stockwell (1985), Ritt (1994: 78) also draws attention to these tendencies, which are frequently linked to other processes commonly referred to as the 'Great Vowel Shift'. However, he points out that this argument is somewhat problematic, since it is not unanimously acknowledged among researchers that the processes eventually causing the Great Vowel Shift had already been operating at the time when ME quantity adjustment affected vowel length.

Moreover, Ritt (1994: 78) observes that MEOSL is closely linked to suprasegmental phenomena, including isochrony, syllable weight and foot weight. As has been outlined above, other researchers, for example Minkova (1985), also consider suprasegmental phenomena to be crucial for OSL. Thus, Ritt (1994: 78) argues that quantity and quality changes might not have been as closely related as is sometimes expected, since suprasegmental phenomena do not directly touch upon vowel quality.

An analysis in terms of vowel tenseness, assuming the introduction of a tense-lax distinction towards the end of the twelfth century, yields similar results (Ritt 1994: 79-80), leading Ritt "to regard Middle English vowel lengthening as a simple lengthening process and [to] assume that it was not accompanied by any quality changes at all" (Ritt 1994: 80). This view is shared in the present thesis.

After an extensive discussion of OSL, I shall now turn to a different type of vowel lengthening occurring during the ME period, commonly referred to as 'Homorganic Lengthening' (henceforth HOL). As with OSL, the traditional account of this sound change will be outlined in the preliminary step, before more recent approaches will be addressed. Furthermore, the presentation of the major theories will be complemented by some of the criticism that these theories have provoked.

3. Homorganic Lengthening

3.1. Traditional account

The second type of vowel lengthening, HOL, is said to have occurred much earlier than OSL. Luick (1921: 243) states that HOL started prior to the end of the ninth century; additionally, Ritt (1994: 82) explains that HOL preceded OSL by approximately 400 years. This can be inferred from the use of diacritics in the respective phonetic environments during the OE period, which usually signalled vowel length (Jones 1989: 30). As for Berndt, he states that this sound change might partly have been operating throughout the whole ME period (1960: 18).

Luick (1921: 243) formulates the conditions that had to be met for a vowel to be lengthened in terms of HOL. He explains that HOL affected a vowel if it was followed by a lateral liquid or a nasal combined with a homorganic voiced consonant or, alternatively, if the vowel was followed by /r/ and a homorganic voiced consonant. According to Smith, 'homorganic' means that the two consonants had to be pronounced by the same articulatory organs (2007: 110). Hence, the consonant clusters triggering HOL are /ld/, /rd/,

/mb/, /nd/, /nʒ/, /rl/, /rn/, as well as /rð/ and /rs/. Typical examples of HOL are *cīld* ‘child’, *fēld* ‘field’, *clīmban* ‘climb’ and *behīndan* ‘behind’. As has already been noted in the previous chapter, HOL did not entail a modification of vowel quality (Luick 1921: 243). The ModE diphthong in words such as ‘child’ is due to the Great Vowel Shift and points to ME /i:/ (Smith 2007: 110).

Luick (1921: 243) explains that vowel lengthening was inhibited under certain circumstances. Firstly, a homorganic cluster comprising a third consonant did not cause lengthening. This is straightforward when looking at the ModE word *child*, whose singular was indeed lengthened by HOL, while the plural form *cildru* ‘children’ remained short. Other examples are *enʒlisc* ‘English, *wundrian* ‘wonder’ and *hundred* ‘hundred’. Secondly, words which were frequently unstressed in connected speech retained a short vowel, such as *and*, *under*, *sceolde* ‘should’ and *wolde* ‘would’. As a sidenote, it is somewhat surprising that Luick adds *behindan* ‘behind’ to this list, while he had previously listed this word as a typical instance of HOL. He might have felt obliged to include this word here, since his list also featured other prepositions. The latter is a syntactic category which is frequently unstressed in normal speech.

Smith (2007: 110) also points out that HOL did not occur unfailingly in words corresponding to the above requirements, as is attested in the ModE distinction between *windan* ‘wind’ (verb) and *wind* ‘wind’ (noun). Based on Samuels (1972: 142), he argues that the maintenance of the distinction was a means to avoid homophony and potential confusion among listeners.

Ritt adds to the conditions of HOL by drawing comparisons to OSL, although his ultimate aim is to argue against a distinction between the two processes. He explains that, according to the traditional account, HOL could affect monosyllabic words, as opposed to OSL, which required the word to be at least disyllabic. The traditional approach observes yet another difference, namely that the coda of HOL candidates typically consisted of two consonants and hence the stressed syllable was closed, while OSL rarely allowed for more than one intervocalic consonant, as for example /st/ in *resten*. Therefore, as the name itself suggests, OSL required the stressed syllable to be open. (Ritt 1994: 84-85)

Smith (2007: 112) notes that some homorganic clusters seem to have triggered lengthening more consistently than others. Whereas the majority of vowels followed by /lC/ (where C stands for a homorganic consonant) have a long vowel in their ModE reflex, fewer long vowels are found in words whose vowel precedes the consonant clusters /mC/

and /nC/. This claim will be subject to scrutiny in the empirical research part of this diploma thesis.

After this brief introduction to the traditional description of HOL, the following chapter shall present more recent accounts of this sound change.

3.2. Recent accounts of HOL

Smith (2007: 111-112) describes various phonetic characteristics of the sounds involved in HOL, which provides insights into the question as to why HOL occurred in the history of English. He points out that the first elements of homorganic clusters triggering HOL are sonorants, which is the class of consonants most similar to vowels. Consequently, these consonants are likely to vocalise, as is also frequently attested in ModE, for instance in words such as *milk*, which is commonly pronounced as [mɪʊk] in connected speech. Moreover, Smith (2007: 112) observes allophonic vowel length distinctions between words whose homorganic cluster contains a voiced consonant and those containing an unvoiced consonant. As an example, he mentions word pairs such as *bolt – bold, fort – ford* (in rhotic accents), *lamp – lamb* as well as *mount – mound*. This matter is reminiscent of ModE word pairs with postvocalic voiced and unvoiced obstruents, for instance *bat – bad, bet – bed, cat – cad.* In line with Kavitskaya (2002), Smith argues that HOL, then, is a phonologisation of an intrinsic phonetic characteristic (2007: 112). Smith's conclusion is close to Page's stance, according to which HOL is an instance of hypocorrection. Page states that "[h]ypocorrection led a [sic!] reanalysis of tonic vowels preceding reduced sonorant consonants as underlyingly bimoraic" (2006: 68), which means that a previously short vowel followed by a homorganic cluster was lengthened. Page's example (2006: 68) illustrates this process:

Table 3.1 HOL as hypocorrection (Page 2006: 68)

	Pre-HOL	HOL
production	/wild/ → [wi:^{l}d]	/wild/ → [wi:^{l}d]
perception	[wi:^{l}d] → /wild/	[wi:^{l}d] → /wi:ld/

Reacting to Phillips (1981), who had postulated a hypothesis similar to that of Page (2006) and Smith (2007), Minkova & Stockwell (1992: 196) reject the idea of the phonologisation of a long allophone preceding a homorganic cluster. The reason why this phenomenon cannot sufficiently explain HOL is that this type of allophonic lengthening is not restricted

to the phonetic environments of HOL. Hence, the phonetic difference in word pairs such as *bolt – bold* by itself does not trigger phonemic change, since the same lengthening would have occurred in word pairs featuring similar phonetic differences, as in the aforementioned *bat – bad.* As a matter of fact, vowels followed by singleton voiced consonants were not systematically lengthened.

With regard to the consonant clusters /rð/ and /rs/, Welna (1998: 474) points out that the phonetic property 'voiced' of the second element in the consonant cluster might have been more essential for triggering HOL than the criterion according to which the consonants needed to be homorganic. Consequently, she connects HOL to another sound process, namely Fricative Voicing. Her stance is that consonant clusters containing <s> and <þ> as a second element only triggered lengthening if the fricatives were voiced. This aspect is frequently disregarded, which is the reason why several researchers do not list <rs> and <rþ> among consonant clusters potentially causing HOL. Ritt (1994: 87) argues that the role of consonant clusters containing /r/ is opaque with regard to HOL, since postvocalic /r/ was generally vocalised in non-rhotic varieties, including Modern Standard English, during the Early Modern English period. This issue shall again be addressed in Chapter 8.2., when discussing the results of the analysis of HOL in French loanwords. Ritt (1994: 86-87) concludes that coda sonority seems to have had an impact on the probability of lengthening.

Minkova & Stockwell (1992: 197-198) exclude homorganic clusters of the type /rC/ from the list of those clusters potentially triggering HOL. The researchers explain that

> neither in OE, ME, nor in Modern English could vowels before these clusters be phonemially contrastive in length, i.e. even if there was variation in the pronounciation [sic!] reflected in the spelling, there are no phonemic contrasts of the *wind: wind* type before these clusters. As far as we are able to establish impressionistically, and it is certainly true for Modern English, the phonotactic constraints for English throughout its history have inhibited a length contrast before *rC* clusters in the same syllable. (Minkova & Stockwell 1992: 198)

Minkova & Stockwell (1992: 1998) add that the same applies to /ng/ clusters, with the sole difference that this consonant cluster was exclusively preceded by short vowels.

In Minkova & Stockwell's view (1992: 201), genuine HOL is only present before /ld/, as it is the only cluster which consistently led to lengthening of the preceding vowel. This basic presumption is crucial for the development of their account of HOL. The particularity of the cluster /ld/ lies in the dark quality of the /l/ sound, which is phonetically transcribed as [ɫ]. Minkova & Stockwell (1992: 199) explain that "[t]he lowering of the

tongue [in this phonetic environment] introduces a transitional non-syllabic glide on the way to the *-l*". As a result, the nucleus becomes complex and can then be reanalysed as a long vowel that is similar in quality; for example [aə] might be interpreted as [aː] by listeners (Minkova & Stockwell 1992: 200). Minkova & Stockwell (1992: 200) add that the consonants constituting the cluster /ld/ needed to be tautosyllabic in order to trigger lengthening of the preceding vowel. Inflected word forms were lengthened by means of analogy. Furthermore, HOL in words with /ld/ is regarded as a sound change which is distinct from processes witnessed in later periods of English, such as the vocalisation of dark /l/ after back vowels.

It is necessary to consider Minkova and Stockwell's hypothesis alongside two crucial observations. First, their claim that /ld/ consistently caused vowel lengthening is only partly corroborated by Ritt's findings (1994: 86-87), according to which only 60 percent of ModE reflexes with /ld/ point to HOL in ME. Far from yielding lengthening in all items, /ld/ clusters are still more likely to cause lengthening than those clusters whose first element is a nasal. Second, the dark quality of postvocalic /l/ is a typical property of virtually all modern varieties of the English language, as Minkova & Stockwell observe themselves (1992: 192). However, while Early Old French had dark /l/, this sound no longer existed in the French language from the 11th century onwards (Fagyal, Kibbee & Jenkins 2006: 47). This insight might be essential for the analysis of French loanwords with regard to ME quantity adjustment. If Minkova & Stockwell's hypothesis of dark /l/ as the main trigger for lengthening were true, it could be assumed that French loanwords behave somewhat oddly, as they typically lack dark /l/ in postvocalic position. In case no such difference in behaviour is observed, it may be argued that French loanwords were adapted to the native phoneme inventory by replacing a clear post-vocalic /l/ by a dark one. The empirical part of this thesis will pay special attention to the connection between /ld/, HOL and the language of origin.

3.3. HOL as a subtype of OSL?

The interrelation between HOL and OSL has been observed by several researchers (e.g. Hogg 1992; Ritt 1994). For instance, Ritt states that the two sound changes "have been brought about by the same type of process and constrained by the same factors" (1994: 88). Therefore, it seems legitimate to pose the question of whether HOL and OSL should be considered as distinct manifestations of the same underlying process, or whether, in the

present study focusing on French loanwords, it is preferable to differentiate between the two sound changes.

Despite Ritt's correct observation that similar factors seemed to favour lengthening of stressed vowels both in HOL and OSL contexts, it might be too *ad hoc* to conflate the two sound changes. Ritt (1994: 88) himself mentions that the relation of vowel quantity and quality adjustment is somewhat problematic in this respect. While HOL did not entail any modifications of vowel quality, the same is not unanimously acknowledged with regard to OSL by researchers in the field. Even though it has been argued in Chapter 2.6. that vowel quality changes do not necessarily need to be seen as a side-effect of OSL, it has to be conceded that the connection between quantity and quality modification is closer with respect to OSL than with HOL.

Moreover, it has been outlined that HOL is an older sound process than OSL. This insight is usually based on the assumption that diacritics in OE texts were used to indicate length in typical HOL environments, whereas such graphic symbols are missing in OSL contexts (Ritt 1994: 92-93). However, according to Ritt (1994: 93), the lack of diacritics could also be due to transparency of vowel length in OSL contexts, i.e., if it was evident for OE speakers that vowels were long when followed by clusters such as /st/ or by singleton consonants, the scribes would not have felt a need to indicate vowel length graphically. As a consequence, OSL and HOL might be seen as simultaneous sound changes. Yet, this approach is problematic, since it implicitly contradicts Minkova's hypothesis of compensatory lengthening, which links OSL to the loss of final schwa. Minkova (1991: 1) states that final schwas became increasingly unstable between the 11th and 14th century. The instability of the second syllable is regarded as a crucial aspect of OSL by Ritt (1994: 30), as well. As for HOL, it is generally considered as a sound change that started in the OE period, prior to the tenth century (see Chapter 3.1.). Therefore, placing OSL in the time of OE scribes is irreconcilable with Minkova's account of OSL. Smith also contradicts Ritt's conflation of the two sound changes, arguing that "[t]he difference in date between the various phenomena remains […] and this would suggest that the precise circumstances of origin for each development differed" (2007: 118).

A further attempt to unify quantity changes is made by Liberman (l992: 185), who claims that all instances of lengthening are compensatory, with the exception of those which can be attributed to analogy. This approach is rejected by Minkova & Stockwell (1992: 194), since, in their view, HOL is not a sound change involving compensatory lengthening. They add that it is more advisable to distinguish between the individual sound

changes. This diploma thesis will follow Minkova & Stockwell's recommendation and will hence continue to regard OSL and HOL as distinct sound changes.

The next chapter shall address one of two main shortening processes that is often said to have occurred during the ME period. The status of Trisyllabic Shortening (henceforth TRISH) as a genuine sound change is highly controversial and subject to vivid debate among researchers. To begin, the traditional view on TRISH shall be outlined, which will then constitute the basis for a discussion of the controversies related to this sound change. The ultimate aim here will be to lay the theoretical foundation for the analysis of data in the empirical part of this thesis. The data is expected to contribute to a deeper understanding of this type of quantity adjustment, specifically with regard to its questionable status as an independent sound change.

4. Trisyllabic Shortening

4.1. Traditional account

As with the other sound changes discussed so far, Luick is one of the first researchers to describe TRISH. With regard to the dating of this sound change, Luick (1921: 328) states that TRISH as the shortening of initial stressed vowels in antepenultimate position had already affected words during the OE period, provided that the stressed vowel was followed by two consonants. This view is shared by Ritt, who argues that "it is generally acknowledged that long nuclei before consonant clusters had already been shortened in Old English if they were in antepenultimate syllables" (1994: 101). This condition, however, was no longer indispensable during ME, as, in this period, long vowels in trisyllabic words were shortened even if they were followed by one consonant only, or by a consonant cluster which would otherwise have triggered lengthening due to the antepenultimate syllable being unchecked (e.g. Luick 1921: 328, Lass 2008: 73). Smith is less restrictive concerning the time frame during which TRISH supposedly operated in the English lexicon. Hence, he says that "[t]here seems to be no clear date for this […] development, and it is likely that it could have happened at various times in the history of the language" (2007: 122). Therefore, he suggests that it is advisable "to see all these developments as sporadic developments within an overall prosodic pattern rather than the result of some general change" (Smith 2007: 122).

Luick (1921: 392) describes some of the conditions which had to be met for a long vowel to be shortened in terms of TRISH. As already indicated by the name of this sound

change, TRISH led to the shortening of a vowel in antepenultimate position. Luick (1921: 392-393) provides a fairly extensive list of items which were subjected to TRISH, including *heringes* 'herring', *Monendai* 'Monday', *redili* 'readily', as well as forms ending in schwa, such as *erende* 'message', *emette* 'ant' and *emere* 'ash'. With regard to the latter type of words, Luick admits that the final schwa could be lost, which would then give rise to a disyllabic word violating the requirements for TRISH. Berndt (1960: 24) explains that TRISH could also affect compound nouns, in which the addition of a second element entailed the shortening of the first compound element. He mentions various examples, such as *freondscipe* 'friendship', *christendom* 'Christendom' and *haliʒdæʒ* 'holiday'.

In order for this sound change to affect the stressed initial vowel, secondary stress had to be lost, as Luick (1921: 392) points out. To put it differently, in trisyllabic words with vowels bearing secondary stress, TRISH only occurred once secondary stress was lost, as in *benefit*, *chimeneie* 'chimney', *pedegrü (-gree)* 'pedigree', the latter deriving from OF *pie de gru* (Luick 1921: 463). Lahiri & Fikkert (1999: 234) follow Luick's argument and explain that vowels in words retaining secondary stress, particularly loanwords from French, did not lengthen. Words such as *ívorỳ* and *náperỳ* account for the fact that secondary stress inhibited lengthening. This criterion for TRISH will again be addressed when discussing French loanwords and their modification in terms of TRISH in greater depth (Chapters 6 and 8).

Both Luick (1921) and Lass (2008) claim that TRISH could affect trisyllabic word forms of disyllabic stems. According to Luick (1921: 393), trisyllabic plural forms of disyllabic base forms were subjected to TRISH, since the most essential requirement for TRISH was fulfilled, i.e. a long stressed vowel in penultimate position. He mentions various examples, for instance *brotheres* 'brothers', *othere* 'others', as well as *develes/diveles* 'devils'. In Luick's view, the shortening of a long vowel in the inflected form could also lead to the adoption of a short vowel in the singular form. This claim is meant to account for the short vowel in ModE words such as *brother*, *other* and *devil*. As shall be seen in the subsequent chapter, some contemporary researchers adopt a similar stance with regard to TRISH.

Lass advocates the shortening of long vowels in trisyllabic items of related word pairs. One such word pair, according to Lass (2008: 73), is *suþ* and *suþerne*, whose ModE counterparts 'south' and 'southern' reflect a vowel length contrast. Lass affirms that this type of vowel length distinction is particularly typical of French loanwords, as is supposedly attested in the word pairs *cone*/*conical*, *humane*/*humanity*, *serene*/*serenity*,

sign/*signify*, and *profound*/*profundity*. He concludes that "[t]he alternation pattern produced by this change […] is now an important part of English morphophonology" (Lass 2008: 73). However, as shall be seen in Chapter 4.3., not all researchers agree with Lass' presumption and provide sound evidence contradicting his hypothesis.

The subsequent chapter will recap the most salient aspects regarding the apparent relation between TRISH and analogical levelling, to which Luick's reflections had pointed and which have already been discussed in Chapter 2.4.

4.2. TRISH and analogical levelling

The idea of OSL and TRISH being interrelated in inflectional paradigms, as postulated by Luick (1921), was taken up and further developed by other researchers, including Lahiri & Fikkert (1999), as well as Dresher (2000). The interplay of the two sound changes, OSL and TRISH, has already been discussed at length in Chapter 2.4. This subchapter shall put the focus on the role of TRISH and its supposed connection with analogical levelling.

The main line of reasoning of those in favour of an analogical levelling hypothesis is that word forms of inflectional paradigms of particular words show a different vowel length due to the co-operative effects of OSL and TRISH. This difference between word forms is subsequently undone because of learner preference for consistent vowel length throughout the inflectional paradigm (see e.g. Dresher 2000, Lahiri & Dresher 1999). With regard to TRISH, it might seem noteworthy that only words with disyllabic stems are of relevance here, since the plural of these items becomes trisyllabic by means of adding an inflectional ending. When discussing OSL, both mono- and disyllabic stems had to be taken into consideration, since disyllabic stems occurred in the inflectional paradigms of both types of words (Dresher 2000: 53). One of the examples provided by Luick (1921), which was then taken up by Dresher (2000: 54), shall serve to illustrate the supposed interrelatedness of TRISH and OSL:

Table 4.1 Combined effects of TRISH and OSL (Dresher 2000: 54)

	Singular	Plural
OE	dēofol	dēofelas
OSL	-	-
TRISH	-	defeles
Expected outcome	dēfel	defeles
ModE	devil	devils

As evidenced in the above table, OSL did not affect the word *devil* during ME, since the vowel was long in the first place. However, the long vowel was shortened in the trisyllabic plural form due to TRISH. This caused a vowel length alternation in the singular-plural inflectional paradigm, which does not, however, surface in ModE. This is the reason why Dresher (2000: 54) assumes that vowel length was unified by means of analogical levelling.

What this examples clearly indicates is an implicit, underlying presumption that is explicitly expressed by Dresher only with regard to OSL. In his view (2000: 57), OSL affected disyllabic word forms unfailingly, i.e. all stressed vowels in disyllabic word forms were lengthened, regardless of the phonetic environment. As is evident from Dresher's argument, he expects the same consistency of quantity adjustment to be true for TRISH. Hence, every trisyllabic word form was systematically subjected to TRISH in ME, which is indeed a very strong claim, considering the fact that TRISH is a highly controversial sound change. Moreover, according to Dresher's hypothesis, "[TRISH] had priority over OSL" (2000: 53), meaning that the lengthening in an unchecked syllable could be undone by the effects of TRISH in trisyllabic forms. Again, this points to a 'strong' sound change, which could be assumed to have left considerable traces in ModE. This will be examined from a theoretical perspective in the subsequent chapter and later verified or refuted in the analysis of empirical data (see Chapter 8).

4.3. TRISH as a genuine sound change?

The most powerful argument against considering TRISH as a genuine sound change is the significant lack of empirical evidence. This issue is observed by various researchers, including Minkova & Stockwell (1998: 222), who state that "[t]he number of instances of genuine (uninflected) native forms showing morphophonemic alternations based on TRISH in Old English is zero". Bermúdez-Otero is slightly less radical, arguing that

"straightforward instances of TRISH in uninflected forms […] are extremely scarce" (1998: 173).

Minkova & Stockwell (1998: 223) explain the non-existence of native words as eligible inputs to TRISH by the fact that the middle syllable in trisyllabic words was generally syncopated prior to the OE period. Bermúdez-Otero (1998: 173) applies this insight to a frequently cited example of TRISH, i.e. *ǣrende* 'errand'. He observes that this word is attested as <errnde> in the *Ormulum*, thus its medial syllable was syncopated, which gave rise to a consonant cluster triggering Shortening before Consonant Cluster. Thus, the short vowel in this case is due to a sound change other than TRISH. However, Bermúdez-Otero (1998: 173) adds that words with a sonorant consonant in coda position of the middle syllable were exempt from syncopation, hence this process did not cause all native trisyllabic forms to become disyllabic, as is claimed by Minkova & Stockwell. An example is the word *suþerne* 'southern', which initially maintained its trisyllabic structure. Nevertheless, Bermúdez-Otero agrees that there are hardly any native trisyllabic words which could possibly be subjected to TRISH.

It follows that the vast majority of potential TRISH candidates in OE are either inflected forms of disyllabic stems or loanwords. Concerning the latter, Minkova & Stockwell (1998: 223) argue that originally long vowels in initial syllables were shortened and thereby adapted to the native pattern already in the process of borrowing. Their examples are drawn from Luick (1921: 200-201): Latin *būtyrum* > *butere*, *clēricus* > *cleric*, *tēgula* > **tegle*. Minkova & Stockwell point out that "[n]either set of forms [i.e. loanwords and inflected word forms], however, would be helpful with respect to establishing TRISH within Old English" (1998: 223). With regard to inflected word forms, they further explain that, if indeed trisyllabic word forms were affected by TRISH, the sound change occurred randomly, since a large number of disyllabic base forms retain a long vowel in ModE (Minkova & Stockwell 1998: 223).

Bermúdez-Otero (1998: 173) also argues that empirical evidence is needed as justification for the existence of TRISH, therefore the supposed sound change must be traceable in uninflected forms, as well. Another category of words which could possibly serve as TRISH inputs are compound words. Bermúdez-Otero (1998: 173) argues that the ModE short vowel in words such as *Mōnendæg* 'Monday' and *Þunresdæg* 'Thursday' is due to Shortening before Consonant Cluster rather than TRISH. The only potential input to TRISH remaining among this group of words are those compounds whose stressed syllable was unchecked, such as the already mentioned item *hāligdæg* 'holiday' or *Mīcheles mæsse*

'Michaelmas'. However, Bermúdez-Otero emphasises that "a few compounds do not warrant the setting up of a sound law with the critical attribute of Neogrammarian regularity" (1998: 173).

It has been pointed out before that borrowed word pairs such as *cone*/*conical* are frequently regarded as evidence for TRISH operating on trisyllabic words in English. Yet, Minkova & Stockwell (1998: 227) provide a plausible counter-argument to this idea. According to them, the derived word was generally borrowed two to three hundred centuries after the 'base' form was integrated into the English vocabulary. They mention several examples, such as *deprave* (1325) – *depravity* (1585), *cave* (1200) – *cavity* (1550) and *brief* (1250) – *brevity* (1500). Referring to the word pair *sane*/*sanity*, Minkova & Stockwell (1998: 211) explain that the derived form, i.e. *sanity*, was adopted with a short vowel; therefore, the phonetic realisation [sæniti] cannot be said to have replaced [sæ:niti], since the latter has never been attested in English. With regard to trisyllabic words adopted during the early ME period, it will be argued in this paper that it is difficult, if not impossible, to determine the vowel length of these loanwords prior to ME quantity adjustment.

Page (2006: 81) provides an alternative account to that by Lahiri & Dresher (1999) for OE disyllabic stems whose tonic vowel was subject to shortening. Lahiri & Dresher (1999: 692) compile a list of such words, which is reproduced below:

Table 4.2 OE disyllabic stems with long stressed vowels and ModE short vowel reflexes (Lahiri & Dresher 1999: 692)

bōsm 'bosom', *brōþor* 'brother', *dēofol* 'devil', *fōdor* 'fodder', *hǣring* 'herring', *mōdor* 'mother', *rǣdels* 'riddle', *spātl* 'spattle, saliva', *þȳmel* 'thimble', *wǣpen* 'weapon'

Building on Minkova & Stockwell's findings (1998), Page argues that "[s]hortening was particularly common in forms with a medial coronal and a stem-final *r* regardless of syllable count" (2006: 81), which accounts for the short vowel in *herring*, *brother*, *fodder* and *mother*. Moreover, *weapon* was subject to syncopation, yielding *wepnen*, which was subsequently affected by SHOCC (Page 2006: 81, based on the Oxford English Dictionary). As for *thimble*, Page (2006: 81) argues that /b/ was inserted as a consequence of schwa loss, which then led to the syllable being closed and subjected to SHOCC. Finally, medial coronal plus stem-final /l/ constitutes a similar shortening environment to

medial coronal plus /r/, which accounts for the short vowel in *spattle* and *riddle* (Page 2006: 81). It is striking that Page does not provide an explanation for the short vowel in *bosom.* Nevertheless, his discussion aims at refuting TRISH as a necessary means to explain why the above words contain a short vowel in ModE. Page concludes that "Trisyllabic Shortening is not needed to account for irregularities occurring through OSL" (2006: 80).

More generally speaking, Minkova's reformulation of OSL in terms of compensatory lengthening casts doubt on TRISH as a genuine sound change, "since analogy with shortened trisyllabic forms is no longer required to explain the absence of lengthening in disyllabic stems" (Bermúdez-Otero 1998: 172). For instance, all the words listed in table 4.3 below retain their second syllable in ModE and thus do not constitute inputs to OSL in Minkova's view:

Table 4.3 OE disyllabic stems with short stressed vowels and ModE short vowel reflexes (Dresher 2000: 54)

botm 'bottom', *camel* 'camel', *canon* 'canon', *copor* 'copper', *fæder* 'father', *fæþm* 'fathom', *feþer* 'feather', *fetel* 'fettle', *hamor* 'hammer', *heofon* 'heaven', *hofel* 'hovel', *lator* 'latter', *ofen* 'oven', *oter* 'otter', *sadol* 'saddle', *seofon* 'seven', *sc(e)ofl* 'shovel', *wæter* 'water', *weder* 'weather'

According to Lahri & Dresher's (1999) as well as Dresher's (2000) hypothesis, lengthening is assumed in all open syllables, a characteristic which applies to the words in table 4.3. Subsequently, the newly acquired long stressed vowel is presumed to be shortened in inflected trisyllabic forms. The short vowel would ultimately replace the long vowel due to analogical levelling. As it has already been shown in Chapter 2.4., this process is particularly improbable with regard to words that barely occurred in the plural, such as *water.* Besides, it seems highly questionable why all these words would be lengthened in the first place and then affected by two other processes, i.e. TRISH and analogical levelling, only to surface as words with short vowels again. Instead, it appears more logical to dismiss these lexical items as potential inputs to OSL altogether, as Minkova proposes, which renders TRISH redundant as an explanatory device, as well.

Ritt (1994: 103-105) also draws attention to the problematic status of TRISH as a genuine sound change, as devised by Luick (1921). Ritt analyses the examples of TRISH provided by Luick and demonstrates that only three out of 28 instances are uninflected,

trisyllabic word forms; the 25 remaining items are derived word forms, such as plurals, genitives, datives and accusatives. Ritt ascribes this selection of inappropriate items to the fact that the OE and ME lexicon contains hardly any uninflected trisyllabic words with an etymologically long stressed vowel in the first syllable that is closed by one consonant only. This is shown by Ritt's analysis of the vocabulary in *The Owl and the Nightingale.* Therefore, Ritt suggests that "TRISH was a sound change without inputs" (1994: 104). The reason why Luick nevertheless established a sound law for trisyllabic words is that it was a means to reduce the number of exceptions to OSL, as Ritt explains (1994: 104). In order to maintain open syllables as lengthening environments, Luick needed to account for those words whose syllable was open but whose ModE reflexes had a short vowel. Combining TRISH with analogical levelling was a useful device to justify OSL. As Ritt puts it, TRISH was probably "a cleverly disguised *deus ex machina* that helped [Luick] to deal with data that would otherwise emerge as uncomfortable exceptions to other nicely devised sound laws" (1994: 104). The research part of this thesis will provide further insight into this issue, arguing that a large number of French loanwords qualified as eligible inputs to TRISH.

In the following, the question shall be addressed whether TRISH is merely a subtype of Shortening before Consonant Clusters or whether these two sound changes should be separated.

4.4. TRISH as a subtype of SHOCC?

Lahiri & Fikkert (1999: 230) propose to distinguish TRISH from another sound change, which seems similar at first sight, namely Shortening before Consonant Cluster[1] (henceforth SHOCC), since the former is foot-based, while the latter is syllable-based. As for TRISH, the main motivation is to optimise the word's foot structure (Lahiri & Fikkert 1999: 230). Not all researchers share this opinion, for example Myers (1987: 495), who claims that vowels in TRISH environment as specified above are actually checked due to the postvocalic consonant. Therefore, he does not consider TRISH to be a separate sound change, but rather a subcategory of closed syllable shortening. Since the available space here is limited, this issue cannot be pursued any further. It may suffice to say that there is a controversy among researchers and that this question has not been sufficiently answered. For the present purpose, TRISH will be treated as a sound change distinct from SHOCC.

[1] This is referred to as 'closed syllable shortening' by Lahiri & Fikkert (1999).

After this fairly extensive discussion on the status of TRISH as a genuine and independent sound change, the subsequent chapter shall provide more information about SHOCC, which is a less controversial sound change. First, SHOCC will be discussed from the traditional perspective on quantity adjustment. Second, several recent concepts will be added so as to gain deeper insight into this sound change.

5. Shortening before Consonant Cluster

5.1. Traditional account

According to the standard view, which was postulated, among others, by Luick (1921), Shortening before Consonant Cluster led to vowels being shortened if followed by three consonants, later on also if the vowel was followed by two consonants (Luick 1921: 324). An early example of SHOCC provided by Luick (1921: 187) is **ʒōd spell*, which developed into *ʒodspell* 'gospel', causing the originally long vowel to be shortened due to the newly created consonant cluster. Another oft-cited example is the past form *kepte* 'kept' (Luick 1921: 324). While the present form *keep* has retained the long vowel, the past form was shortened in terms of SHOCC. As Lass (2008: 72-73) observes, SHOCC was responsible for vowel length alternations in a great number of verbal inflectional paradigms, such as *leave*/*left, lose*/*lost, dream*/*dreamt.* He adds that the difference between these word forms deriving from the same base form was reinforced by later changes, including quality adjustments which transformed ME /ke:pən/ – /keptə/ into ModE /ki:p/ – /kɛpt/, for instance.

Ritt adds another important criterion for SHOCC, namely that homorganic clusters did not trigger shortening, since these typically constitute lengthening environments (see Chapter 3). It needs to be kept in mind, though, that homorganic clusters followed by another consonant did not correspond to requirements for HOL, but did in fact trigger shortening. This is attested in early instances of shortening listed by Luick (1921: 187), including **brǣmblas* > *bræmblas, bremblas* 'bramble' and *þȳmel* > gen./dat. *þymbles* 'thimble'. Other consonant clusters which did not trigger SHOCC were those that could occupy onset position in the post-tonic syllable (Ritt 1994: 98).

With regard to the period during which SHOCC was operating, Luick (1921: 190) points out that some instances of shortenings can be traced back as far as the late 6th or early 7th century. However, shortenings of this kind reoccurred throughout later periods of English once a particular word met the necessary conditions for SHOCC. Lass (2008: 71),

who refers back to Luick (1921), argues that vowels were shortened in OE if they were followed by more than two consonants, while Ritt (1994: 98) explains that in ME, vowels were subject to SHOCC if they preceded more than one consonant. The dating of this sound change is important, as it permits to distinguish SHOCC from TRISH. As already indicated in the previous chapter, Lahiri & Fikkert (1999: 232) argue that SHOCC was attested before TRISH, which probably only became active around the year 1100.

Berndt (1960:21-23) provides a detailed account of the phonetic environments triggering SHOCC, particularly regarding the types of postvocalic consonant clusters. To begin with, vowels are shortened if followed by two voiceless consonants. Examples include the already mentioned *kepte*, as well as *fiftiȝ* 'fifty' and *þe(o)fþ* 'theft'. Another type of consonant cluster consists of a voiceless consonant plus liquid, i.e. /r/ and l/, as in *lytle* 'little'. Nasals or /l/ followed by a voiceless consonant also constituted a shortening environment, yielding ModE short vowels in *twentiȝ* 'twenty' or past tense forms such as *mente* 'meant'. Moreover, words with geminates comprising two lenis, voiced consonants have short vowels reflexes in ModE, e.g. *redde, ȝe-redd* 'read' and *feoll*/*feollon* 'fell'. Finally, SHOCC occurred in compound nouns, whose first-syllable coda and second-syllable onset both contain a consonant. This can be seen in words such as *ceapman* 'chapman', *secnes* 'sickness' and *wefman* 'woman' (Berndt 1960: 21-22). These phonetic environments triggering SHOCC have been presented in detail, for the empirical analysis in Chapter 8 will give due consideration to different types of consonant clusters, as well, so as to determine whether the same consonant clusters triggered shortening in vowels in French loanwords.

So far, one intersyllabic consonant has not been mentioned yet, namely /st/, which behaves somewhat differently from the other consonant clusters. Berndt (1960: 23) explains that the particularity of medial /st/ clusters lies in the fact that they could be analysed as the onset of the second syllable, yielding an unchecked first syllable. Lass shares Berndt's view, arguing that intervocalic /st/ was "typically ambisyllabic" (2008: 72). An example may serve to illustrate this behaviour: ModE *priest* derives from ME *prēst*/*preest* in the base form, which would normally have been subject to shortening. However, the long vowel in the ModE reflex might be due to the inflected forms OE *prēostas* and ME *prēstes/preestes* (Berndt 1960: 23, Lass 2008: 72), since the disyllabicity of these forms led to the first syllable being open. Subsequently, this syllable was affected by OSL. Ritt (1994: 102) also assumes ambisyllabicity for intersyllabic /st/ and puts the focus on syllable weight. He argues that fully ambisyllabic consonants are half as heavy as

those consonants that are exclusively in coda position. Therefore, clusters whose first element is in coda position and whose second element is ambisyllabic, for instance /ft/, /kt/ and /mp/, are heavier than fully ambisyllabic clusters, such as /st/. The latter type of clusters is yet again heavier than single, ambisyllabic consonants. This accounts for the fact that OSL was rare before /st/, though not unattested either. Ritt (1994: 102) considers words such as *taste* and *haste* as exceptions, as they were indeed affected by OSL. The same would then apply to *priest* if one agrees with Ritt's stance. Ritt adds that other factors play a crucial role when attempting to explain the ambivalent behaviour of /st/, such as vowel height. He asserts that high vowels were less likely to lengthen when followed by /st/ than non-high vowels. This view is shared by Berndt (1960: 23). Nevertheless, some words remain, which do not behave according to the above observation, e.g. OE *Christ.* Berndt provides two possible explanations for the maintenance of a long vowel. Either it is due to the lengthening of the stressed vowel in inflected forms, or the French form had an impact on the vowel quantity in the English form. At this stage, it should be mentioned that the present research also regards intervocalic /dr/ and /tr/ as ambisyllabic consonants. Therefore, words which bear stress on the penultimate syllable and whose stressed vowel is followed by /dr/ or /tr/ are listed among OSL inputs, since these words are expected to have fulfilled the open-syllable condition.

Myers (1987: 488-490) attempts to provide an answer to the question as to why certain suffixes yielded SHOCC, while others did not entail a shortening of the stressed vowel. He compiles a fairly exhaustive list of verbs together with the derived nouns or adjectives. All of these word pairs show vowel length alternations, such as *heal*/*health*, *perceive*/*perceptive*, *intervene*/*intervention*, *recede*/*recession*, *scribe*/*scripture*, *wise*/*wisdom* and *thief*/*theft* (1987: 489-490). Myers (1987: 490) presumes that the final consonant in words such as *heal* is extrametrical, thus the syllable would in fact be open, which supposedly accounts for the long vowel. The addition of the suffix *-th* in *health*, however, leads to the syllable being closed and subjected to shortening. With regard to the other suffixes listed in the examples above, Myers claims that all of these were "within the root" (1987: 490), as opposed to suffixes like *-ness*, *-ly* or *-ed*. The latter are said to be "[w]ord-level […] suffixes" (1987: 490), which did not close the syllable, but maintained extrametricality of the stem-final consonant and therefore did not trigger vowel length adjustment. Myers' examples are *loudness*, *deeply* and *beeped* (Myers 1987: 490). This explanation is questionable, though, since Myers does not explain why a suffix like *-ness*

should be regarded as one affecting the word-level, while *-ive* or *-tion* would operate on the root-level.

For the sake of clarity, it needs to be mentioned that Myers is trying to explain what he calls "Closed-Syllable Shortening" (1987: 491). The fact that he extends shortening processes to those environments where a syllable is followed by one consonant only leads him into argumentative trouble. This is the reason why he has to assume extrametricality, otherwise the long vowel in *heal* would constitute an exception. Yet, an account of SHOCC following the above-mentioned criteria can easily explain vowel length alternations in the word pairs listed by Myers. It has been argued that shortening occurs once the vowel is followed by two or more consonants, as is the case in *health*, for instance. Concerning *loudness*, *deeply* and *beeped*, original vowel length might have been preserved so as to maintain transparency. Alternatively, other factors might have inhibited vowel length modification. Some of these potential constraints on SHOCC will be analysed in the empirical research part of this thesis.

With regard to Closed-Syllable Shortening, it may suffice to say that there is considerable debate as to the quantity adjustment processes in these environments. Quite contrary to Myers, Ritt (1997) argues in an article that closed syllables might just as well constitute lengthening environments. This debate shall not be discussed in any detail here due to a lack of available space.

As for now, some more recent approaches to SHOCC shall briefly be outlined so as to complement or modify the traditional account where necessary.

5.2. Recent accounts of SHOCC

According to Page (2006: 68), SHOCC is a type of hypocorrection, similar to OSL and HOL (see Chapters 2.2. and 3.2.). His argument is based on Riad's observation (1992: 105) that the only syllable types attested in OE and other ancient Germanic languages are monomoraic, i.e. light, and bimoraic, i.e. heavy, syllables, excluding long vowels followed by geminates. Page (2006: 68) points out that, consequently, the mora in the first syllable of *kēpte* was shared by the long vowel and the first consonant in rhyme position. This mora-sharing, in turn, may function as a trigger for phonetic shortening of the stressed vowel. SHOCC occurred once the phonetic shortness of the vowel was interpreted as phonemic, which can be seen in table 5.1:

Table 5.1 SHOCC as hypocorrection (Page 2006: 68)

	Pre-SHOCC	SHOCC
Production	/ke:pte/ → [ke(:)pte]	/ke:pte/ → [ke(:)pte]
Perception	[ke(:)pte] → /ke:pte/	[ke(:)pte] → /kepte/

Regarding the time frame of SHOCC, Minkova & Stockwell (1998: 225) make an interesting statement, which is particularly relevant for the present purpose. According to the researchers, SHOCC was operating before *The Ormulum* was written, therefore it can be said to have been active up to the end of the 12th century. After this period, SHOCC probably became ineffective due to the increased tendency to keep vowel length in base forms and derived forms transparent, i.e. to avoid vowel length alternations. Minkova & Stockwell thus come to the following conclusion:

> Assuming a continuity between the Old English SHOCC and the later Romance events is unwarranted: the prototypical shortening before two dental suffixes within English was dead at, or before, the time of massive influx of Romance loans. (1998: 225)

Since this diploma thesis focuses on French loanwords, the above quote is of great importance for this research project. The empirical analysis of French loanwords in Chapter 8 will show whether Minkova & Stockwell's claim is proven right or wrong, i.e. whether French loans were affected by SHOCC or not.

Ritt (1994: 95) sees a connection between SHOCC and the other sound changes which have been described in Chapters 2 to 4. He argues that "[t]he process behind vowel shortenings can be thought of as symmetrical with the one behind lengthenings" (1994: 95). Therefore, he includes shortening processes, i.e. SHOCC as well as TRISH, in his general formula of Early Middle English Quantity Adjustment. Minkova & Stockwell, however, qualify Ritt's formula as "a probabilistic theory of exceptionality" (1998: 217). Instead of accounting for quantity changes in a probabilistic fashion, Minkova & Stockwell advocate a description in terms of "universal constraints, which are obeyed or violated" (1998: 217). This approach allows for variability and predictions. With regard to SHOCC, Minkova & Stockwell (1998: 223) devise a "hierarchy of regularity", ranging from those phonetic environments which almost always triggered SHOCC, to those in which SHOCC was less likely, which is somehow reminiscent of Berndt's (1960) account of SHOCC. According to Minkova & Stockwell, the hierarchy is as follows:

> SHOCC is induced most strongly by two types of dental-initial suffixes, less strongly by tautosyllabic coronals, and the results in front of homorganic clusters are ambiguous. (1998: 225)

The analysis in Chapter 8 will show which of the two approaches has more potential to capture the behaviour of Romance loanwords.

After an extensive discussion of all four quantity changes occurring during the ME period, I shall now turn to the specificities of French loanwords, the latter being the main focus of this research paper. Gaining insight into the properties of words of French origin will be an indispensable prerequisite for the analysis of ME quantity adjustment among this group of words. The idea is that knowledge about the particularities of French loans will help to increase the understanding of the way in which these words were affected by ME quantity adjustment. The empirical research part will show that French loanwords do not always behave according to the predictions from current theory on native words. Hence, it might be possible to link this odd behaviour to the formal differences between French loans and native words. Some of these differences shall be addressed in the subsequent chapter.

II. FRENCH LOANWORDS

6. Characteristics of French loanwords in English

To begin with, this chapter will provide a general description of the status of French loanwords in English during the Middle Ages, before focusing on some more specific aspects, such as the French phoneme inventory and stress rule.

6.1. Role of French loanwords in Middle English

As pointed out by both Minkova & Stockwell (2009: 42-43) and Baugh & Cable (2013: 174), the overall number of French loanwords adopted during the ME period is approximately 10,000, out of which around three quarters have been retained in ModE. Minkova & Stockwell (2009: 43) add that the frequent borrowing of French loanwords in ME led to a considerable modification of the relative proportion of native words and loanwords in the English vocabulary. While in OE only three percent of the total number of words had been of non-native, i.e. Latin, origin, borrowed words constituted about a fourth of the ME vocabulary. It is noteworthy that the borrowing of words from French has

continued ever since the ME period and is attested still nowadays (Minkova & Stockwell 2009: 43, Baugh & Cable 2013: 163).

According to Baugh & Cable (2013: 164), the period during which loanwords were adopted from French can be divided into two separate phases. In the first stage, which covers the 200 years following the Norman Conquest, fewer words were borrowed than in the second half of the ME period, i.e. after the year 1250. The overall number of early borrowings is approximately 900 (Baugh & Cable 2013: 164, Minkova & Stockwell 2009: 43). The reason for the comparatively low number of attested loanwords in this phase is linked to the "keeping and survival of records", as Minkova & Stockwell (2009: 43) argue. Moreover, the nature of the early loanwords is different from that of later borrowings. Baugh & Cable observe that loanwords from the period prior to 1250 are "more likely to show peculiarities of Anglo-Norman phonology" (2013: 164). Besides, a large number of early loans are common words still in ModE, such as *air*, *colour*, *flower*, *journey*, *oil* and *story*. Other early loanwords refer to social class, for example *baron*, *servant*, *noble* and *throne* (Minkova & Stockwell 2009: 44). In the period after 1250, borrowing occurred in a greater variety of semantic fields, including social life, medicine, arts, food, fashion, administration and many more (Baugh & Cable 2013: 164). The peak of intake from French was reached in the 14th century (Baugh & Cable 2013: 173; Zettersten 1969: 227-229, cited in Diensberg 2009: 75). As Diensberg (2009: 72) points out, the importance of French had augmented in the 12th and 13th centuries when it adopted the position of Latin to a certain extent. However, the role of French as a language of written communication was increasingly questioned during the 14th century, which led to the simultaneous revaluation of the English language as a medium of written communication. English gradually became more acceptable and prestigious so that eventually a predecessor of Standard ModE could emerge, i.e. the so-called Chancery Standard (Diensberg 2009: 69).

Returning to the issue of French loanwords in ME, it needs to be mentioned that words were adopted from two different varieties of the French language. In the early phase of borrowing, the main language of origin was Norman French (Minkova & Stockwell 2009: 43), which was one of the dialects within the spectrum of *langue d'oïl*. The predecessor of Modern Standard French, however, derived from a different French variety, namely that of Paris (Bourciez 1950: XX-XXI). Bearing this fact in mind, it becomes clear why many French loanwords in ModE differ from their ModF counterpart, namely because these lexemes were inherited from two different varieties. Baugh & Cable illustrate this matter by referring to the /w/-sound, which was generally avoided in Parisian French. Yet,

this was not the case in north-eastern dialects of French, including Norman French. This difference becomes evident when comparing ModE *waste*, deriving from Anglo-Norman (henceforth AN) *waster*, to Central French *guaster* or *gaster*, which surfaces in ModF as *gâter*. Other words showing this particularity are ModE *wasp*, *warrant*, *wardrobe*, *wage* and their ModF counterparts *guêpe*, *guardian*, *garderobe*, *gage* (Baugh & Cable 2013: 170).

In the course of time, Parisian French became more and more important and consequently an increasing number of loans were adopted from Parisian French rather than AN. This trend was reinforced by the importance of Central French as a literary language, especially in the 15th century (Baugh & Cable 2013: 172). The fact that after 1250 the main language of origin of French loans in English was Central Old French sometimes led to the co-existence of two cognate Romance words in the English lexicon, as Minkova & Stockwell (2009: 44) explain. Some of these competing word pairs have survived up to the present day:

Table 6.1 AN and OF word pairs in ModE (Minkova & Stockwell 2009: 44)

Anglo-Norman	Central Old French (Parisian)
catch	chase
Karl	Charles
cattle	chattel
warranty	guarantee
warden	guard(ian)

The reason why both words are still attested in ModE is probably the subtle difference in meaning, which also applies to similar word pairs of native and Romance origin (Baugh & Cable 2013: 175-176). One example of such a word pair is *ox* and *beef* (Lusignan 2004: 212). The above observations are crucial in so far as the English lexicon was influenced by two distinct linguistic varieties of French, which were at rivalry with one another (Minkova & Stockwell 2009: 44).

Baugh & Cable (2013: 174) assert that loanwords of Romance origin were rapidly assimilated to the native vocabulary, which is attested by the fact that Romance words were soon subjected to derivational processes. To exemplify this process, the researchers refer to the adjective *gentle*, which is recorded for the first time in the year 1225. Only five years later, the compound noun *gentlewoman* is used, followed by *gentleman* (1275),

gentleness (1300) and g*ently* (1325). More generally speaking, Baugh & Cable notice that "[t]he adverbial ending -*ly* seems to have been added to adjectives almost as soon as they appeared in the language" (2013: 174). The role of affixation shall be given due consideration in Chapter 6.5.

After a presentation of preliminary facts relating to French loans, the next subchapter will further elaborate on the question as to how loanwords from French were adapted once they were integrated into the English vocabulary.

6.2. Adaptation of French loanwords

One of the early accounts of French loanwords and their adaptation to the native system was written by Bliss (1952/1953). In this founding text, he makes a number of crucial assumptions, which, according to himself, cannot be proven (Bliss 1952: 121), but seem to derive from logical reasoning. Due to the importance of these reflections, they shall be reproduced here in a summarised manner.

Bliss (1952: 122) asserts that the ME pronunciation of a French loanword was as similar to the AN pronunciation as possible; to put it differently, the ME pronunciation maximally resembled the pronunciation of a word in the language of origin. The AN pronunciation was not modified in case the same sounds were found in the same context in both native and foreign words. If this was not the case, the respective AN sound was replaced by a similar sound that would have occurred in this specific phonetic environment in a native word. Once a loanword was adapted to the native sound system, its sounds could be affected by the same sound processes as were the sounds in native words. This holds true provided that OF or AN did not have a contrary influence on the word in question by means of inhibiting a modification of the sound in English. Bliss, whose aim is to obtain information on the sound system in AN, adds "that where the exact nature of an AN sound is in doubt, the equivalent sound in the ME borrowing is likely to have existed already in AN, unless one of the other possible sounds does not occur in the same type of context in native words" (1952: 122). The latter assumption allows him to deduce information about the phonemes that must have existed in AN. This is of minor importance here, since the focus lies on French loanwords and their modification in the process of borrowing into English.

Somewhat earlier than Bliss, Southworth (1947) had already postulated similar hypotheses, though not in a way as systematic as Bliss. Citing Wyld (1924: 116), Southworth (1947: 920) also puts forth that AN words were adopted with sounds

resembling those in their original phonological realisations. Furthermore, Southworth implies that the same sound changes affected native words and loanwords. Thus, he states that "Anglo-Norman short -a, for example, is lengthened in open syllables in the same way as Old English short -a, as in *place*, *cage*, *rage*, *corage* [sic!], *fame*, *chaste*, *haste*, etc." (1947: 920). Minkova & Stockwell share this view, arguing that "[l]ong vowels in disyllables like *bacon*, *mason*, *lever*, *broker* are the result of lengthening by Open Syllable Lengthening after the word came into English" (1998: 227). It will be shown in Chapter 8 whether this claim is corroborated by empirical data.

Berndt mentions a few problematic aspects with regard to the adoption of loanwords into the English lexicon:

> Im einzelnen gestalteten sich die Verhältnisse bei der Assimilierung des fremden Wortmaterials äußerst kompliziert, vor allem in den Fällen, wo das Englische zugleich mit einem ihm fremden Akzent zu ringen hatte. Hinzu kamen dabei die verschiedensten Durchkreuzungsmöglichkeiten, Rückanlehnungen an die lateinische Grundsprache und nicht zuletzt spielte der Zeitpunkt der Entlehnung eine Rolle. (1960: 82)

These problems occurring in the process of borrowing seem to be in contradiction with Baugh & Cable's hypothesis of rapid assimilation (see Chapter 6.1.). The disagreement cannot be resolved at this stage. However, Berndt addresses some crucial aspects, which will be taken into consideration in the empirical research part, such as the foreign stress pattern and the date of borrowing.

In the following, the example of schwa is intended to show that the borrowing of French words indeed required some degree of modification so that a particular loanword could become an integral part of the English lexicon. Berndt (1960: 138) explains that the number of syllables in tri- or polysyllabic Romance words was reduced in English due to schwa loss in word-final position and in inflectional endings. For instance, word-final schwa tended not to be pronounced in ME in words such as *trecherye* 'treachery', *duchesse* 'duchess' and *prayere* 'prayer', contrary to word-final schwas in French, which only "became silent by the end of the eighteenth century" (Fagyal, Kibbee & Jenkins 2006: 59-60). Besides, Berndt (1960: 138) explains that schwa was generally dropped in plural endings, once the stress pattern was adapted to the Germanic system. Examples include *remedies, tragedies* and *tavernes.* As for French loanwords ending in a syllable containing a vowel other than schwa, these lexical items contain a long final vowel in English, as can be seen in *degree* (Minkova & Stockwell 1998: 226).

Concerning disyllabic Romance words, Berndt (1960: 139) adds that schwa is often lost after liquids and nasals in ME, yet disyllabicity is maintained due to the liquid or nasal becoming syllabic. Berndt mentions various examples, such as *able*, *double*, *Bible*, *tendre* and *membre.* Alternatively, an intrusive schwa can be pronounced between the last two consonants, as in ModE /teibəl/. Contrary to ModE, this is not possible in ModF. Moreover, French unstressed diphthongs in middle syllables were often reduced to schwa or unstressed [i] in English. Examples for this modification are *boteler/buteler* 'butler' (OF *bouteillier*), *co*(*u*)*nseler* 'counsellor' (OF *conseiller*) and *werriour* 'warrior' (OF *werreyour*) (Berndt 1960: 139). Berndt's observations seem to corroborate Bliss' assumptions that the borrowed word resembled the original form, but that some modifications were necessary so as to adapt a loanword to the native system.

A more fundamental modification of French words that were borrowed into English occurred on the level of length contrasts. Based on Bliss (1955: p.n.d.) and Pope (1934: 447), Bermúdez-Otero (1998: 190) asserts that OF did not have phonemic vowel length distinctions. Therefore, "vowel length specifications in ME loans do not reflect OF phonological contrasts" (Bermúdez-Otero 1998: 190). The argument that the vowel length of loanwords in English was determined by the typical French allophony (Pope 1934: §§574, 575, 580) is refuted by Bermúdez-Otero (1998: 190), who argues that loanwords show a great deal of variation with regard to vowel length in the phonetic contexts specified by Pope.

To render the discussion more systematic, the following subchapter will provide an overview of the phoneme systems in question, i.e. those of OF, AN and ME. This will provide the basis for a discussion on how the vowels were adapted with regard to vowel length in the borrowing process.

6.3. Contrasts in phoneme systems: OF, AN and ME

Ingham (2012: 55) provides a systematic overview of the OF sound inventory, which, he says, included the following vowel sounds: /i, u, y, e, ɛ, o, ò, ə, a/. Fagyal, Kibbee & Jenkins add that "at least two fully nasal vowels" existed in OF, namely /ã/ and /ɛ̃/ (2006: 250). According to Ingham, it is a "fact that vowel length was phonemic in Middle English but not in Old French" (2012: 55), as has already been indicated above. This is a crucial observation for the present study, since the phonetic vowel length of French loanwords somehow had to be adapted to the phonemic vowel length system in English.

With regard to Anglo-Norman, Pope points out that "quantitative differences appear to have been gradually established in Later Anglo-Norman, mainly on the lines of the English quantitative differences" (1934: 447), also reflecting sound changes such as OSL. What she seems to imply is that the earlier AN sound system was closer to the OF phoneme system and therefore did not have vowel length contrasts.

Ingham points out that the main differences between OF and ME in terms of vowel quality were /y/ and /ə/ (2012: 55). With regard to the former, Lass explains that it is often supposed to be part of upper-class London speech in the 14th century, though exclusively in French loanwords, such as *commune, nature, refuse, excuse* and *fortune.* Lass states that this claim is usually based on the observation that the phoneme /y/ is rhymed only with itself by Chaucer. However, Lass argues that this might not be sufficient as evidence, therefore he remains cautious with regard to the existence of /y/ in ME (2008: 55-56).

The case of /ə/ has already been discussed from the perspective of French words which have been integrated into the English lexicon and served as an example of modifications in the process of borrowing. Ingham (2012: 55) describes the status of schwa in OF. He explains that schwa was a phoneme in OF, as can be seen in minimal pairs such as *cop* 'blow' – *cope* 'cuts' and *or* 'gold' – *ore* 'now'. He adds that schwa dropping occurred earlier in ME than in French. In the latter of the two languages, final schwa only started to be dropped after the Middle Ages; his view is shared by Fagyal, Kibbee & Jenkins (2006: 59-60; see Chapter 6.2.). This is an important detail, since final schwa might have had a crucial role in triggering OSL in ME, as has been discussed in Chapter 2.2.

What remains to be addressed is the question of vowel length adjustment in the process of borrowing, i.e. how French vowels lacking quantity distinctions were modified so as to fit into the English system of long and short vowels. Bermúdez-Otero refutes the idea that allophonic length in OF might have been used as a basis for assigning phonemic length or shortness to vowels in loanwords (1998: 190). In Minkova & Stockwell's view, "[d]iphthongs were borrowed as diphthongs, i.e., long vowels functionally: thus *remain, complain.* All other French vowels were *usually* [my emphasis] perceived as English short vowels regardless of the length in Latin" (1998: 226). As examples, the words *discretion, diligent, eloquent, evident* and *orator* are mentioned (Minkova & Stockwell 1998: 226). Bermúdez-Otero remains more prudent with regard to ME vowel length in French loanwords, arguing that "ME loans display *unpredictable* variation both in originally tonic open syllables […] and in originally countertonic syllables" [my emphasis] (1998: 190-

191). Moreover, "the length of stressed vowels in ME loans cannot have been determined by the quality of the OF vowel, since identical vowels have both short and long reflexes" (Bermúdez-Otero 1998: 191). Hence, it seems that the pre-ME quantity adjustment vowel length of French loanwords can hardly be identified. This is a crucial observation with respect to the empirical research part of this diploma thesis. Therefore, this issue shall again be discussed in Part III.

As for now, the focus will be shifted onto diphthongs, which constitute another major part of the phoneme system in OF.

6.4. Diphthongs

Fagyal, Kibbee & Jenkins (2006: 249) provide an overview of the diphthongs that were part of the OF sound inventory: /au ai ei eu ie oi ou ue ui/. Furthermore, their list contains a triphthong, namely /iau/. In the course of the OF period, however, the number of diphthongs considerably reduced, according to Fagyal, Kibbee & Jenkins (2006: 250). Finally, in the 15th century, the majority of diphthongs in French had been subjected to monophthongisation, as the researchers observe. Ingham (2012: 55) explains that while OF had a greater number of diphthongs than ME, it did not retain any of these diphthongs in Standard ModF. Yet, contrary to European French, Canadian French still has diphthongs in words such as *neige* 'snow' and *mère* 'mother', in which the /ɛ/-sound is combined with a short /ɪ/ or /j/ (Fagyal, Kibbee & Jenkins 2006: 30).

Due to the fact that the diphthong inventory of OF was more exhaustive than that of ME, the latter was expanded by means of adopting non-native diphthongs from French loanwords into the native system, such as /au/ and /eu/ (Lass 2008: 51). Lass (2008: 52) mentions two more examples of Romance diphthongs that became part of the English sound inventory, namely /oi/ and /ui/, both of which entered the English language via AN loanwords. The AN diphthong /oi/ derives from Latin /au/, which can be seen in French *joie* 'joy' and *cloistre* 'cloister', which derive from Latin *gaudium* and *claustrum* respectively. The origin of AN /ui/ is Latin /o:/, as in French *puison* and Latin *pōtionem* 'potion', as well as Latin /u/, for example in French *puint* and its Latin equivalent *punctum* 'point'. Based on these insights, Lass (2008: 52) argues the diphthong inventory of southern ME around 1250 included the following sounds:

Table 6.2 Diphthongs in ME around the year 1250 (Lass 2008: 52)

/Vi/	/Vu/
/ei ai oi ui/	/ iu eu ɛu au ɔu/

Concerning the further development in the history of English, the diphthongs /ei/ and /eu/ were no longer part of the phoneme inventory by 1350. As for /oi/ and /ui/, these sounds maintained a distinct quality up to the first half of the 17th century despite the fact that they were both spelt <oi/oy>. Later on, the two diphthongs merged, leaving only /oi/ in ModE. (Lass 2008: 52)

It is noteworthy that the above observations contradict Bliss' assumptions (1952/1953), according to which a non-native sound was replaced by a native sound most similar to the foreign one. Lass explicitly reacts to this general principle, arguing that the adoption of /oi ui/ into the English sound system is "one of the rare cases […] where a foreign phonological element with no direct English parallel was borrowed and retained in its original form, rather than being assimilated to some already existing native category" (2008: 52). Lass goes on to explain that the peculiarity of /oi/ is still visible in ModE, in that is has hardly been affected by sound changes since its adoption into English. Hence, the only genuine modification was the lowering of the first element of the diphthong to an open /ɔ/, yielding ModE [ɔi]. Nevertheless, some ModE dialects have retained the older form [oi] (Lass 2008: 52).

Kniesza discusses the status of the diphthong [ai] in English. She argues that this diphthong was preserved in English monosyllables, such as *mail* and *Spain*, as well as in disyllabic words, provided that the syllable was closed by /l/ or /n/ and bore main stress, which is the case in *assail* and *campaign*, for instance. However, if the French stress pattern was modified so as to correspond to the English pattern, the diphthong was subject to monophthongisation and later to vowel reduction. This accounts for the short vowel in ModE words such as *battle*, going back to AN *bataill(e)*, and *mountain.* (1988: 210-211)

With regard to vowel length adjustments in the process of borrowing, diphthongs pose less of a problem than AN or OF monophthongs. This diploma thesis adopts Minkova & Stockwell's stance (1998: 226), according to which Romance diphthongs were adopted with a diphthong in ME and can thus be seen as equivalents to long vowels.

Having discussed the sound inventories of OF, AN and ME, I shall now turn to the role of affixes in these language varieties.

6.5. Affixes and compound formation

OE made extensive use of derivational processes so as to enlarge the vocabulary and to fulfil the communicative needs of the speakers. By means of combining word roots with affixes, i.e. either prefixes or suffixes, new self-explanatory compounds could easily be formed. However, the use and productivity of native affixes considerably decreased during the ME period. One of the prefixes that is characteristic of this development is *for-*, whose German counterpart is *ver-*. This affix typically indicates something negative or destructive when being added to a verb. During the ME period, the prefix *for-* was still occasionally used, yielding new lexical items such as **forcleave* 'cut to pieces', **forshake* 'cut off' and **forhang* 'put to death by hanging'. Yet, all these new word formations arising in the ME period no longer exist in ModE, whereas those verbs which had already existed in OE are retained in ModE. These are *forbear*, *forbid*, *fordo*, *forget*, *forgive*, *forgo*, *forsake*, *forswear*, as well as the participle *forlorn*. The fact that ME word formations were eventually lost points to a lack of vitality of the prefix *for-* in ME. (Baugh & Cable 2013: 176-177).

Baugh & Cable (2013: 177-178) think that the reason for the decline of derivational processes involving native prefixes and suffixes is the massive adoption of loanwords from French. As Baugh & Cable put it, "we can see here a gradual change in English habits of word formation resulting from the available supply of French words with which to fill the needs formerly met by the native resources of the language" (2013: 178). The researchers add that the development of native suffixes is less drastic than that of prefixes, since some of the main suffixes are still productive nowadays, such as *-full*, *-less* and *-some.* However, others like *-lock* and *-red* gradually decreased in terms of vitality (Baugh & Cable 2013: 177-178).

As for compounding, Baugh & Cable explain that the ME period saw a decline in this type of word formation, as well. Rather than combining words to create self-explanatory compounds, ME speakers preferred borrowing 'ready-made' French words. Compounding never completely disappeared in English, yet its productivity is lower in ModE than it used to be during the OE period. (2013: 178)

Minkova & Stockwell (2009: 44) point out that word formation processes in OE yielded etymologically homogenous words, since all building blocks were part of the native lexicon. Examples of homogenous derivational words dating back to OE are *kingdom* and *weakling*; the words *Englishman*, *underlie* and *quicksilver* exemplify homogenous compounds. During the ME period, word formation processes increasingly

yielded hybrid forms (Minkova & Stockwell 2009: 44-45), for ME borrowed and made use of Romance suffixes, as well (Lahiri & Fikkert 1999: 248). Table 6.3 provides a few examples of hybrid derivational words, i.e. words with a native root and a Romance affix or words whose root is borrowed from French but whose affix is native:

Table 6.3 Hybrid derivational words (Minkova & Stockwell 2009: 45)

English + French	French + *English*
*talka*tive (1432)	colour*less* (1380)
*unknow*able (1374)	joy*ful* (1290)
*wiz*ard (1440)	manner*ly* (1375)
*love*able (1340)	*fore*taste (1435)

The following list contains examples of hybrid compounds formed during the ME period:

Table 6.4 Hybrid compound nouns (Minkova & Stockwell 2009: 45)

English + French	French + *English*
town-clerk (1386)	safe-*keeping* (1432)
*breast*plate (1386)	gravel-*stone* (1440)
*free*mason (1376)	river*side* (1366)
*bed*chamber (1362)	dinner-*time* (1371)

The fact that native and foreign elements could easily be combined with one another in word formation processes points to the French elements being considered as fully integrated members of the lexicon by speakers of ME.

A crucial aspect with regard to affixes is that native suffixes were stress neutral, meaning that they did not entail a shift of stress when being added to a word, while most Romance affixes were stress demanding (e.g. Lahiri & Fikkert 1999: 248, Minkova & Stockwell 2009: 192-193). Minkova & Stockwell list a great variety of these native suffixes, including *-dom* as in *mártyr – mártyrdom*, *-er* as in *intérpret – intérpreter* and *-less* as in *compássion – compássionless* (2009: 192). Lahiri & Fikkert (1999: 248) discuss a typical example of a non-native suffix triggering a shift of stress, i.e. *-ity.* The special behaviour of Romance suffixes can be seen when looking at word pairs such as *cápable – capabílity* and *ínfinite – infínity.*

Lahiri & Fikkert address another issue that is worth pointing out with respect to word formation processes in English. According to Lahiri & Fikkert (1999: 249), the derived and underived word of Romance word pairs were often borrowed independently from one another. This has already been discussed in Chapter 4.3. Furthermore, the two words often differed in meaning, which also points to the words' mutual independence. As an example, Lahiri & Fikkert (1999: 249) mention the words *sane – sanity*, which were first attested in English in 1628 and 1432 respectively. *Sanity* initially referred to 'bodily health'; however, this meaning was eventually lost. Once the word *sane* was adopted, the meaning of *sanity* altered, expressing 'a state of being mentally sound'. What this example is meant to illustrate, is that word pairs such as *sane – sanity* were in no direct derivational relationship, i.e. the speakers were not aware of the words' relatedness (Lahiri & Fikkert 1999: 251).

To conclude the above discussion, it has to be mentioned explicitly that Lahiri & Fikkert (1999) focus on Romance loans, while Minkova & Stockwell (2009) provide reflections on hybrid forms. Clearly, it seems to hold true that the date of borrowing was a crucial aspect which must be borne in mind when analysing the empirical data, since French loans were often adopted independently from one another. However, the role of Romance affixes in English cannot be entirely dismissed, particularly because they typically entailed a shift of stress. This is relevant in so far as stress played a crucial role in ME quantity adjustment. As for the empirical data that is analysed in this paper, it does not contain hybrid forms, but only words borrowed in their integrity from French. Thus, the role of Romance affixes and their impact on ME quantity adjustment cannot be pursued any further here and will therefore require further research elsewhere.

Since stress placement is of great importance when describing ME quantity changes, it is indispensable to consider the typical stress patterns of OF and AN words. The following subchapter will address the question as to how French loanwords were stressed in their language of origin, as well as how the stress pattern was modified once a particular word was borrowed into English.

6.6. Romance stress rule versus Germanic stress rule

In the preliminary step, the stress assignment in OF will be described, since this is the language of origin of the words in question.[2] Focusing on stress assignment on the word level, Walker (1981: 24) explains that OF words bore main stress on the final syllable except if the latter was a schwa. In that case, the penultimate syllable was stressed. To illustrate this rather simple and straightforward rule, consider the OF words *ami* /a'mi/ 'friend m.', *porter* /por'tær/ 'carry' and *fierement* /fjɛrə'mɛnt/ 'fiercely' as well as *portes* /'pɔrtəs/ 'carry', *amie* /a'miə/ 'friend f.' and *trece* /'trɛcə/ 'braid'.

Walker (1981: 24-25) adds that words bearing main stress on the antepenultimate syllable constituted exceptions to this rule. As a consequence, these words were frequently adapted in ME so as to correspond to the general rule by means of dropping one of the post-tonic syllables. Walker lists five words belonging to this category, namely *angele* 'angel', *imagene* 'image', *ordene* 'order', *orfene* 'orphan' and *virgene* 'virgin'. The second group of exceptions is highly diverse in terms of word class and syllable count. These words typically show singular-plural alternations with regard to stress, as can be seen in the following table:

Table 6.5 Singular-plural stress alternations (Walker 1981: 25)

Nom. Sg.	Nom. Pl.	ModE translation
ábes	*abét*	'abbot'
énfes	*enfánt*	'child'
gárs	*garcón*	'boy'
ánte	*antáin*	'aunt'
compáing	*compaignón*	'companion'

According to Walker (1981: 25), the nominative plural form eventually ousted the singular form, since its stress pattern was more predictable. This points to the dominance of the general stress pattern in OF attributing main stress to the right-most syllable containing any vowel other than schwa.

With regard to OE, Lass observes that stress typically "fell on the first syllable of the lexical root, and was withdrawn from all suffixes and most prefixes" (2008: 85). Hence, stress assignment proceeds from left to right, stressing the first non-prefixal

[2] AN will not be discussed separately at this stage, for it is assumed to adhere to the same principles as OF with regard to stress placement.

syllable. However, as the quote already indicates, some prefixes did bear stress. Most of these had unstressed counterparts (e.g. *on-* as the unstressed counterpart of stressed *and-*). Lass explains that "[t]hese stressed prefixes were interpreted as full lexical items, rather than prefixes proper" (Lass 2008: 86). As pointed out by Minkova & Stockwell, the general rule of assigning stress to the left-most root syllable still applies in ModE for words dating back to Anglo-Saxon times, such as *blóssom*, *bódy*, *hóly*, *néver*, *súmmer* and *unpáck* (2009: 189). This type of stress pattern is called Germanic Stress Rule, as opposed to the Romance Stress Rule (Lass 2008: 86) described above. Lass adds that the main characteristic of the Germanic Stress Rule "is its simplicity: it is blind to weight and syllable count, and pays no attention to anything except the location of the first syllable of the root" (2008: 86).

Due to the large influx of loanwords from French during the ME period, these two highly distinct accentual systems, i.e. the Romance and Germanic system, both had an impact on the English language (Lass 2008: 86). Lass claims that "the overriding effect of the [Germanic Stress Rule] weakened" in ME and that loanwords, including those from French, "came to be accented according to the […] [Romance Stress Rule], which is the foundation of the Middle English stress system (as a version of it still is today)" (2008: 87). In his view, this was possible since a large number of words, such as native monosyllabic words, could easily be reconciled with the new stress pattern and thus did not need to be modified in terms of stress contours. Another group of words in which the Germanic and Romance Stress Rule overlapped and yielded the same outcome are prefixed words such as past participles, e.g. *y-seyn* 'seen' and *be-raft* 'bereft' (Lass 2008: 87-88).

For the present purpose, it is more important to consider how loanwords from French were pronounced in ME rather than how native words were adapted to the Romance Stress Rule. Lass is only one out of several researchers providing an answer to the question whether French loanwords were fully adapted to the native Germanic Stress Rule or whether the borrowed items maintained their original stress contour. As shown above, Lass considers a pronunciation according to the Romance Stress Rule more likely. Discussing exceptions to OSL among French loans, Malsch & Fulcher assert that words like *galon* 'gallon', *malard* 'mallard' and *palais* 'palace' were "borrowed into Middle English with the [French] stress pattern partially maintained, having at least secondary stress on the second syllable" (1975: 311). The same argument was put forth by Jespersen (1909: 160-164, cited in Malsch & Fulcher 1975: 311). Luick expresses a similar view, arguing that early loanwords from French bore secondary stress on the syllable which had

been stressed in OF or AN, while the main stress shifted to the left-most root syllable, according to the native pattern (1921: 462).

Berndt (1960: 78) distinguishes between groups of speakers, since the social class was likely to have an impact on the pronunciation of French loans. Hence, he explains that upper-class speakers in England attempted to imitate the original French stress pattern. This is attested in ME literature, for poets exploited the new Romance stress pattern in their works for rhythmical purposes. However, Berndt thinks that the majority of people adapted the loanwords to the native stress patterns, which was surely less unfamiliar and foreign to the lower-class speakers. As a consequence, both forms are likely to have co-existed at a certain stage, i.e. the original French pronunciation reflecting the Romance Stress Rule, as well as the naturalised form adhering to the Germanic Stress Rule. Berndt (1960: 78) points out that there was an intermediate stage in which the first syllable of disyllabic words bore the main stress while the second, etymologically stressed syllable had secondary stress, which is reminiscent of Luick (1921), Malsch & Fulcher (1975) and Jepersen (1909).

These insights are crucial in various different ways. As has been pointed out in the previous chapters, stress placement had a considerable impact on ME quantity adjustment. For example, Luick observes that TRISH could only affect a word once its secondary stress was lost (1921: 392). The co-existence of three forms of a French loanword, i.e. the word with its etymological stress pattern, with the English stress pattern and the intermediate stage with secondary stress might have considerably decreased the likeliness of French loans to be affected by quantity adjustment. Alternatively, once ME quantity changes had affected the ME vocabulary, French loans could theoretically have occurred in two different forms, i.e. with their etymological vowel length in forms with secondary stress, but also with an adjusted vowel length where the stress pattern was naturalised. One of the two forms would then have ousted the other, yielding either an etymological vowel length or an adjusted vowel length in the ModE reflex of the word.

Take the example of *citee* ‘city’, which is mentioned by Lass (2008: 88). He explains that, following the Romance Stress Rule, *citee* bore main stress on the second syllable, similar to *degree*. Yet, it can be noted that the two words did not develop equally, since *degree* is still stressed on the second syllable in ModE, while *citee* has become *city*, which is stressed on the first syllable. Assuming that upper-class speakers retained the original pronunciation for a longer time than lower-class speakers, the word *citee* could not have been affected by OSL in upper-class speech. However, the word form employed by

lower-class speakers, i.e. with initial stress, would not have violated the open-syllable condition.

What seems of importance here is that French loanwords indeed differed from native words, particularly with regard to the stress pattern. Should the empirical research in this study yield results indicating a lower likeliness of French loans to be affected by ME quantity adjustment than native words, this could be related to the different stress patterns which are likely to have co-existed during the Middle Ages.

The discussion on the Romance and Germanic Stress Rule closes the theoretical part of this diploma thesis. In the following, French loanwords will be analysed with regard to ME quantity changes in order to discover whether and to what extent this group of borrowed words was subjected to the native sound changes OSL, HOL, TRISH and SHOCC. The results will be set into relation with the discussion of French loanwords in Chapter 6.

III. EMPIRICAL RESEARCH

7. Method and data

This chapter will sketch the method which has been applied in this study on vowel length adjustment in French loanwords in ME. Additionally, the characteristics of the evaluated data will be outlined.

From a general perspective, this empirical research project will make use of the comparative method, which, according to Lass, is "based on comparison of forms with known or presumed common ancestors" (2008: 27). Lass adds that this approach "is perhaps the most reliable technique" (2008: 27) in historical phonology. However, instead of comparing different languages and their common ancestor to one another, as suggested by Lass, this study will focus on the contrast of two different language stages of the same language, i.e. English.

Ritt (1994) has already undertaken a similar enterprise, namely analysing the processes and effects of ME vowel length adjustment, therefore it seems advisable to adhere to the general guidelines and principles of his research method (see Ritt 1994: 24-27). Following Ritt's approach, I have compiled a list of lexemes which were integrated into the English lexicon at a time when the four sound changes in question modified the English vocabulary. To use Ritt's terminology (1994: 24), these loanwords belong to

"'*pre-quantity-change English*'" [emphasis in the original], i.e. the language stage prior to a modification by ME quantity adjustment. This 'variety' of the English language was then compared to ModE, which is qualified as "*post-quantity-change English*" [emphasis in the original] by Ritt (1994: 24). The comparison of these two 'varieties' is expected to yield insights as to how many and which of the words were affected by the four major sound changes.

Distinguishing between items which remained unchanged and those items which do show the effects of ME quantity adjustment allows one to infer which conditions had to be met so that the vowel length was modified in a French loanword. In the analysis of factors contributing to ME quantity changes, the focus lies on structural-phonological constraints. As Ritt (1994: 24) points out, non-structural constraints, which include speech style, register and the effects of dialect mixture, cannot be taken into consideration in a study of this kind, since a classification of the Modern Standard English reflexes with regard to these features is hardly possible. Contrary to non-structural constraints, the phonological structure of a word "is accessible in a straightforward manner" (Ritt 1994: 24), which makes it more plausible to centre on this feature when analysing French loanwords.

Another aspect which is problematic and will therefore be disregarded in the present research is spelling evidence. Ritt qualifies spelling evidence as "inconclusive" (1994: 10) with respect to vowel quantity; he adds that spelling can only be used for an approximation of the phonemic representation of a word (Ritt 1994: 10). A quick glance into the Oxford English Dictionary shows that the majority of French loanwords occurred in various different spelling variants. This clearly disqualifies spelling as a reliable indicator of vowel length, since any choice of one particular spelling variant would be biased. It follows that a geminate consonant cannot be interpreted as an indicator of vowel shortness, for instance. However, certain features are indeed reflected in the ModE written form of the word, such as the number of syllables or the existence of final schwa in ME. These elements will be taken into consideration to determine whether a lexical item constituted an eligible input to one of the four sound changes.

The data that was analysed was taken from the Oxford English Dictionary (henceforth OED). With the help of the advanced search option, certain criteria could be specified. Since the focus of this study is on French loanwords, only words with French as their language of origin were included in the list. It needs to be added that 'French' as a search option yields words of both OF and AN origin, thus these two Romance varieties are taken into account. However, the empirical analysis will not distinguish between OF

and AN, since these languages share the most important characteristics under scrutiny (see Chapter 6).

Furthermore, another search criterion of the OED allows to specify whether the word entries should be 'obsolete' or 'current'. As it has already been explained, the present research draws on the comparative method, which, in this context, means that ME words are compared to their ModE reflexes. Consequently, the option 'current' was selected so as to include only those words which are still used in ModE.

Moreover, the date of borrowing was defined as ranging from the year 1000 to the year 1300. This choice was not made on a random basis, but was guided by theoretical reflection. Even though the Norman Conquest is often regarded as a clear-cut boundary in the history of English, the fact that certain words were borrowed from French prior to the year 1066 demonstrates that there had already been cultural and linguistic exchanges between Anglo-Saxon and Romance speakers before this historical event. However, the number of loanwords adopted during the first 150 years or so after the turn of the millennium was comparatively low (see Chapter 6). What seems more crucial as a criterion for the list of French loanwords is the year 1300. It needs to be stressed that loanwords from French had to be adopted sufficiently early so as to be affected by ME quantity adjustment, which is due to the fact that these sound changes ceased to operate on the English language at some point. This aspect is also put forth by Minkova, who analyses OSL not only in OE lexemes, but also in native ME words which first appeared "early enough for MEOSL to affect it" (1982: 32-33). Since it is difficult, if not impossible, to determine exactly when sound changes such as OSL stopped modifying the ME vocabulary, the year 1300 was specified as the maximum date of borrowing. No words adopted beyond this year were included in the list that was subsequently analysed. This decision is based on rough guidelines provided by Ritt, who, among others, asserts "that between the ninth and the thirteenth centuries English stressed vowels underwent widespread quantity changes" (1994: 1). Thus, 1300 seems plausible as the year of borrowing until when loanwords could indeed be affected by ME quantity adjustment.

A search with the above criteria in the OED yields 1380 items.[3] In the preliminary step, these lexemes were collected in a list, together with some of their features mentioned in the OED. These include the exact date of borrowing, i.e. the first attested appearance in the English language, the syntactic category, the pronunciation in ModE, the ME spelling

[3] Number of items obtained on 8 February 2016.

variants as well as the word form(s) as attested in OF or AN. Subsequently, the French loanwords were individually classified and grouped, according to the sound changes which could have led to a vowel length modification of the stressed vowel. This classification of Romance lexemes shall now be outlined in somewhat greater detail.

In order to avoid that the obtained research results are distorted by the impact of later sound changes, words containing clusters with postvocalic /r/ in the stressed syllable were categorically excluded.[4] It is well known that non-rhotic varieties of English dropped postvocalic /r/ in Early Modern English (Ritt 1994: 87), which led to a lengthening of the preceding vowel. This process is generally referred to as /r/-vocalisation (Ritt 1994: 87) and must be clearly separated from ME quantity adjustment.

With regard to OSL, it needs to be specified which words were considered as eligible inputs in the present study. Many researchers, including Minkova, contend that OSL only occurred in disyllabic words whose first syllable was stressed. In Minkova's words (1982: 29), "MEOSL affected short stressed vowels in open syllables […] in *disyllabic* words when there was only one intervening consonant between the stressed and the unstressed vowel" [my emphasis]. However, no justification is given as to why the respective word would necessarily have to be disyllabic. The present study will adapt a broader view on OSL in that it also considers polysyllabic words whose penultimate, unchecked syllable is stressed as potential inputs to this sound change, assuming that the existence of pre-tonic syllables did not inhibit OSL. This is in line with Ritt (1997: 251), who argues that "NON-HIGH and STRESSED vowels were lengthened in open syllables, […] only if [they were] followed by exactly ONE more syllable" [emphases in the original]. According to this definition, disyllabicity was not an indispensable requirement for OSL. Therefore, it seems legitimate to include words consisting of more than two syllables in the list, as well.

Concerning HOL, the list of French loanwords compiled for this study corresponds to the conventional definition of this sound change. Hence, all the collected words contain a homorganic consonant cluster, which is either in word-final position or followed directly by a vowel, since a third consonant as part of the cluster would have inhibited HOL. Those words in which a stressed vowel is followed by a consonant cluster containing two homorganic consonants combined with a third consonant, such as /ldʒ/, represent inputs to

[4] N.b.: Words with intervocalic /r/ were not excluded, since this phonetic criterion caused words with stress on the penultimate syllable to be considered as OSL inputs.

a different sound change, i.e. SHOCC. Another characteristic of the words in the HOL list is the fact that the different items are imparisyllabic.

The list of potential TRISH candidates contains words with different syllable counts, as well. The crucial criterion with regard to this sound change is that stress was placed on the antepenultimate syllable. Therefore, quadrisyllabic words also qualified as potential inputs, provided that the second syllable bore main stress. Furthermore, the list of potential TRISH inputs includes quadrisyllabic words bearing initial stress, but whose final syllable was a schwa. As has been pointed out in the theory section, schwa was frequently elided during the ME period. Consequently, quadrisyllabic words with main stress on the first syllable and schwa in the final syllable can be expected to have appeared in trisyllabic form, which, again, would have rendered these words potential TRISH inputs.

The final sound change to be discussed in this paper, SHOCC, did not pose a problem in terms of compiling a list of eligible inputs. All French loanwords containing a consonant cluster of two or more consonants were collected. However, the list does not include words whose bipartite consonant cluster is homorganic, since this might have led to the words being subjected to vowel lengthening in terms of HOL.

After the four lists of potential inputs to OSL, HOL, TRISH and SHOCC had been compiled, a detailed analysis was carried out with regard to different factors which could possibly have triggered or inhibited vowel length adjustment in the respective words.

Concerning OSL, a preliminary distinction was made between words containing high and low vowels, since this factor is generally regarded as crucial (see e.g. the above quote by Ritt 1997: 251). The two separate lists were then analysed in terms of different syntactic categories. The fact that Minkova (1982) conflated all word classes in one general list of OSL inputs was heavily criticised by Lahiri & Dresher, who argued that "an even better understanding of the facts [than that obtained by Minkova] can be achieved by looking systematically at word classes" (1999: 680). The reason why it is necessary to distinguish between verbs, nouns and adjectives, according to Lahiri & Dresher (1999: 680), is that the syntactic categories differ in terms of inflectional paradigms. They assert "that each paradigmatic class behaves differently when exposed to OSL" (1999: 680). The analysis will show whether this holds true or not.

Another factor which was taken into consideration when analysing OSL inputs was the type of post-tonic syllable, since, according to Minkova's reformulation of OSL (1982: 42), only those syllables lengthened consistently, whose post-tonic syllable contained a

schwa and was thus unstable. It will be seen whether Minkova's general claim on OSL applies to French loanwords.

Moreover, the type of intersyllabic and final consonant, if applicable, is expected to have had an impact on OSL and will therefore be evaluated statistically. The categories of intersyllabic consonants include singleton consonants, affricates, as well as several consonant clusters. For instance, intervocalic /st/ is frequently regarded as an ambisyllabic consonant cluster, which means that the open-syllable condition is not violated (see Chapter 5.1.). The same is assumed to be true for /tr/ and /dr/. Thus, words containing these intersyllabic clusters are considered as potential OSL inputs, as well.

HOL will also be analysed with respect to various factors which could possibly have triggered this sound change in French loans. The most straightforward criterion is the type of homorganic consonant cluster. In the list of French loanwords, three types of clusters appear, namely /nd/, /mb/ and /ld/.

Furthermore, it will be investigated whether certain vowels tend to lengthen more consistently than others, as is often said to be the case with OSL (cf. high versus low vowels). The analysis will show whether the same tendencies can be observed in HOL.

Additionally, the type of post-tonic syllable might have had an impact on the implementation of HOL. Consequently, the collected data will be evaluated in this respect. The analysis will distinguish between words with stable second syllables and monosyllabic words. Those words with a stable second syllable will be further differentiated in terms of syllable weight.

As with the other sound changes, vowel quality might well have played a crucial role with regard to TRISH, as well. Hence, this sound change will be analysed according to the different vowel qualities. Furthermore, as with OSL, the data will show which syntactic class was most likely to be affected by TRISH or whether this factor did not have an impact on TRISH.

Another aspect which will be taken into consideration is the number of postvocalic consonants, i.e. the type of coda in stressed syllables. The different types of codas in stressed syllables are empty codas, codas containing one consonant, codas containing two consonants and codas with homorganic clusters. With regard to the latter, the study will show whether TRISH overrode the effects of HOL or *vice versa*.

Additionally, the role of final schwa in trisyllabic words will be analysed so as to determine whether the instability of the final syllable led to the stressed syllable being more likely to shorten or not.

The fourth sound change, SHOCC, will yet again be analysed with regard to vowel quality and its potential impact on the implementation of this sound change. Moreover, the efficacy of different types of consonant clusters as a trigger for SHOCC will be compared to one another. The evaluation will show whether the analysed consonant clusters have differing capacities of triggering shortening.

One of the main aims of this study is to determine whether Romance loanwords that were adopted by English speakers during the ME period were more or less likely to be affected by ME quantity adjustment than native words. Thus, the outcomes of the present research project will be compared to findings by other researchers, e.g. Minkova (1982) and Ritt (1994), who excluded a potential impact of the language of origin on ME quantity changes. The comparison will show whether their claim holds true or whether Romance words behaved differently compared to native words. Should the latter be the case, possible reasons for this phenomenon will be discussed in Chapter 9. Some of the characteristics of French loanwords have already been discussed in Chapter 6 and will be linked to the findings in the research part.

Presently, the results of the scientific research project shall be presented.

8. Results

Before outlining the detailed results of the analysis of quantity adjustment in French loanwords, a preliminary remark needs to be made with regard to etymological vowel length. As has been argued in Part II of this thesis, it is difficult, if not impossible, to determine with which phonemic vowel length loanwords were adopted from French during the ME period (see Chapter 6.3.). Therefore, the lists of potential inputs to the four main sound changes do not exclusively contain words which can be safely said to have had the required vowel length in the first place, i.e. a short vowel for lengthening processes or a long vowel for shortening processes. Instead, it features all the words which correspond to the environment typically triggering the respective sound change, regardless of etymological vowel length in English. Consequently, the term ‘short’ in the tables in Chapter 8 refers to words which have indeed been subjected to shortening, but also to words whose stressed vowel was etymologically short and in which any type of lengthening was inhibited by the effects of SHOCC or TRISH. Likewise, the term ‘long’ means either lengthened in terms of OSL or HOL, or etymologically long. The reason why words are included whose pre-quantity-change vowel length corresponded to the post-

quantity-change vowel length is that these words contributed to the stabilisation of the preferred vowel length patterns and thus to the implementation of quantity adjustment.

8.1. OSL in French loanwords

The presentation of the effects of OSL on French loanwords will be divided into two subchapters. The first will address French loanwords whose stressed vowel is [-high], as this is often regarded as an essential criterion for OSL. The second subchapter will investigate OSL in Romance words with [+high] vowels, i.e. those words, which were traditionally rejected as potential inputs to OSL.

8.1.1. OSL in French loanwords with [-high] stressed vowels

This 'sub-list' contains 265 items in total. The following table shows the distribution of vowels being lengthened by means of OSL and those maintaining vowel shortness in ModE.

Table 8.1 OSL in [-high] French loanwords

	number of items	percentage
long	160	60.4%
short	105	39.6%
total	265	

The data analysed in table 8.1 corresponds to the traditional description of OSL as devised by Luick (1921), including all words whose stressed syllable is unchecked and contains a [-high] vowel. Table 8.1 shows that less than two thirds of eligible OSL inputs from French were lengthened during ME.

Applying Minkova's reformulation of OSL (1982) to the analysis of French loanwords yields strikingly different results. Here the set of data was modified so as to include only those words whose final syllable consists of a schwa and is thus unstable. Altogether, 87 words among the list of French loans correspond to the criteria outlined by Minkova. The distribution is shown in table 8.2 below:

Table 8.2 OSL in [-high] French loanwords according to Minkova's reformulation

	number of items	percentage
long	83	95.4%
short	4	4.6%
total	87	

As can be seen in table 8.2, adhering to the criteria that were established in Minkova's reformulation of MEOSL (1982) entails a significantly higher percentage of words being lengthened than that obtained when following the traditional, broader description of the MEOSL environment. Only four words with a final schwa do not show lengthening in their ModE counterpart, namely *allege*, *lodge* (verb), *lodge* (noun) and *richesse*. It should be added that Minkova would not have considered *allege* and *richesse* as potential inputs to OSL due to the fact that these words are not disyllabic. However, as has been argued before, this criterion is rejected in the present research and therefore the two items are included in the list of [-high] OSL inputs.

Quite contrary to Minkova's approach, this empirical research also investigated how many items with [-high] vowels were affected by lengthening despite the fact that their post-tonic syllable remained stable. The results are shown in table 8.3.

Table 8.3 OSL in [-high] words with a stable post-tonic syllable

	number of items	percentage
long	62	39.7%
short	94	60.3%
total	156	

Table 8.3 clearly indicates that the percentage of OSL in words with a stable post-tonic syllable was considerably lower than the likeliness of OSL to affect words whose final syllable was unstable due to a schwa. These results corroborate Minkova's hypothesis of compensatory lengthening and are, in fact, in favour of her reformulation of MEOSL. However, various other factors can be determined which might have increased or decreased the likeliness of a word being subjected to OSL.

Initially, the role of the syntactic category was subjected to scrutiny, since researchers have put forth the argument that this factor played a role with regard to the implementation of OSL.

Table 8.4 Impact of the syntactic category on OSL in [-high] inputs[5]

syntactic category	vowel length in ModE	number of items	percentage
verbs	long	24	63.2%
	short	14	36.8%
nouns	long	129	59.7%
	short	87	40.3%
adjectives	long	16	50%
	short	16	50%

The above data contradicts Lahiri & Dresher's hypothesis that the syntactic categories behave essentially different with regard to OSL. As can be seen in table 8.4, nouns and verbs show a fairly similar likeliness to be affected by OSL. Only adjectives seem to be slightly less prone to OSL. Overall though, the syntactic category does not appear as a major factor with regard to OSL in [-high] vowels. The same tendencies were observed by Ritt (1994: 35-36), as was pointed out in Chapter 2.3. In his view, the higher percentage of vowel lengthening among verbs is due to the fact that the final syllable of verbs tends to be more often unstable than that of nouns and adjectives.

Another factor which was expected to have had an impact on the implementation of OSL is the quality of the stressed vowel. The following table presents the results which have been obtained in the analysis of OSL according to vowel quality.

Table 8.5 Impact of vowel quality on [-high] OSL inputs

vowel type	vowel length in ModE	number of items	percentage
/a/	long	70	61.9%
	short	43	38.1%
/e/	long	38	54.3%
	short	32	45.7%
/o/	long	28	48.3%
	short	30	51.7%

[5] N.b.: One item may well correspond to two syntactic categories. Therefore, the total of items listed in this table does not correspond to the overall number of [-high] OSL inputs as stated in table 8.1. The classification of syntactic category has been adopted from the OED.

Table 8.5 does not encompass the diphthongs /ai/, /au/, /ei/ and /oi/, since these sounds are diphthongs and therefore all ModE items in question are counted as having long vowels. The reason why these words are nevertheless included in the list of [-high] OSL inputs is the fact that they corresponded to the requirements for this sound change and that words containing a diphthong in the stressed penultimate syllable contributed to the implementation of the preferred foot type that was generated by OSL. To put it differently, these words reinforced the pattern which came to be implemented in the English lexicon by means of OSL.

According to table 8.5, /a/ is the low vowel which was most likely to be lengthened in terms of OSL. As for /o/, not even half of the items were affected by OSL, which is somewhat surprising, for the vowel qualities [-high] and [+back] are often claimed to increase the probability of vowel lengthening (e.g. Ritt 1994: 37).

Moreover, a factor which has been investigated with regard to OSL was the role of the intersyllabic consonant. The list of [-high] Romance OSL inputs contains a fairly wide range of different intersyllabic consonants. These are voiceless plosives (DP), voiced plosives (VP), voiceless fricatives (DF), voiced fricatives (VF), voiceless affricates (DA), voiced affricates (VA), nasals (N), liquids (L), glides (G), /s/ plus voiceless plosive (S+DP), voiceless plosive plus /r/ (DP+R), voiced plosive plus /r/ (VP+R). It has been pointed out previously that all of the consonant clusters can be interpreted as onsets of the post-tonic syllable and hence do not violate the requirements for OSL. The results of the detailed analysis are given in figure 4.

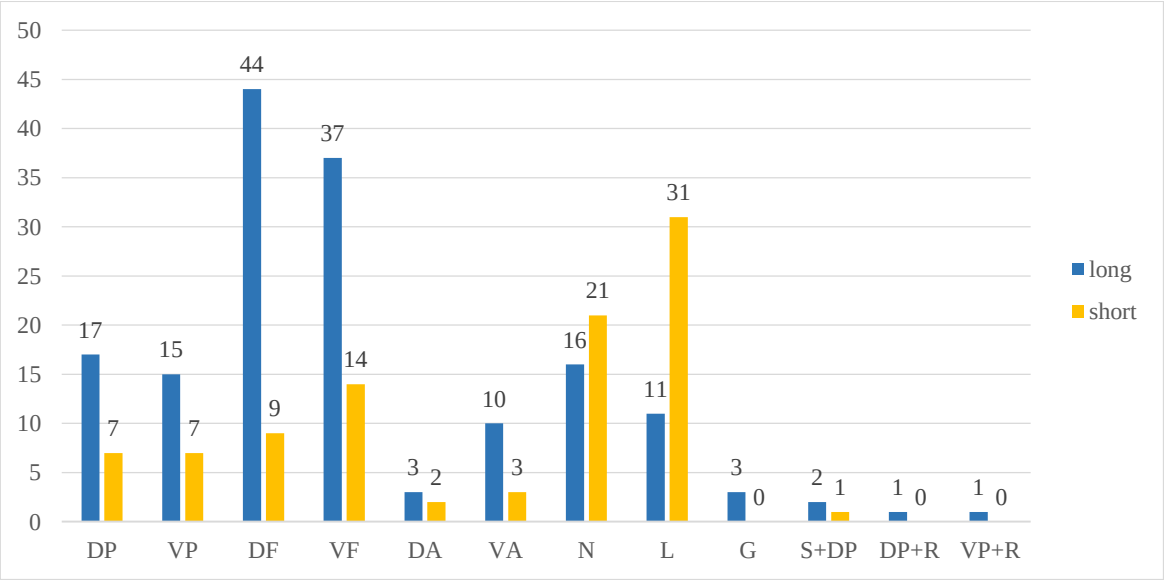

Figure 4 Impact of the intersyllabic consonant on [-high] OSL inputs

Various insights can be deduced from the above table. First of all, voiceless fricatives seem to constitute the intersyllabic consonant which had the highest capacity of triggering vowel lengthening in the preceding syllable. Other consonant types which seemingly had a positive impact on the implementation of OSL are voiceless plosives, voiced fricatives and voiced affricates. Concerning these three types of intersyllabic consonants, more than 70% of potential OSL inputs have a long vowel in ModE. Conversely, nasals and liquids appear to have inhibited OSL, as not even half of the [-high] OSL inputs with a sonorant as intersyllabic consonant were affected by this sound change. These findings support the hypothesis that was made in Chapter 2.3., according to which sonorants tend to be interpreted as coda consonants of the stressed vowel due to their high sonority. Consequently, the syllable would be closed and would therefore violate the requirements for OSL. As for obstruents, these consonants are typically interpreted as onsets of the second syllable, thus, the stressed syllable would remain open and could be affected by OSL.

Glides, voiced plosives plus /r/ and voiceless plosives plus /r/ are not further discussed here, since the overall number of [-high] OSL inputs containing one of these intersyllabic consonants or consonant clusters is too low for the results to be taken at face value.

Not only the intersyllabic consonant, but also the final consonant might have influenced a word's behaviour concerning OSL. It goes without saying that this aspect merely applied to words of the type (C)VCVC and was irrelevant with respect to items corresponding to Minkova's reformulation, i.e. words with final schwa. In order to obtain information about the influence of the final consonant, the list of potential [-high] OSL inputs of the type (C)VCVC was divided into two sub-groups. The final consonant could either be an obstruent, listed as (T) in the table below, or a sonorant, abbreviated as (R). The results of the analysis are summarised in table 8.6.

Table 8.6 Effects of final C on OSL in [-high] inputs

type of final C	vowel length in ModE	number of items	percentage
R	long	65	47.4%
	short	72	52.6%
T	long	3	12%
	short	22	88%

Table 8.6 clearly demonstrates that the final consonant indeed had a considerable impact on OSL. While the vast majority of words containing a final obstruent did not lengthen in terms of OSL, the probability of vowel lengthening was nearly 50% among words with a final sonorant.

Since both the intersyllabic and the final consonant seem to have played a considerable role, these two factors were combined in the analysis so as to gain an even better understanding of this issue. The results are shown in table 8.7.

Table 8.7 Combined impact of intersyllabic and final consonant on OSL

	DP	VP	DF	VF	DA	VA	N	L	G	S+DP	DP+R	VP+R
R	8/22*	12/17	15/21	16/29	1/2	1/1	5/21	2/18	3/3	0/1	1/1	1/1
T	0/3	1/2	0/2	1/2	0/1	n.a.**	0/5	1/10	n.a.	n.a.	n.a.	n.a.

*read: eight out of twenty-two lengthened; **not attested

Due to the fact that only a low number of words with a final obstruent were affected by OSL, the results obtained in the detailed analysis of the combined impact of intersyllabic and final consonant are not particularly revelatory. Table 8.7 seems more interesting with respect to words whose final consonant is a sonorant. As is apparent in the above table, the combinations of intersyllabic sonorant (i.e. ‘N’ and ‘L’) plus final sonorant typically led to the word remaining unaffected by OSL. Only a very limited number of words corresponding to these criteria were subjected to this sound change. Words featuring other combinations of intersyllabic and final consonants, such as an intersyllabic voiced plosive or voiceless fricative together with a final sonorant, were more prone to vowel lengthening. Nevertheless, there is no combination of intersyllabic and final consonant that stands out in terms of a high vowel lengthening probability.

The following subchapter will address the same issues with regard to OSL in [+high] vowels. Stressed syllables containing these vowels were traditionally excluded from OSL. However, as the next subchapter will show, this exclusion might not be justified, since a fairly large number of words containing a [+high] vowel seem to have been affected by OSL, as well.

8.1.2. OSL in French loanwords with [+high] stressed vowels

The 'sub-list' of OSL inputs with [+high] stressed vowels is somewhat smaller than that of inputs with [-high] vowels. Altogether 138 Romance loanwords with [+high] vowels qualify as OSL inputs. The overall results of the vowel length analysis of ModE counterparts is given in table 8.8.

Table 8.8 OSL in [+high] French loanwords

	number of items	percentage
long	72	52.2%
short	66	47.8%
total	138	

When comparing these results to those obtained in the analysis of Romance loans with [-high] vowels, it can be seen that words with a [+high] stressed vowel were indeed less likely to be affected by OSL, i.e. 52.2% of these words were lengthened, as opposed to 60.4% of words with [+high] vowels. Nevertheless, the percentage of lengthening among [+high] words is not so small as to reject this group of words as potential OSL inputs altogether.

As with [-high] stressed vowels, words with [+high] vowels were analysed from the perspective of Minkova's reformulation of MEOSL (1982). Overall, 57 words among the list of [+high] OSL inputs correspond to the structure (C)VCə#. According to Minkova, these items were most likely to be affected by MEOSL. The results are shown in table 8.9.

Table 8.9 OSL in [+high] French loanwords according to Minkova's reformulation

	number of items	percentage
long	56	98.2%
short	1	1.8%
total	57	

Once more, Minkova's predictions regarding the implementation of OSL are supported by empirical data. It is somewhat surprising, though, that the probability of vowel lengthening, when applying Minkova's reformulation, is even higher among [+high] vowels (98.2%) than among [-high] vowels (95.4%; see table 8.2 above). This casts doubt on the oft-repeated claim that vowel height is generally inversely proportional to vowel lengthening.

The subsequent analysis focused on words which were explicitly excluded from OSL by Minkova's reformulation, i.e. words with a stable post-tonic syllable. Among the 'sub-list' of Romance loanwords with [+high] vowels, 66 items correspond to this foot type. The following table provides the results of the analysis.

Table 8.10 OSL in [+high] words with a stable post-tonic syllable

	number of items	percentage
long	12	18.2%
short	54	81.8%
total	66	

These results, together with those presented in table 8.9, speak in favour of considering OSL as a type of compensatory lengthening, since words with a stable post-tonic syllable were barely affected by OSL. Therefore, it seems legitimate to assume a connection between the instability of the final syllable and the probability of vowel lengthening in the stressed syllable. Besides, it is noteworthy that the percentage of vowel lengthening in words with [+high] vowels and a stable post-tonic syllable is considerably lower than that regarding the same group of words with [-high] vowels (i.e. 39.7%; see table 8.3). It appears that among words with stable post-tonic syllables, vowel height did correlate with the likeliness of vowel lengthening.

In order to obtain a clearer picture regarding the effect of vowel quality on the implementation of OSL in French loanwords, the items included in the 'sub-list' of [+high]

vowels were subjected to a detailed analysis focusing on this issue. Subsequently, the outcomes were compared to the results of lengthening in [-high] vowels. Table 8.11 presents the findings with respect to [+high] vowels.

Table 8.11 Impact of vowel quality on [+high] OSL inputs

vowel type	vowel length in ModE	number of items	percentage
/i/	long	38	50.7%
	short	37	49.3%
/u/	long	34	54%
	short	29	46%

When comparing these results to the analysis of [-high] vowels, it can be determined that the overall likeliness of OSL to affect a [+high] vowel, i.e. /i/ or /u/, was similar to that of the [-high] vowels /o/ and /e/ (48.3% and 54.3% respectively; see table 8.5). In fact, the only low vowel that was lengthened more consistently than [+high] vowels was /a/, as 61.9% of words containing /a/ were affected by OSL. Hence, it cannot generally be claimed with regard to OSL in French loanwords that vowel height was inversely proportional to vowel lengthening.

As with OSL in [-high] vowels, the impact of the syntactic category was another aspect analysed with regard to [+high] OSL inputs. The results are given in table 8.12.

Table 8.12 Impact of syntactic category on [+high] OSL inputs[6]

syntactic category	vowel length in ModE	number of items	percentage
verbs	long	16	59.3%
	short	11	40.7%
nouns	long	53	50%
	short	53	50%
adjectives	long	7	36.8%
	short	12	63.2%

These results reflect the same tendencies as those that could be observed in the analysis of [-high] OSL inputs, i.e. verbs were most likely to be affected by OSL, followed by nouns and, finally, adjectives were least likely to be subjected to OSL. Nevertheless, the discrepancy between the syntactic categories is greater with respect to [+high] OSL inputs. Moreover, it is striking that approximately only one third of all adjectives containing a [+high] vowel were affected by OSL.

The type of intersyllabic consonant was the next aspect that was analysed with regard to [+high] inputs to OSL. The abbreviations used in figure 5 are the same as those employed in figure 4 above in the analysis of [-high] OSL inputs.

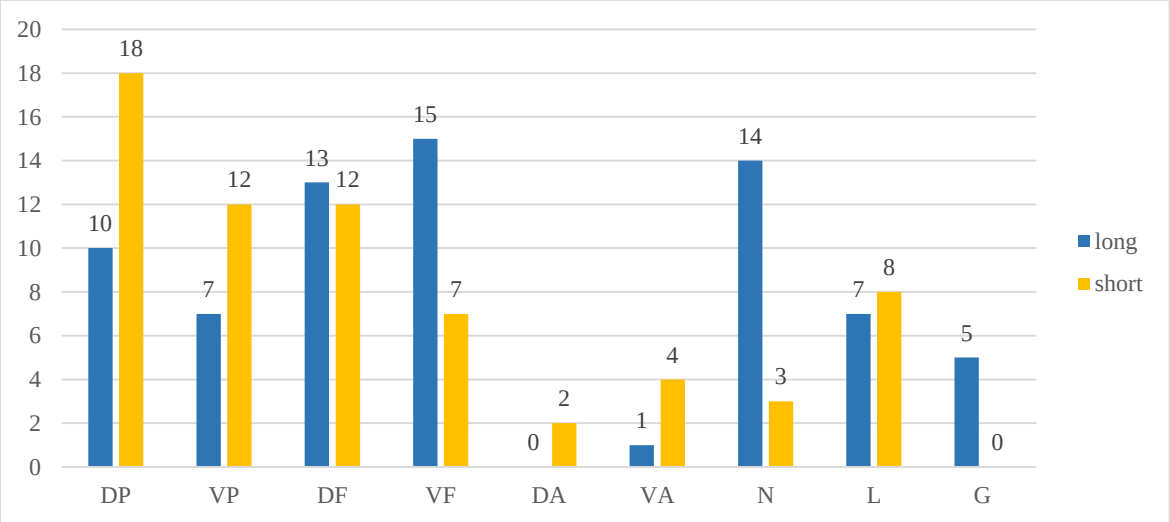

Figure 5 Impact of the intersyllabic consonant on [+high] OSL inputs

[6] N.b.: One item may well correspond to two syntactic categories. Therefore, the total of items listed in this table does not correspond to the overall number of [+high] OSL inputs as stated in table 8.8. The classification of syntactic category has been adopted from the OED.

It was argued above that the overall outcome of OSL in words with [+high] and [-high] vowels was fairly similar. Yet, OSL in words with [+high] vowels seems to have been governed by different factors than OSL in words with [-high] vowels. This becomes evident when comparing the above figure to figure 4, which provided the results of the analysis regarding the impact of intersyllabic consonants on OSL in [-high] inputs. While voiceless and voiced plosives as intersyllabic consonants were likely to trigger vowel lengthening in [-high] vowels, for example, these consonants rather had an inhibiting effect on vowel lengthening in [+high] vowels. As for nasals and liquids, the percentage of words being affected by OSL is considerably higher among [+high] than among [-high] Romance OSL inputs. This contradicts the hypothesis discussed in Chapter 8.1.1. To summarise, it seems reasonable to differentiate between [+high] and [-high] vowels in a detailed analysis of factors influencing OSL.

In the subsequent step, the effect of the final consonant on OSL in [+high] words of the type (C)VCVC was analysed. The results are given in table 8.13 below.

Table 8.13 Effects of final C on OSL in [+high] inputs

type of final C	vowel length in ModE	number of items	percentage
R	long	11	19.6%
	short	45	80.4%
T	long	3	20%
	short	12	80%

With regard to obstruents in coda position of the final syllable, the analysis of [-high] and [+high] OSL inputs yields fairly similar results. It can thus be argued that final obstruents generally had an inhibiting effect on the implementation of OSL. Concerning sonorants in coda position of the final syllable, the outcomes of OSL are somewhat different when comparing [-high] and [+high] inputs. Nearly half of the words of the former group were affected by OSL, whereas only about one fifth of the latter were subjected to this sound change. Again, some of the factors involved in OSL seem to have had a different effect on words with [-high] and [+high] stressed vowels.

Once more, as with [-high] OSL inputs, the combined effect of intersyllabic and final consonants on OSL was investigated. The results are provided in table 8.14.

Table 8.14 Impact of intersyllabic and final consonant on OSL

	DP	VP	DF	VF	DA	VA	N	L	G
R	0/12*	2/11	1/9	2/7	0/2	0/2	2/5	0/4	4/4
T	0/2	2/3	0/4	0/1	n.a.**	0/1	1/1	0/3	n.a.

*read: zero out of twelve lengthened; **not attested

Since the number of items with final obstruents is fairly low, it seems inappropriate to draw general conclusions regarding the combined effects of the respective intersyllabic consonants and the final obstruent.

With respect to words containing a final sonorant, it can be observed that this characteristic, combined with an intersyllabic glide, led to the word being particularly prone to vowel lengthening. The same applies for [-high] OSL inputs (see table 8.7). Other intersyllabic consonant clusters which partly triggered OSL, albeit to a fairly low extent, are voiced plosives, voiced and voiceless fricatives, as well as nasals. Words whose intersyllabic consonant was a voiceless plosive, a voiced or voiceless affricate or a liquid resisted OSL. Slight differences can be observed between inputs with [-high] and [+high] vowels. For example, voiceless plosives as intersyllabic and sonorants as final consonants did not consistently inhibit OSL in [-high] vowels, as 8 out of 22 words surface with a long vowel in ModE, as opposed to 0 out of 12 [+high] inputs corresponding to these criteria. However, it is difficult to draw general conclusions from the empirical evidence here, since the data is scarce.

To conclude this subchapter, it can be said that [+high] vowels in French loanwords were in fact subjected to OSL to a similar extent as [-high] vowels, contrary to what researchers such as Luick (1921) affirm. Consequently, OSL inputs with [+high] vowels should not be excluded from an analysis of OSL. Instead, as has been pointed out above, the sound change seems to have been influenced by different factors, depending on whether the stressed vowel was [-high] or [+high]. Thus, it is advisable to consider the two types of OSL inputs separately from one another, similar to the approach in this chapter.

The next subchapter will address the second type of vowel lengthening which modified the English lexicon during the Middle Ages. The results of the analysis of HOL in Romance loanwords will be discussed so as to determine which factors had a positive or negative impact on the implementation of this sound change.

8.2. HOL in French loanwords

The list of potential inputs to HOL is fairly small, particularly when compared to the other sound changes under scrutiny in this paper. Altogether only 34 Romance loanwords correspond to the environment which potentially triggers HOL. Furthermore, it should be mentioned explicitly that HOL is a comparatively older sound change than OSL (Ritt 1994: 82, Luick 1921: 243). Therefore, words which were borrowed from French during the early ME period, i.e. between 1000 and 1300, might not have been affected by HOL, since this sound change could have already been ineffective by this time. Nevertheless, a sample of data has been collected and analysed so as to contribute to the discussion in the field by providing additional empirical evidence. Yet, all the conclusions drawn at this stage are tentative and one should be wary of placing undue reliance on them.

The overall results of the analysis of HOL inputs is given in table 8.15 below; it shows the number of items being lengthened during ME and the number of those words resisting the effects of HOL.

Table 8.15 Effects of HOL on French loanwords

	number of items	percentage
long	13	38.2%
short	21	61.8%
total	34	

It can be seen in table 8.15 that the number of Romance HOL inputs with a short vowel in ModE is higher than the number of items with a ModE long vowel. This preliminary finding casts doubt on whether HOL was still a fully effective sound change during the early ME period. However, since at least a limited number of words does surface with a long vowel in ModE, it seems reasonable to pursue the question as to the factors influencing the implementation of this sound change.

To obtain more detailed information about the factors triggering HOL, the data was analysed in terms of the effect of vowel quality on this sound change. As table 8.16 shows, the collected data points to a difference in behaviour depending on vowel quality.

Table 8.16 Effects of vowel quality on HOL

vowel type	vowel length in ModE	number of items	percentage
/a/	long	3	42.9%
	short	4	57.1%
/o/	long	1	33.3%
	short	2	66.7%
/u/	long	9	75%
	short	3	25%
/e/	long	0	0%
	short	10	100%
/i/	long	0	0%
	short	2	100%

The most striking finding with regard to vowel quality seems to be that /u/ shows a fairly high tendency to get lengthened in terms of HOL. As for [-back] mid and high vowels, no item appears with a long vowel in ModE. This can be related to the comparatively shorter phonetic vowel length of /e/ and /i/. It is somewhat surprising that the [-high] vowel /a/ surfaces more often as a short than as a long vowel in ModE. Since /a/ has a longer phonetic duration than mid and high vowels, it could have been expected to be lengthened more consistently. Once more, it should be added that the number of samples is limited, therefore it is probably inappropriate to draw general conclusions.

The stability and weight of the post-tonic syllable is another feature which might have influenced the implementation of HOL. A preliminary distinction was made between words with a post-tonic syllable and those whose stressed syllable was word-final (including monosyllabic words). With regard to the latter, the following results have been obtained:

Table 8.17 HOL in word-final stressed syllables

	number of items	percentage
long	11	73.3%
short	4	26.7%
total	15	

As can be seen above, approximately three quarters of vowels in a final stressed syllable (or in monosyllables) were affected by HOL. This behaviour is strikingly different from that of words with post-tonic syllables:

Table 8.18 HOL in stressed penultimate syllables

	number of items	percentage
long	2	10.5%
short	17	89.5%
total	19	

It follows that the likeliness of stressed vowels to be affected by HOL considerably reduces if the word contains a post-tonic syllable.

In order to gain an even better understanding of this phenomenon, the words in table 8.18 were further distinguished in terms of syllable weight, i.e. the number of moras in the post-tonic syllable. The results are shown below.

Table 8.19 Effect of moras in post-tonic syllables

moras in post-tonic syllable	vowel length in ModE	number of items	percentage
2 moras	long	2	11.8%
	short	15	88.2%
3 moras	long	0	0%
	short	2	100%

The data in table 8.19 is again somewhat problematic due to the low number of samples. Nevertheless, the assumption seems to be borne out that the likeliness of lengthening decreases with an increasing number of moras in the post-tonic syllable. If one assumes that the lack of a post-tonic syllable represents the minimal post-tonic syllable weight[7], i.e. 0 moras, it appears legitimate to argue that the weight of the post-tonic syllable is inversely proportional to the probability of lengthening of the stressed vowel in terms of HOL.

Another criterion that has been investigated is the type of homorganic consonant cluster, since it can be assumed that some clusters trigger lengthening more consistently

[7] This argument was used by Ritt (1997: 257) in the context of OSL and Closed Syllable Lengthening.

than others. It has already been pointed out that clusters initiating with /r/ were excluded from the analysis due to the potential lengthening effects of /r/-vocalisation in non-rhotic varieties. Hence, clusters such as /rd/, /rz/, /rð/, /rn/ and /rl/, which are listed by other researchers, including Ritt (1994: 87), are not taken into consideration here. The remaining homorganic consonant clusters to be found in Romance loanwords are /mb/, /nd/ and /ld/. The analysis of these clusters has yielded the following results:

Table 8.20 HOL according to the type of homorganic cluster

cluster	vowel length	number of items	percentage
/nd/	long	8	38.1%
	short	13	61.9%
/mb/	long	3	33.3%
	short	6	66.7%
/ld/	long	2	50%
	short	2	50%

It is difficult to deduce any general claims or observations from the above findings, since the results are similar for /nd/ and /mb/ clusters. As for /ld/, it only appears in 4 items in total, thus the data is not particularly revelatory. While /ld/ clusters seem to trigger HOL more often than /nd/ and /mb/, they still do not cause HOL to modify vowel quantity consistently. This contradicts Minkova & Stockwell's hypothesis (1992) that /ld/ is the only genuine trigger for HOL (see Chapter 3.2.). Yet, based on Minkova & Stockwell's line of reasoning, it might be argued that /ld/ in French loanwords was adapted to the native sound system, yielding dark /l/ in postvocalic position, which would then trigger HOL, at least to a certain extent. Generally speaking, the assumption that consonant clusters behave differently cannot be satisfactorily answered at this stage due to the low number items.

In order to obtain a better understanding of HOL, the two factors vowel length and consonant cluster have been combined in the following table, similar to Ritt's approach (1994: 87), since the analysis of consonant clusters on its own did not yield useful insights.

Table 8.21 Combined effects of the type of consonant cluster and vowel quality

	/nd/	/mb/	/ld/
/a/	0/4*	2/2	1/1
/o/	0/1	1/1	0/1
/u/	8/9	0/2	1/1
/e/	0/6	0/3	0/1
/i/	0/1	0/1	n.a.**

*read: zero out of four lengthened; **not attested

According to the above data, it seems that the combination /u/ plus /nd/ was particularly prone to be affected by HOL, as nearly all of these items have a long vowel in ModE. Concerning /a/, it appears as though the consonant cluster /nd/ inhibited lengthening, while /mb/ and /ld/ were likely to trigger HOL. Comparing these findings to Ritt's results (1994: 87) obtained in the analysis of words of various etymological origins, certain similarities but also disparities can be observed. Both analyses point to the high probability of /u/ to lengthen when followed by /nd/. However, as for /a/, it was most likely to lengthen before /ld/ according to Ritt's data. This differs from the above findings regarding Romance loanwords. Consequently, it might be advisable to distinguish between words with a different language of origin when discussing the constraints and effects of HOL.

In the following subchapter, the results of the analysis of TRISH in Romance loanwords shall be presented.

8.3. TRISH in French loanwords

The list of potential TRISH inputs is fairly extensive, comprising 231 items in total. This is in stark contrast to OE, which generally lacked trisyllabic words constituting eligible inputs to this sound change (see Chapter 4.3.).

It has already been pointed out before that the list of Romance TRISH inputs also includes quadrisyllabic words with stress on the second syllable or with word-initial stress and a final schwa. The latter type of words represent potential inputs to TRISH once schwa has been dropped, which is likely to have occurred during the course of the ME period. The general results of the vowel length analysis among TRISH candidates is provided in table 8.22 below.

Table 8.22 Effects of TRISH on French loans

	number of items	percentage
short	189	81.8%
long	42	18.2%
total	231	

Table 8.22 clearly shows that the majority of Romance TRISH inputs surfaces with a short vowel in ModE. Still, approximately one fifth of eligible inputs have preserved their long vowel. This raw data requires further differentiation, since words of a different syllable count have been included. In order to determine whether this factor had an impact on the implementation of TRISH, the list of words has been analysed accordingly, as can be seen in table 8.23. Three different types of words have been taken into consideration, namely (A) trisyllabic words with initial stress as well as quadrisyllabic words with stress on the second syllable, both lacking final schwa, (B) trisyllabic words with final schwa and (C) quadrisyllabic words with initial stress and final schwa.

Table 8.23 Detailed analysis of TRISH according to type of word

type of word	vowel length in ModE	number of items	percentage
type (A)	short	116	81.7%
	long	26	18.3%
type (B)	short	52	82.5%
	long	11	17.5%
type (C)	short	21	80.8%
	long	5	19.2%

Table 8.23 proves that all three types of words have indeed been affected by TRISH. Moreover, it is striking that this sound change occurred to a similar extent in the three sub-groups. Hence, this factor can safely be considered as having no impact on the implementation of TRISH on French loanwords.

The first analysis parameter that shall be presented with regard to TRISH is the effect of vowel quality. The findings of the analysis are summarised in table 8.24.

Table 8.24 Impact of vowel quality on TRISH

vowel type	vowel length in ModE	number of items	percentage
/a/	short	55	87.3%
	long	8	12.7%
/o/	short	35	87.5%
	long	5	12.5%
/u/	short	10	45.5%
	long	12	54.5%
/e/	short	49	90.7%
	long	5	9.3%
/i/	short	40	80%
	long	10	20%

Several interesting insights can be deduced from table 8.24. The [-high] vowels /a/, /o/ and /e/ in French loans were likely to be affected by TRISH during ME, since approximately 90% of all TRISH inputs containing one of these vowels surface with a short vowel in ModE. Contrary to what might have been assumed prior to the analysis, the [+high] vowels /i/ and /u/ were less consistently affected by TRISH. This is all the more surprising, since [+high] vowels are phonetically shorter than [-high] vowels, as has been explained in Chapter 2.2. The sound /u/ behaves particularly oddly, as more than half of the ModE counterparts contain a long vowel, thus shortening in terms of TRISH was frequently inhibited in words with /u/. These results obtained in the analysis of French loanwords contradict the assumption postulated by Ritt (1994: 95), according to which "[t]he probability of vowel shortening was **proportional** to […] its height" [emphasis in the original], meaning that the higher the vowel, the more likely it was to be affected by TRISH. The reason for this unexpected behaviour cannot fully be determined at this stage and would require further research. Suffice it to say that this phenomenon might constitute a particularity of French loanwords.

The diphthongs /ei/ and /ɔi/ are found in one item of the list each, namely in *voyage* and *seigniory*/*seignory*. As /ei/ and /ɔi/ are diphthongs, they are *per definitionem* phonemically long, hence they resisted shortening and preserve their diphthong quality in ModE.

Another analysis criterion which has been applied in the present research on TRISH is the potential effect of the syntactic category on the shortening probability. A reason why this aspect was evaluated in the present research is that Minkova (1982) has been criticised for not having taken this aspect into consideration when proposing a reformulation of MEOSL. Hence it seems necessary to determine whether this factor had an impact on the implementation of TRISH, as well. The analysis has yielded the following results:

Table 8.25 Impact of syntactic category on TRISH[8]

syntactic category	vowel length in ModE	number of items	percentage
verbs	short	8	100%
	long	0	0%
nouns	short	173	82.4%
	long	37	17.6%
adjectives	short	25	75.8%
	long	8	24.2%

The data in table 8.25 should be approached with caution, since only a very limited number of trisyllabic verbs have been attested among French loanwords borrowed between 1000 and 1300. Consequently, it might be inappropriate to deduce general claims regarding the effect of the syntactic category. Nevertheless, it seems that the likeliness of vowels to be shortened in adjectives was only slightly lower than that of vowel shortening in nouns. Both percentages oscillate around the overall shortening probability presented in table 8.22 above.

Furthermore, the effects of TRISH have been analysed with regard to the consonant cluster following the stressed, antepenultimate syllable. It was expected that the number of postvocalic consonants is proportional to the likeliness of vowel shortening. In other words, syllable weight is assumed to correlate with the probability of vowel shortening (Ritt 1994: 95). The results are outlined in table 8.26.

[8] N.b.: One item may well correspond to two syntactic categories. Therefore, the total of items listed in this table does not correspond to the overall number of TRISH inputs as stated in table 8.22. The classification of syntactic category has been adopted from the OED.

Table 8.26 Effect of postvocalic consonants on TRISH

postvocalic C(s)	vowel length in ModE	number of items	percentage
2 or more Cs	short	49	86.0%
	long	8	14.0%
1 C	short	138	85.2%
	long	24	14.8%
Homorganic Cluster	short	2	66.7%
	long	1	33.3%
0 Cs	short	0	0%
	long	9	100%

The aforementioned expectation regarding the impact of postvocalic consonants on TRISH is borne out to a certain extent by the data. Indeed, stressed vowels being followed by two or more consonants were most consistently affected by TRISH. The percentage of vowel shortening with one postvocalic consonant is only slightly lower, though. Homorganic clusters seem less prone to trigger shortening in immediately preceding vowels in antepenultimate syllables, which might be due to the fact that homorganic clusters tend to trigger vowel lengthening in other foot types (see HOL). Finally, vowels that are not followed by any consonants are generally referred to as vowels in hiatus position. As can be seen above, shortening was not attested in any of these words; therefore, hiatus might represent a special case. According to Berndt (1960: 95), vowels in hiatus position in Romance loanwords were typically lengthened under the influence of the English language. His list of examples implies that this holds true for trisyllabic words, as well. Thus, the words referred to by '0 Cs' in table 8.26 behave regularly and might even be rejected as potential inputs to TRISH altogether.

So far, it can be deduced from the empirical data that TRISH seems to have been a genuine sound change, at least with respect to loanwords from French, which were fairly consistently affected by shortening in a stressed antepenultimate syllable. This contradicts the hypotheses of several researchers, who question the status of TRISH as a sound change in its own right (see Chapter 4.3). However, there appears to be a major difference between native vocabulary and Romance lexemes. As has been pointed out by various researchers, potential inputs to TRISH among native words are extremely scarce. Yet, the situation is strikingly different when considering the lexicon borrowed from French during the ME

period. Here a large number of lexemes, altogether 231 items, qualify as inputs to TRISH. Therefore, one can safely regard TRISH as a sound change with a large amount of input among French loanwords. Moreover, it seems advisable to treat French loanwords and native words separately with regard to TRISH, since the initial situations differ clearly.

The following subchapter shall address the effect of SHOCC on French loanwords which were adopted between 1000 and 1300. Regarding the data about the two shortening processes discussed in this paper, several TRISH inputs were also listed as SHOCC inputs, where appropriate. As a matter of fact, a number of items correspond to the requirements of both sound changes, i.e. when a stressed vowel in an antepenultimate syllable is followed by more than one consonant. For instance, the word *principal* could have been affected by both TRISH and SHOCC.

8.4. SHOCC in French loanwords

This chapter will present the findings concerning the effects of SHOCC on French loanwords. The overall number of potential inputs to SHOCC among Romance words is 74. The vowel length adjustment in terms of SHOCC as attested in the ModE counterparts is summarised in the following table:

Table 8.27 SHOCC in French loanwords

	number of items	percentage
short	60	81.1%
long	14	18.9%
total	74	

It can be said that Romance loanwords showed a relatively high tendency to be affected by SHOCC, since the majority of ModE reflexes of ME vowels are short.

In order to obtain a better understanding of the factors having an impact on the implementation of SHOCC, the list of SHOCC inputs was analysed with regard to vowel quality. Table 8.28 presents the results of this analysis:

Table 8.28 Impact of vowel quality on SHOCC

vowel type	vowel length in ModE	number of items	percentage
/a/	short	19	76%
	long	6	24%
/o/	short	7	77.8%
	long	2	22.2%
/u/	short	8	72.7%
	long	3	27.3%
/e/	short	14	100%
	long	0	0%
/i/	short	12	92.3%
	long	1	7.7%

At this stage, it should probably be mentioned that the data concerning SHOCC needs to be treated with caution due to the relatively low number of items. Nevertheless, some patterns seem to emerge concerning the impact of vowel quality. While approximately one fourth of [+back] and [+low] vowels have resisted the effects of SHOCC, not even a tenth of [-back] [-low] vowels did so. Hence, the general tendency appears to be confirmed that /i/ and /e/ as [-back] [-low] vowels are preferably phonemically short. Moreover, Ritt's (1994: 95-96) assumption about shortenings in ME, i.e. that "[t]he probability of vowel shortening was **proportional** to […] its height […] and **inversely proportional** to its backness" [emphases in the original], seems to be borne out with respect to SHOCC. This, in turn, can be related to the comparatively shorter phonetic vowel length of /i/ and /e/ (see Chapter 2.2.).

Similar to the analysis of vowel quality on TRISH, two types of vowels were not listed in table 8.28, namely /ei/ and /ɔi/, due to the fact that these are diphthongs and are therefore inevitably long. The two items containing these vowels are *ointment* and *seigniory*/*seignory*.

The next aspect that has been investigated is the type of postvocalic consonant cluster. The expectation here is that different consonant clusters have different shortening capacities, i.e. certain clusters are more likely to trigger SHOCC than others. In order to determine if this holds true, the individual segments of the consonant clusters were labelled and classified into the following categories: voiceless stop (P), voiced stop (B), fricative

(F), affricate (A), nasal (N), liquid (L), i.e. /l/ and /r/, as well as glide (G), i.e. /w/ and /j/. Due to the large number of possible combinations and, accordingly, the low number of items of each individual cluster, the data was grouped in terms of the first consonantal element of the postvocalic cluster. The results of the analysis are outlined in the following table:

Table 8.29 Effects of consonant clusters on SHOCC

initial consonant in cluster	vowel length in ModE	number of items	percentage
nasal: NA, NBG, NBL, NF NFPL, NG, NN, NP, NPG, NPL, NPN	short	28	75.7%
	long	9	24.3%
liquid: LBG, LBL, LP	short	3	75%
	long	1	25%
fricative: FF, FN, FP, FPL	short	12	85.7%
	long	2	14.3%
voiced plosive: BF, BFP, BL, BN	short	7	87.5%
	long	1	22.5%
voiceless plosive: PF, PG, PL, PP	short	10	90.9%
	long	1	9.1%

Yet again, when interpreting the above findings, care needs to be taken not to overestimate the general validity of the patterns which seem to emerge. This is due to the limited number of items, which make general claims questionable. Notwithstanding, the results point to slight differences between the different groups of consonant clusters regarding their effect on vowel shortening. The lowest percentage of words being affected by SHOCC is found among the consonant clusters beginning with a nasal and a liquid. This does not come as a surprise, since liquids and nasals are the consonants with the highest degree of sonority (Riad 1992: 25). Therefore, the preceding vowel might appear phonetically longer than one which is followed by a voiceless plosive, for example. The latter consonant as the first element of a cluster indeed has, as indicated by the data, a

higher capacity of triggering SHOCC, with more than 90% of ModE reflexes having a short vowel.

Overall, it can be said that all consonant clusters are relatively effective in causing SHOCC, for each group of clusters is preceded by a short vowel in at least 75% of ModE equivalents.

Another criterion that has been investigated is the potential impact of the number of consonants forming a consonant cluster. Hence, a distinction was made between consonant clusters consisting of two, three and four consonants. It was expected that a higher number of postvocalic consonants leads to a higher percentage of SHOCC. Table 8.30 shows the results obtained in the analysis of French loanwords.

Table 8.30 Effect of the number of postvocalic consonants

number of Cs	vowel length in ModE	number of items	percentage
2 Cs	short	47	81%
	long	11	19%
3 Cs	short	11	78.6%
	long	3	21.4%
4 Cs	short	2	100%
	long	0	0%

This data set is particularly difficult to interpret, as an increase in the number of consonants does not seem to correlate with an augmentation of the probability of SHOCC to affect a long vowel. The fact that long vowels were least likely to be shortened if followed by three consonants is somewhat disturbing and confusing. A lack of a sufficient amount of data could be the reason for this unexpected outcome. Thus, the present research cannot provide a satisfactory explanation for the potential impact of the number of consonants in a cluster on the implementation of SHOCC.

When discussing SHOCC and the effects of postvocalic consonants, it might also be important to consider whether the respective consonant cluster was tautosyllabic or whether it contained a syllable boundary, meaning that only one or two consonants of the cluster constituted the coda of the stressed syllable. An investigation into this factor has been carried out and has yielded the following results:

Table 8.31 Boundaries in consonant clusters and the effect on SHOCC

	vowel length in ModE	number of items	percentage
clusters with boundaries	short	44	78.6%
	long	12	21.4%
clusters without boundaries	short	16	88.9%
	long	2	11.1%

Table 8.31 suggests that vowels were more likely to shorten if the postvocalic consonant cluster was tautosyllabic rather than divided into two parts, forming the coda of the stressed and the onset of the post-tonic syllable. The phenomenon can be explained in terms of syllable weight, i.e. each tautosyllabic consonant accounted for a mora and thus contributed to the weight of the stressed syllable. In order to avoid excessive syllable weight, the vowel might have been affected by shortening in terms of SHOCC.

Moving away from the phonological level and looking at the foot level, it seems worth considering the effect of the number of post-tonic syllables on the implementation of SHOCC. According to Ritt (1994: 95), "[t]he probability of vowel shortening was **proportional** to […] the overall weight of the weak syllables in the foot" [emphasis in the original], which was tested against the data on French loanwords. The results are summarised in table 8.32.

Table 8.32 Impact of post-tonic syllables on SHOCC

number of post-tonic syllables	vowel length in ModE	number of items	percentage
0[9]	short	3	75%
	long	1	25%
1	short	8	53.3%
	long	7	46.7%
2	short	42	89.4%
	long	5	10.6%
3	short	8	100%
	long	0	0%

[9] This refers to monosyllabic words.

The results in table 8.32 only partly corroborate Ritt's assumption regarding the number of post-tonic syllables. Although the categories 0, 2 and 3 post-tonic syllables show a clear increase in terms of vowels being affected by SHOCC, the category '1 post-tonic syllable' constitutes a major outlier which cannot simply be ignored. Two explanations could be conceived for this empirical evidence. Either Ritt's hypothesis does not apply to French loanwords treated in isolation from native vocabulary, or the low number of items is the reason why words whose stressed syllable is followed by only one unstressed syllable have a low probability of being affected by SHOCC. This issue cannot be definitely resolved at this stage.

As the presentation of SHOCC in French loanwords has shown, this sound change seems to have been remained operative in the ME period, contrary to what has been argued by researchers such as Minkova & Stockwell (1998: 225), as pointed out in Chapter 5.2. Like the other sound changes presented in this paper, SHOCC had a considerable impact on the lexicon borrowed from French at the time of the early ME period and its implementation was influenced by a number of phonological and supra-segmental factors.

Forthwith, the focus shall shift to those words that seem to violate the patterns of ME quantity changes.

9. Discussion – special cases

In this chapter, several words which behaved somewhat unexpectedly with regard to ME quantity adjustment shall be discussed. It will be shown that certain exceptions may be explained by making reference to semantically related words.

This chapter clearly cannot provide a description of all 'problematic' lexemes. However, it is meant to give an insight into some of the constraints that might have inhibited quantity adjustment processes in French loanwords.

9.1. *Chamber* and *chamberlain*

The words *chamber* and *chamberlain* constitute an interesting word pair. While both words correspond to the requirements for HOL, the latter also represents an input to TRISH. Interestingly enough, the ModE reflexes of both words contain a diphthong, i.e. /ei/, thus lengthening must have affected both words during the ME period. This is somewhat surprising with regard to *chamberlain*, since its lengthened vowel might subsequently have been shortened in terms of TRISH. The fact that this has not occurred can be explained in two different ways. A first explanation for it would be that HOL simply overrode the

effects of TRISH, which, however, is questionable, as the analysis in Chapter 8.2. has shown that HOL was not particularly effective with regard to French loanwords. According to a second conceivable explanation, *chamberlain* maintained a long vowel in analogy with *chamber.* The effect of this would have been that the relation between the two words would not have been obscured by a vowel length alternation that would surface as /ʧeimbə/ – /ʧæmbəlein/ in ModE. It seems that the second explanation is more plausible due to the problematic status of HOL in the early ME period.

9.2. *Nature* and *natural*

A word pair which has not preserved the same vowel length in ModE, despite its similar foot structure and the same date of borrowing, is the noun *nature* and its corresponding adjective *natural*. Both lexemes are classified as TRISH inputs due to their trisyllabicity and the fact that both are stressed on the antepenultimate syllable. However, the outcomes in ModE differ, for /neiʧə/ has a diphthong, i.e. the equivalent of a long vowel, and /nætʃərəl/ is pronounced with a short vowel. A reason for this phenomenon could be the final schwa in *nature.* Even though it was shown in Chapter 8.3. that final schwa did not have an impact on the implementation of TRISH on the stock of inputs as a whole, it seems to be the case that this phonological feature yielded a vowel length distinction between *nature* and *natural.* Since schwa loss was common during the ME period, the word *nature* can be expected to have frequently occurred in disyllabic form. Consequently, it would have constituted an eligible, though not prototypical input to OSL, as the requirements for this sound change were met, i.e. stress on the penultimate syllable and only one intersyllabic consonant. It seems plausible, then, that the stressed vowel in the apocopated form was lengthened in terms of OSL. This could not have applied to *natural*, as its last syllable contains a vowel other than schwa and was therefore stable.

To summarise, the word *nature* might have been affected by OSL, despite its overt correspondence to the requirements for TRISH. It should be added that this behaviour is certainly exceptional, though. Even more so in that lengthening occurred at the expense of transparency between the two semantically related words.

9.3. *Grieve, grievous* and *grievance*

This triplet of lexemes also behaves somewhat atypically and shall therefore be discussed here. While *grieve* and *grievous* correspond to the requirements for OSL, *grievance* is a potential input to TRISH. When considering the ModE reflexes of these words, it can be

seen that *grieve* and *grievous* have indeed been affected by OSL, yielding ME /e:/ and ModE /i:/[10] in the stressed syllable. However, shortening in terms of TRISH was inhibited in *grievance.* This resistance to shortening is probably due to analogy. For the sake of transparency, speakers of ME might have preferred to maintain a long vowel in *grievance* so as to ensure that the close semantic relationship with *grieve* and g*rievous* remains straightforward, even though the long vowel violated the preferred foot pattern which came to be established by TRISH.

9.4. *Trousseau*

This word seems to be particularly representative of the French influence on the English language. First of all, the word contains a typically French graphemic representation of the sound /o/, namely <eau>, which is still commonly found in the Modern French lexicon (cf. e.g. *eau, château*). However, this combination of letters is not part of the English stock of graphemic representations; therefore, it is surprising that the French spelling was adopted into English.

Moreover, *trousseau* constitutes a typical input to OSL and indeed appears to have been affected by this sound change. Since both the spellings <trousseau> and <trusseau> were used during the ME period, it cannot safely be assumed that the first syllable contained a diphthong when the word was adopted from French. It is more plausible that the stressed vowel was lengthened in terms of OSL. As a consequence, the foot contained a long vowel in the first syllable, as is still the case in ModE. Besides, the vowel in the second syllable is a diphthong in ModE, as in /ˈtruːsəʊ/. The fact that the constraints regarding the preferred foot structure, i.e. a heavy syllable followed by a light one (Minkova 1985: 168), are violated can be explained by the word's different language of origin. The adaptation of the word *trousseau* to the typical native foot pattern by means of reducing the final syllable, yielding */ˈtruːsə/ or subsequently even */ˈtruːs/ might have rendered the word too abstract and hence incomprehensible for speakers of ME.

9.5. *Cuckoo*

The word *cuckoo* is listed among potential inputs to OSL with [+high] vowels. Yet, it can be deduced from the ModE pronunciation /ˈkʊkuː/ that vowel lengthening was inhibited. Two different explanations for this behaviour may be conceived. It is possible that OSL

[10] As a result of the Great Vowel Shift.

might not have affected the word in question so as to avoid a super-heavy foot, since the second syllable already contained a long vowel. Alternatively, the reason why lengthening was inhibited could be the impact of onomatopoeia on the phonological structure. The word *cuckoo* clearly imitates a sound pattern of the real world, i.e. a bird call. It seems likely that ME speakers interpreted the final sound as being longer than the initial, higher sound, which led to a phonological representation of a short vowel in the first and a long vowel in the second syllable. Hence, the constraints of onomatopoeia appear to have prevented the word *cuckoo* from being subjected to OSL.

9.6. *Isle*

The item *isle* is problematic in so far as it is uncertain whether it may be considered as an input to OSL or not. This is due to the fact that different spelling variants existed in the ME period. According to the OED, this word was borrowed from OF <ile>, <ille> or earlier <isle>. Consequently, various graphemic representations occurred during the ME period, including <ile>, <ille>, <isle>, <ysle>, <idle> and <ylde>. If one adheres to the criteria for OSL, only the first two out of these variants qualify as OSL inputs and could thus have been subjected to vowel lengthening. Since the ModE counterpart /ail/ contains a diphthong that goes back to ME /i:/, it can be assumed that the word *isle* was indeed affected by OSL. It might be the case that two forms coexisted at a certain time, i.e. a long vowel in <ile> and a short vowel in word forms with two intersyllabic consonants, such as <isle>. Eventually though, the lengthened form would have ousted the competing, etymologically short form. It is striking that the ModE spelling retains the OF intersyllabic <s>, contrary to the ModF word *île*, in which the <s> was dropped and replaced by circumflex diacritic.

9.7. *Jewel* and *jewellery*/*jewelry*

This pair of words shows that the date of borrowing might indeed have played a crucial role in vowel length adjustment in French loanwords. The word *jewel* was first attested in English around the year 1290 according to the OED, which is why it is listed among [-high] inputs to OSL. As for the related noun *jewellery*/*jewelry*, the first use was attested around the year 1400, thus at a time when ME quantity adjustment was no longer operating on the English lexicon. In analogy with *jewel*, the noun *jewellery*/*jewelry* might have been adopted with a long vowel for the sake of transparency. Had the noun been borrowed approximately one hundred years earlier, it could have been subjected to TRISH, as the

form <jewelry> corresponded to the requirements for this sound change. Since the noun was borrowed fairly late in the ME period, no shortening process could affect that word and therefore the ModE equivalents are still transparent in terms of vowel length.

10. Which theory to apply?

At this stage, it seems legitimate to connect the findings of the empirical research with the theory on ME quantity adjustment. First of all, Luick's early account (1921) of the four sound processes affecting the ME vocabulary may indeed be applied to Romance loanwords adopted during early ME, since the ModE counterparts of a large number of borrowed lexemes reflect ME quantity adjustment. However, Luick's theory requires adaptation in some respects. For instance, it was shown in Chapter 8.1. that OSL inputs containing a [+high] stressed vowel were nearly as often affected by OSL as [-high] inputs. Nevertheless, vowel height seems to have had an impact in that vowel lengthening in [+high] and [-high] vowels was triggered by different factors.

Minkova's revolutionary reformulation of MEOSL (1982), i.e. a conceptualisation of OSL as compensatory lengthening, was corroborated by evidence from French loanwords. Words corresponding to the OSL environment as described by Minkova showed a considerably higher likeliness to be affected by this sound change. In this respect, French loanwords did not differ from native words, as was predicted by Minkova. Yet, it should be stated that even a narrower description in terms of the phonetic environment for OSL leaves some exceptions, thus it is inappropriate to claim that OSL operated "unfailingly" (Minkova 1982: 42) if the final syllable contained a schwa.

A theory of OSL combined with analogical levelling, as proposed by Dresher (2000), for instance, does not seem to describe the behaviour of French loanwords appropriately. Even though the ModE output in terms of vowel length among French loanwords is partly close to 50%, as implicitly predicted by the proponents of this theory, OSL does not appear to be a random sound change involving bi-directional levelling. Instead, it is a process governed by a number of factors, as was shown in Chapter 8.1.

The approach which is most likely to accommodate the results of the empirical research into French loanwords is a probabilistic approach as devised by Ritt (1994). This is due to the fact that this kind of approach remains flexible towards exceptions and does not expect vowel lengthening to operate consistently once certain parameters were met. It was shown that various factors render the implementation of OSL more or less likely, but

do not inevitably entail vowel length adjustment. Nevertheless, Ritt's claims regarding the factors that seem to increase the probability of vowel lengthening require some refinement when discussing French loanwords. For instance, it was shown that vowel height does not necessarily correlate with the likeliness of OSL to affect a stressed vowel. Instead, it was argued that OSL in high and low vowels depended on different triggers.

HOL seems to have operated not only in native words, as suggested by various researchers, but also in loanwords from French, though only to a limited extent. The analysis of HOL in Romance loans has shown that the implementation of this sound change was influenced by various different aspects, such as syllable weight of the post-tonic syllable. These factors, which Ritt (1994) rightly expected to have had an impact on the effects of HOL regarding the ME lexicon in its entirety, were thus shown to be relevant for French loanwords in particular, as well.

The theoretical discussion on HOL within the field of research focuses mainly on the type of homorganic cluster (see Chapters 3.1. and 3.2.). Among Romance loanwords, only three types of homorganic clusters were attested, i.e. /mb/, /nd/ and /ld/. Contrary to what was suggested by researchers, such as Minkova & Stockwell (1998), HOL seems to have affected stressed vowels followed by all three types of homorganic clusters. Moreover, /ld/ does not appear to have played a special role, since only half of the HOL inputs containing this cluster were subjected to lengthening.

Two aspects should be reiterated with regard to HOL in French loanwords. Firstly, the number of potential inputs to this sound change among Romance words was limited, therefore it is difficult to draw general conclusions. Secondly, HOL started earlier than OSL and probably was not a fully effective sound change any more by the time the first Romance words were borrowed into the English lexicon, which can be seen by the low number of items that were affected by HOL. These issues should be borne in mind when discussing HOL in Romance loanwords.

The discussion on TRISH has shown that this type of quantity adjustment seems to have been a productive sound change with regard to French loanwords, since the majority of trisyllabic Romance lexemes surfaces with a short vowel in ModE. While it was pointed out by many researchers that TRISH input was extremely rare in the native OE vocabulary, the list of potential TRISH inputs among French loanwords was fairly extensive. As was explained in Chapter 4.3., the lack of words corresponding to the environment for this sound change caused many researchers to question the status of TRISH as a genuine sound change in OE altogether. However, with respect to French loanwords in ME, one can

safely argue that this group of lexemes provided sufficient input for TRISH and that this sound change modified this stock of words to a large extent.

Moreover, the implementation of TRISH was shown to be influenced by a variety of factors, similar to the other sound changes discussed in this paper. Yet again, these factors led to an increase or decrease of a word's likeliness to be affected by the sound change in question. Consequently, it is advisable to adopt a probabilistic approach with regard to TRISH, as well.

The fact that a large number of trisyllabic French loans, though not all of them were affected by TRISH, contradicts the implicit assumption by researchers in favour of an analogical levelling hypothesis that trisyllabic words were consistently affected by shortening of the stressed vowel in the antepenultimate syllable. Many items listed as TRISH inputs can be said to have been genuinely trisyllabic, meaning that they never appeared in a disyllabic form. Since approximately one fifth of these inputs surface with a long vowel in ModE, it is inappropriate to assume that TRISH occurred unfailingly. This matter of fact also disproves analogical levelling, as the long vowel in these words cannot be due to the influence of a lengthened disyllabic word form. The only sub-group of trisyllabic words which could indeed have been affected by levelling of a long vowel from a disyllabic form are trisyllabic words with final schwa. Yet, it was shown that final schwa only had a minimal impact on the implementation of TRISH, hence this hypothesis might only apply exceptionally.

The fourth major ME quantity change, SHOCC, also seems to have been operating on the Romance vocabulary adopted during the early ME period. The evaluation of empirical data has shown that approximately four fifths of French SHOCC inputs surface with a short vowel in ModE. This result clearly contradicts Minkova & Stockwell's hypothesis (1998: 225), according to which SHOCC was no longer a productive sound change at the time of the massive influx of Romance lexemes (also see Chapter 5.2.).

Since SHOCC was also governed by a number of phonological factors, it is once more recommendable to adopt a probabilistic approach when describing this sound change.

Due to the fact that a large amount of Romance loanwords were subjected to ME quantity adjustment in a similar way to native words, typical characteristics of borrowings from French, such as their adherence to the Romance stress rule, do not seem to have played as important a role as was anticipated in Chapter 6. Nevertheless, the general differences between the native and Romance stock of ME vocabulary also speak in favour of discussing words of different etymological origin separately.

11. Conclusion

This diploma thesis has provided an overview of theoretical insights into the four major sound changes that affected the ME lexicon. The traditional accounts of these quantity adjustment processes were complemented by more recent approaches. Moreover, as the focus of this paper was on French loanwords, the second part presented and discussed various issues which are of particular relevance with regard to this group of ME lexemes. These theoretical findings served as a basis for the empirical research part, in which French loanwords were analysed according to the sound change for which they represented eligible inputs.

The results have shown that a great number of Romance loanwords were indeed subjected to the same sound changes as native ME words, which points to a full adoption of these loanwords into the ME lexicon. However, not all the factors that were addressed had the same impact on French loans as they had on native words. Consequently, it seems advisable to separate words of different etymological origins in an analysis of ME quantity adjustment, contrary to what has been done in research so far. In order to obtain precise and valid information about the factors which influenced ME quantity changes, it seems indispensable to keep Romance loans apart from native words. Only then can findings regarding triggers for the respective sound changes be taken at face value.

The aim of this thesis was not to devise a genuinely new theory of ME quantity adjustment, but to provide specific empirical evidence concerning a particular group of lexemes and its behaviour with regard to the four major sound changes. Where possible, comparisons were made with findings from other researchers in the field so as to obtain an answer to the question whether Romance loanwords were adapted somehow differently to the post-quantity-change sound patterns. However, it needs to be added that up to the present day, the majority of researchers have disregarded the language of origin. Consequently, it is problematic to compare the results of my empirical research to that of others, since most empirical research projects do not exclusively consider the behaviour of native words. Instead, results provided by researchers so far generally give information about the quantity adjustment of both native and Romance, sometimes also of Scandinavian lexical items. Hence, further research is necessary yielding concrete data regarding the quantity adjustment of native words in ME, so that the words of different languages of origin can be compared more easily to one another. This comparison could

lead to a modification of the theoretical conceptualisation of the four major sound changes according to the findings, which has also been attempted in the present research.

From a general perspective, the results obtained in this empirical research are most conveniently accounted for by a probabilistic approach to ME quantity adjustment, since none of the factors that were investigated caused or inhibited a modification of vowel quantity consistently. Rather, certain factors seemed to increase or decrease the likeliness of ME quantity adjustment. Further systematic research will be necessary to gain understanding of the relative importance of these factors and to uncover the reasons why these phonological and morphological aspects functioned as triggers for quantity changes.

The appendix to this diploma thesis contains the lists of French loanwords which were analysed with respect to the four ME sound changes. It would be desirable if other researchers exploited this collection of data for research into additional factors that might have been overlooked in the present research.

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13. Appendix

13.1. German abstract

Viele WissenschaftlerInnen haben sich in der Vergangenheit mit dem Thema der mittelenglischen Quantitätsverschiebungen auseinandergesetzt und verschiedene Modelle zu deren Beschreibung aufgestellt. Hierbei ist auffallend, dass die überwiegende Mehrheit der LinguistInnen das mittelenglische Vokabular als ein mehr oder minder einheitliches Ganzes betrachtet und nicht zwischen Wörtern unterschiedlicher etymologischer Herkunft differenziert. Ausgehend davon versuchte die vorliegende Forschungsarbeit eine Antwort auf die Frage zu geben, ob Lehnwörter aus dem Altfranzösischen und Anglo-Normannischen anders als heimische Wörter an die durch mittelenglische Vokallängenveränderungen hervorgebrachten Muster angepasst wurden. Somit stand die Frage im Fokus, ob ein Nichtbeachten der Etymologie von mittelenglischen Lehnwörtern in der Diskussion betreffend Quantitätsanpassung gerechtfertigt ist.

Um obige Aspekte hinreichend beantworten zu können, wurde zunächst ein Überblick über bestehende Literatur geboten. Dabei wurde unterschieden zwischen vier zentralen mittelenglischen Klangveränderungen, nämlich Dehnung in offener Silbe, Dehnung vor homorganer Konsonantengruppe, Kürzung in dreisilbligen Wörtern und Kürzung vor Konsonantengruppe. Die traditionellen Erklärungsansätze wurden komplementiert durch modernere Erklärungsmodelle. Zudem wurden französische Lehnwörter hinsichtlich ihrer spezifischen Eigenschaften untersucht, sodass eventuelle Unterschiede zu heimischen Wörtern festgestellt werden konnten, die sich womöglich auf die Quantitätsverschiebungen ausgewirkt haben.

Der empirische Teil dieser Arbeit bestand aus der Analyse von französischen Lehnwörtern, welche zwischen den Jahren 1000 und 1300 ins Englische übernommen wurden. Die Gegenstücke im Modernen Englisch wurden abgeglichen mit den mittelenglischen Lehnwörten, um so festzustellen, ob der dem phonetischen Umfeld entsprechende Lautwandel im jeweiligen Wort eingesetzt hat. Verschiedene Faktoren wurden dabei einer quantitativen Analyse unterzogen, wodurch bestimmt werden konnte, welche phonetischen Rahmenbedingungen sich günstig oder ungünstig auf mittelenglische Quantitätsanpassung ausgewirkt haben.

Die Ergebnisse dieser Studie zeigten, dass eine Vielzahl an französischen Lehnwörtern entsprechend der heimischen Wörter im Mittelenglischen an die neuen Quantitätsmuster angepasst wurde. Einzelne Faktoren wirkten sich jedoch unterschiedlich

auf heimische und entlehnte Wörter aus. Davon ausgehend wurde argumentiert, dass eine genaue Beschreibung der mittelenglischen Vokallängenveränderung zwischen Wörtern unterschiedlicher etymologischer Herkunft differenzieren sollte. In Hinblick auf die theoretischen Modelle zur Beschreibung der Quantitätsanpassung ist zu bemerken, dass ein probabilistischer Ansatz das größte Potenzial aufweist, das Verhalten von französischen Lehnwörtern im Mittelenglischen zu beschreiben. Dies liegt daran, dass keiner der untersuchten phonetischen Faktoren eine Vokallängenanpassung in jedem einzelnen der infrage kommenden Wörter bedingte.

13.2. English abstract

Numerous researchers have addressed the topic of Middle English quantity adjustment in the past and established different models to account for these developments in the English language. It is striking that the vast majority of researchers regard the Middle English vocabulary as a more or less homogeneous entity in that they do not distinguish between words of different etymological origin. Based on this problematic aspect prevailing in the state of the art, this research project aims at providing an answer to the question if loanwords from Old French and Anglo-Norman behaved differently from native words with respect to Middle English quantity changes. Hence, the focus will lie on the issue whether or not the etymological origin of loanwords can safely be disregarded in a discussion on Middle English quantity adjustment.

In order to answer the above question satisfactorily, this paper will provide an overview of relevant literature. The four major Middle English quantity changes, i.e. Open-Syllable Lengthening, Homorganic Lengthening, Trisyllabic Shortening and Shortening before Consonant Cluster will be separately addressed. The traditional accounts of these sound changes will be complemented by more recent theoretical models. Moreover, French loanwords will be investigated in terms of their characteristics so as to determine differences between native and borrowed words that could have had an impact on Middle English quantity adjustment.

The empirical part of this paper contains an analysis of French loanwords that were adopted into early Middle English between 1000 and 1300. The Modern English counterparts will be compared to the Middle English loanwords so as to reveal whether the respective lexeme was affected by quantity adjustment. The quantitative analysis will take different factors into consideration which might have triggered or inhibited the modification of vowel quantity in French loanwords.

The results of this study will show that a large amount of French loanwords were affected by Middle English quantity adjustment, similar to native words. Yet, some factors had differing impacts on French and native words. Hence, it is argued that a precise and valid description of Middle English quantity adjustment should differentiate between words of different etymological origin. Regarding the theoretical models on Middle English quantity changes, it is noted that a probabilistic approach is most likely to account for the behaviour of French loanwords during Middle English. This is due to the fact that none of the factors that are investigated has unfailingly triggered lengthening or shortening.

13.3. List of [-high] OSL inputs

word in ModE	word class	date of borrow-ing	pronunciation in ModE	OSL	unstable second syllable	type of inter-syllabic C	vowel type	final C
abate	v.	c1300	Brit. /əˈbeɪt/	yes	yes	DP	a	
abbey	n.	c1300	Brit. /ˈabi/	no	no	VP	a	
abele	n.	?a1300	Brit. /əˈbiːl/, /ˈeɪbl/	yes	yes	L	e	
academic	n., adj.	lOE	Brit. /ˌakəˈdɛmɪk/	no	no	N	e	T
ace	n., adj.	?a1300	Brit. /eɪs/	yes	yes	DF	a	
ache	n.2	a1300	Brit. /eɪtʃ/	yes	yes	DA	a	
achieve	v.	c1300	Brit. /əˈtʃiːv/	yes	yes	VF	e	
advowson	n.	c1300	Brit. /ədˈvaʊzn/	yes	yes/syllabic	VF	o	R
affeer	v.	a1250	Brit. /əˈfɪə/	yes	? counted as yes	DF	e	
age	n.	c1275	Brit. /eɪdʒ/	yes	yes	VA	a	
allege	v.	c1300	Brit. /əˈlɛdʒ/	no	yes	VA	e	
anet	n.	c1265	/ˈænət/	no	no	N	a	T
apparel	v.	c1250	/əˈpærəl/	no	no	R	a	R
apper-ceive	v.	c1300	(not given)	yes	yes	VF	e	
aroma	n.	c1220	/əˈrəʊmə/	yes	no	N	o	
atom	n.	OE	Brit. /ˈatəm/	no	no	DP	a	R
August	n.	OE	Brit. /ˈɔːgəst/	yes	no	VP	au	T
avens	n.	c1250	/ˈævənz/	no	no	VF	a	R
bailie	n.	1297	/ˈbeɪlɪ/	yes	no	L	ai	
bailiff	n.	1297	/ˈbeɪlɪf/	yes	no	L	ai	T
banner	n.	?c1225	/ˈbænə(r)/	no	no	N	a	R
baron	n.	a1200	/ˈbærən/	no	no	R	a	R
barrel	n.	c1300	/ˈbærəl/	no	no	R	a	R
barren	adj., n.	c1200	/ˈbærən/	no	no	R	a	R
basin	n.	c1220	/ˈbeɪs(ə)n/	yes	no	DF	a	R
blame	n.	c1230	/bleɪm/	yes	yes	N	a	
blame	v.	c1200	/bleɪm/	yes	yes	N	a	
bowel	n.	c1300	/ˈbaʊɪl/	yes	no	G	o	R
cage	n.	?c1225	/keɪdʒ/	yes	yes	VA	a	
carol	n.	a1300	/ˈkærəl/	no	no	R	a	R
case	n.	OE	Brit. /keɪs/	yes	yes	DF	a	
cathedral	n.	1297	/kəˈθiːdrəl/	yes	no	VP+R	e	R
cattle	n.	c1275	/ˈkæt(ə)l/	no	no	DP	a	R
caudle	n.	1297	/ˈkɔːd(ə)l/	yes	yes/syllabic	VP	au	R
cause	n.	?c1225	/kɔːz/	yes	yes	DF	au	
causey	n.	c1300	/ˈkɔːzeɪ/, /-zɪ/, /ˈkɔːseɪ/	yes	no	DF	au	R
caution	n.	1297	/ˈkɔːʃən/	yes	no	DF	au	R
cave	n.	c1220	/keɪv/	yes	yes	VF	a	
cedar	n.	c1000	/ˈsiːdə(r)/	yes	no	VP	e	R
cellar	n.	?c1225	Brit. /ˈsɛlə/	no	no	L	e	R
cete	n.	c1220	/siːt/	yes	yes	DP	e	
channel	n.	a1300	/ˈtʃænəl/	no	no	N	a	R
chapel	n.	a1225	/ˈtʃæpəl/	no	no	DP	a	R
chase	n.	1297	/tʃeɪs/	yes	yes	DF	a	
chaser	n.	a1300	/ˈtʃeɪsə(r)/	yes	no	DF	a	R
chattel	n.	a1240	/ˈtʃæt(ə)l/	no	no	DP	a	R
choice	n.	1297	/tʃɔɪs/	yes	yes	DF	oi	

chopin	n.	1275	/ˈtʃɒpɪn/	no	no	DP	o	R
clause	n.	?c1225	/klɔːz/	yes	yes	DF	au	
close	n.	1297	/kləʊs/	yes	yes	DF	o	
close	v.	c1275	/kləʊz/	yes	yes	DF	o	
clove	n.	?c1225	/kləʊv/	yes	yes	VF	o	
cocket	n.	1293	/ˈkɒkɪt/	no	no	DP	o	T
coffer	n.	c1300	/ˈkɒfə(r)/	no	no	DF	o	R
cogitation	n.	?c1225	/kɒdʒɪˈteɪʃən/	yes	no	DF	o	R
collar	n.	1297	/ˈkɒlə(r)/	no	no	L	o	R
collation	n.	c1200	/kəˈleɪʃən/	yes	no	DF	a	R
collect	n.	?c1225	/ˈkɒlɛkt/	no	no	L	o	T
colour, color	n.	c1300	Brit. /ˈkʌlə/	no	no	L	o	R
commend -ation	n.	?c1225	/kɒmɛnˈdeɪʃən/	yes	no	DF	a	R
common	n.	1297	/ˈkɒmən/	no	no	N	o	R
common	adj., adv.	1297	Brit. /ˈkɒmən/	no	no	N	o	R
coney	n.	a1225	Brit. /ˈkəʊni/	yes	no	N	o	
cover	v.	a1275	/ˈkʌvə(r)/	no	no	VF	o	R
covet	v.	a1250	/ˈkʌvɪt/	no	no	VF	o	T
coward	n., adj.	?a1289	/ˈkaʊəd/	yes	no	G	o	R
creator	n.	c1300	Brit. /krɪˈeɪtə/	yes	no	DP	a	R
crowning	n.	a1250	Brit. /ˈkraʊnɪŋ/	yes	no	N	o	R
curtana	n.	a1259	/kɜːˈtɑːnə/, /-ˈeɪnə/	yes	no	N	a	
dally	v.	c1300	/ˈdælɪ/	no	no	L	a	
dame	n.	a1225	/deɪm/	yes	yes	N	a	
date	n.	c1300	Brit. /deɪt/	yes	yes	DP	a	
debtor	n.	?c1225	/ˈdɛtə(r)/	no	no	DP	e	R
demesne	n.	1292	/dɪˈmeɪn/, /dɪˈmiːn/	yes	yes	N	e	
depose	v.	c1300	/dɪˈpəʊz/	yes	yes	VF	o	
devotion	n.	?c1225	/dɪˈvəʊʃən/	yes	no	DF	o	R
dishonour, dishonor	n.	a1300	/dɪsˈɒnə(r)/	no	no	N	o	R
dissever	v.	c1250	/dɪˈsɛvə(r)/	no	no	VF	e	R
dole, dool, dule	n.	a1240	/dəʊl/, /duːl/	yes	yes	L	o	
dole	v.	13..		yes	yes	L	o	
dolour, dolor	n.	13..	/ˈdəʊlə(r)/, /ˈdɒlə(r)/	yes	no	L	o	R
dossil	n.	1297	/ˈdɒsɪl/	no	no	DF	o	R
dragon	n.	c1220	/ˈdrægən/	no	no	VP	a	R
dromond	n.	13..	/ˈdrɒmənd/, /ˈdrʌmənd/	no	no	N	o	R
eager	adj.	1297	/ˈiːgə(r)/	yes	no	VP	e	R
ease	n.	?c1225	/iːz/	yes	yes	DF	e	
easy	adj., adv., n.	c1200	/ˈiːzɪ/	yes	no	DF	e	
envenom	v.	c1300	/ɛnˈvɛnəm/	no	no	N	e	R
estate	n.	?c1225	/ɪˈsteɪt/	yes	yes	DP	a	
exchequer	n.	a1300	/ɛksˈʧɛkə(r)/	no	no	DP	e	R
fable	n.	c1300	/ˈfeɪb(ə)l/	yes	yes/syllabic	VP	a	R
face	n.	c1300	Brit. /feɪs/	yes	yes	DF	a	
fade	adj.	c1290	/feɪd/	yes	yes	VP	a	
fame	n.	?c1225	/feɪm/	yes	yes	N	a	

favour, favor	n.	c1300	/ˈfeɪvə(r)/	yes	no	VF	a	R
feeble	adj., n.	c1175	/ˈfiːb(ə)l/	yes	yes/syllabic	VP	e	R
felon	adj., n.	1297	/ˈfɛlən/	no	no	L	e	R
foison	n.	13..	/ˈfɔɪz(ə)n/	yes	no	VF	oi	R
folly	v.	?c1225	/ˈfɒlɪ/	no	no	L	o	
foreign	n., adj.	1297	Brit. /ˈfɒrɪn/, /ˈfɒrn̩/	no	no	R	o	R
forest	n.	1297	/ˈfɒrɪst/	no	no	R	o	T
fornicatio n	n.	a1300	/fɔːnɪˈkeɪʃən/	yes	no	DF	a	R
frame	n., adj.	?c1200	Brit. /freɪm/	yes	yes	N	a	
frater	n.	c1290	/ˈfreɪtə(r)/	yes	no	DP	a	R
gage	n.	13..	/geɪdʒ/	yes	yes	VA	a	
galley	n.	a1300	/ˈgælɪ/	no	no	L	a	
gallon	n.	c1300	/ˈgælən/	no	no	L	a	R
glace	v.	13..		yes	yes	DF	a	
glaive	n.	1297	/gleɪv/	yes	yes	VF	a	
gloze	n.	c1290	/gləʊz/	yes	yes	VF	o	
govern	v.	1297	/ˈgʌvən/	no	no	VF	o	R
grace	n.	a1225	Brit. /greɪs/	yes	yes	DF	a	
grace	v.	?c1225	Brit. /greɪs/	yes	yes	DF	a	
grape	n.	c1290	/greɪp/	yes	yes	DP	a	
gravel	n.	a1300	/ˈgrævəl/	no	no	VF	a	R
grease	n.	c1290	/griːs/	yes	yes	DF	e	
grieve	v.	?c1225	/griːv/	yes	yes	VF	e	
grievous	adj.	c1290	/ˈgriːvəs/	yes	no	VF	e	T
habit	n.	?c1225	/ˈhæbɪt/	no	no	VP	a	T
hale	v.	c1275	/heɪl/	yes	yes	L	a	
haras	n.	a1300	/ˈhærəs//arɑ/	no	no	R	a	T
haste	n.	a1300	/heɪst/	yes	yes	S+DP	a	
haste	v.	a1300	/heɪst/	yes	yes	S+DP	a	
hauberk	n.	1297	/ˈhɔːbək/	yes	no	VP	au	R
hazard	n., adj.	c1300	/ˈhæzəd/	no	no	VF	a	R
honour	n.	a1225	Brit. /ˈɒnə/	no	no	N	o	R
hostel	n.	a1300	/ˈhɒstəl/	no	no	S+DP	o	R
incar-nation	n.	1297	/ɪnkɑːˈneɪʃən/	yes	no	DF	a	R
increase	v.	13..	/ɪnˈkriːs/	yes	yes	DF	e	
indebted	adj.	?c1225	/ɪnˈdɛtɪd/	no	no	DP	e	T
James	n.	?c1225	/dʒeɪmz/	yes	yes/syllabic	N	a	R?
jealous	adj.	?c1225	/ˈdʒɛləs/	no	no	L	e	T
jewel	n.	c1290	/ˈdʒ(j)uːəl/	yes	no	G	e	R
Jewry	n.	?c1225	/ˈdʒ(j)ʊərɪ/	yes	no	R	e	
kennel	n.	13..	/ˈkɛnəl/	no	no	N	e	R
kevel	n.	1251	/ˈkɛv(ə)l/	no	yes/syllabic	VF	e	R
labour	n.	c1300	Brit. /ˈleɪbə/	yes	no	VP	a	R
lace	n.	13..	/leɪs/	yes	yes	DF	a	
lace	v.	?c1225	/leɪs/	yes	yes	DF	a	
lecher	n.	c1175	/ˈlɛtʃə(r)/	no	no	DA	e	R
legion	n.	c1275	/ˈliːdʒən/	yes	no	VA	e	R
lesson	n.	?c1225	/ˈlɛs(ə)n/	no	no	DF	e	R
letter	n.	c1225	Brit. /ˈlɛtə/	no	no	DP	e	R
lever	n.	1297	/ˈliːvə(r)/	yes	no	VF	e	R
liege	adj., n.	1297	/liːdʒ/	yes	yes	VA	e	
lodge	n.	1290	/lɒdʒ/	no	yes	VA	o	
lodge	v.	?c1225	/lɒdʒ/	no	yes	VA	o	
mace	n.	c1234	Brit. /meɪs/	yes	yes	DF	a	

madam	n.	c1300	Brit. /ˈmadəm/	no	no	VP	a	R
Mahomet	n.	c1275	Brit./məˈhɒmɪt/	no	no	N	o	T
malease	n.	a1300	Brit. /malˈiːz/	yes	yes	VF	e	
mammet	n.	c1225	Brit. /ˈmamɪt/	no	no	N	a	T
manner	n., (int.)	a1225	Brit. /ˈmanə/	no	no	N	a	R
manor	n.	c1300	Brit. /ˈmanə/	no	no	N	a	R
Mary	n.	OE	Brit. /ˈmɛːri/	no	no	R	a	
mason	n.	c1275	Brit. /ˈmeɪsn/	yes	no	DF	a	R
matins	n.	c1250	Brit. /ˈmatɪnz/	no	no	DP	a	R
matter	n.	?c1225	Brit. /ˈmatə/	no	no	DP	a	R
maugre	n., prep., adv.	c1300	Brit. /ˈmɔːgə/	yes	no	VP	au	R
mazer	n.	a1225	Brit. /ˈmeɪzə/	yes	no	VF	a	R
meinie	n.	c1300	Brit. /ˈmeɪni/	yes	no	N	ei	
merit	n.	c1230	Brit. /ˈmɛrɪt/	no	no	R	e	T
metal	n., adj.	c1230	Brit. /ˈmɛtl̩/	no	yes/syllabic	DP	e	R
misease	n.	a1225	Brit. /ˌmɪsˈiːz/	yes	yes	VF	e	
mote	n.	a1300	Brit. /məʊt/	yes	yes	DP	o	
move	v.	c1275	Brit. /muːv/	yes	yes	VF	o	
niece	n.	c1300	Brit. /niːs/	yes	yes	DF	e	
noise	n.	?c1225	Brit. /nɔɪz/	yes	yes	VF	oi	
note	v.	OE	Brit. /nəʊt/	yes	yes	DP	o	
ocean	n.	c1300	Brit. /ˈəʊʃn/	yes	no	DF	o	R
ordainer	n.	c1300	Brit. /ɔːˈdeɪnə/	yes	no	N	ai	R
pace	n.	c1300	Brit. /peɪs/	yes	yes	DF	a	
page	n.	c1300	Brit. /peɪdʒ/	yes	yes	VA	a	
pannier	n.	c1300	Brit. /ˈpanɪə/	no	no	N	a	R
parish	n.	c1300	Brit. /ˈparɪʃ/	no	no	R	a	T
parrel	n.	1295	Brit. /ˈparəl/, /ˈparl̩/	no	yes/syllabic	R	a	R
paten	n.	lOE	Brit. /ˈpatn/	no	yes/syllabic	DP	a	R
patron	n.	c1300	Brit./ˈpeɪtr(ə)n/	yes	no	DP+R	a	R
paynim	n., adj.	c1275	Brit. /ˈpeɪnɪm/	yes	no	N	ai	R
peace	n.	?a1160	Brit. /piːs/	yes	yes	DF	e	
peiser	n.	1298	Brit. /ˈpeɪzə/, /ˈpiːzə/	yes	no	VF	ei	R
people	n.	a1300	Brit. /ˈpiːpl/	yes	yes/syllabic	DP	e	R
peril	n.	?c1225	Brit. /ˈpɛrɪl/, /pɛrl̩/	no	no	R	e	R
perish	v.	c1275	Brit. /ˈpɛrɪʃ/	no	no	R	e	T
pheasant	n.	c1299	Brit. /ˈfɛznt/	no	no	VF	e	R
piece	n.	c1230	Brit. /piːs/	yes	yes	DF	e	
plaice	n.	c1300	Brit. /pleɪs/	yes	yes	DF	ai	
planet	n.	c1300	Brit. /ˈplanɪt/	no	no	N	a	T
plate	n.	c1250	Brit. /pleɪt/	yes	yes	DP	a	
pleader	n.	?a1300	Brit. /ˈpliːdə/	yes	no	VP	e	R
plenar	adj., adv.	c1300	Brit. /ˈpliːnər/	yes	no	N	e	R
poison	n.	c1225	Brit. /ˈpɔɪzn/	yes	yes/syllabic	VF	oi	R
poke	n.	c1300	Brit. /pəʊk/	yes	yes	DP	o	
pommel	n.	a1300	Brit. /ˈpʌml/, /ˈpɒml/	no	yes/syllabic	N	o	R
praise	v.	?c1225	Brit. /preɪz/	yes	yes	VF	ai	
preacher	n.	?c1225	Brit. /ˈpriːʧə/	yes	no	DA	e	R
precious	adj., adv., n.	?a1300	Brit. /ˈprɛʃəs/	no	no	DF	e	T
present	n.	?c1225	Brit. /ˈprɛznt/	no	no	VF	e	R
present	n.2	c1230	Brit. /ˈprɛznt/	no	no	VF	e	R

proffer	v.	c1300	Brit. /ˈprɒfə/	no	no	DF	o	R
proper	adj., n., adv.	?c1225	Brit. /ˈprɒpə/	no	no	DP	o	R
prophet	n.	OE	Brit. /ˈprɒfɪt/	no	no	DF	o	T
prove	v.	c1225	Brit. /pruːv/	yes	yes	VF	o	
provend	n.	c1300	Brit. /ˈprɒv(ə)nd/	no	no	VF	o	R
quarrel	n.	a1250	Brit. /ˈkwɒrəl/, /ˈkwɒrl̩/	no	no	R	a	R
rage	v.	c1250	Brit. /reɪdʒ/	yes	yes	VA	a	
raisin	n.	c1300	Brit. /ˈreɪzn/	yes	yes/syllabic	VF	ai	R
rammel	n.	c1250	Brit. /ˈraml/	no	yes/syllabic	N	a	R
razor	n.	c1300	Brit. /ˈreɪzə/	yes	no	VF	a	R
reason	n.	c1225	Brit. /ˈriːzn/	yes	yes/syllabic	VF	e	R
relic	n.	?c1225	Brit. /ˈrɛlɪk/	no	no	L	e	T
richesse	n.	a1225	Brit. /rɪˈʃɛs/	no	yes	DF	e	
rive	n.	1296	Brit. /riːv/	yes	yes	VF	e	
robber	n.	c1175	Brit. /ˈrɒbə/	no	no	VP	o	R
robe	n.	c1225	Brit. /rəʊb/	yes	yes	VP	o	
roche	n.	a1225	Brit. /rəʊtʃ/, /rɒʃ/	? counted as yes	yes	DA	o	
rochet	n., adj.	c1230	Brit. /ˈrɒtʃɪt/	no	no	DA	o	T
rocket	n.	c1300	Brit. /ˈrɒkɪt/	no	no	DP	o	T
rosier	n.	c1300	Brit. /ˈrəʊzɪə/, /ˈrəʊʒə/	yes	no	VF	o	R
safe	adj., (int.)	c1300	Brit. /seɪf/	yes	yes	DF	a	
sage	adj., n.	1297	/seɪdʒ/	yes	yes	VA	a	
salvation	n.	?c1225	/sælˈveɪʃən/	yes	no	DF	a	R
save	v.	c1225	Brit. /seɪv/	yes	yes	VF	a	
save	prep., conj.	c1300	Brit. /seɪv/	yes	yes	VF	a	
savour	n.	c1225	Brit. /ˈseɪvə/	yes	no	VF	a	R
savour	v.	a1300	Brit. /ˈseɪvə/	yes	no	VF	a	R
scabbard	n.	1297	/ˈskæbəd/	no	no	VP	a	R
season	n.	a1300	/ˈsiːz(ə)n/	yes	yes/syllabic	VF	e	R
second	adj., n.	1297	/ˈsɛkənd/	no	no	DP	e	R
seisin	n.	1297	/ˈsiːzɪn/	yes	no	VF	e	R
seize	v.	c1290	/siːz/	yes	yes	VF	e	
siege	n.	?c1225	/siːdʒ/	yes	yes	VA	e	
slave	n., (adj.)	c1290	/sleɪv/	yes	yes	VF	a	
smaragd	n.	a1300	/ˈsmærægd/	no	no	R	a	T
space	n.	c1300	Brit. /speɪs/	yes	yes	DF	a	
stable	n.	c1250	/ˈsteɪb(ə)l/	yes	yes/syllabic	VP	a	R
stable	adj.	c1275	/ˈsteɪb(ə)l/	yes	yes/syllabic	VP	a	R
stage	n.	a1300	/steɪdʒ/	yes	yes	VA	a	
story	n.	?c1225	Brit. /stɔːri/	yes	no	R	o	
subdeacon	n.	OE	Brit. /ˌsʌbˈdiːk(ə)n/	yes	yes/syllabic	DP	e	R
successor	n.	1297	/səkˈsɛsə(r)/	no	no	DF	e	R
tabor, tabour	n.	c1290	/ˈteɪbə(r)/	yes	no	VP	a	R
tavern	n.	1297	/ˈtævən/	no	no	VF	a	R
temptation	n.	c1230	/tɛm(p)ˈteɪʃən/	yes	no	DF	a	R
throne	n.	?c1225	/θrəʊn/	yes	yes	N	o	

trace	n.	a1300	/treɪs/	yes	yes	DF	a	
traitor	n.	?c1225	/ˈtreɪtə(r)/	yes	no	DP	ai	R
translator	n.	13..	/trɑːnsˈleɪtə(r)/, /træns-/, /-nz-/	yes	no	DP	a	R
travail	n.	c1250	/ˈtrævəl/, /-eɪl/	no	no	VF	a	R
treason	n.	?c1225	/ˈtriːz(ə)n/	yes	yes/syllabic	VF	e	R
treble	adj., adv.	13..	/ˈtrɛb(ə)l/	no	yes/syllabic	VP	e	R
tribulation	n.	?c1225	/trɪbjʊˈleɪʃən/	yes	no	DF	a	R
troper	n.	OE	Brit. /ˈtrəʊpə/	yes	no	DP	o	R
vacant	adj., n.	c1290	/ˈveɪkənt/	yes	no	DP	a	R
vale	n.	a1300	/veɪl/	yes	yes	L	a	
valley	n.	c1290	/ˈvælɪ/	no	no	L	a	
venom	n., adj.	c1220	/ˈvɛnəm/	no	no	N	e	R
venom	v.	13..		no	no	N	e	R
very	adj., adv., n.	c1250	/ˈvɛrɪ/	no	no	R	e	
vessel	n.	a1300	/ˈvɛsəl/	no	no	DF	e	R
voice	n.	c1300	Brit. /vɔɪs/	yes	yes	DF	oi	
waive	v.	c1290	/weɪv/	yes	yes	VF	ai	
warrant	n.	a1225	/ˈwɒrənt/	no	no	R	a	R
warrant	v.	c1275	/ˈwɒrənt/	no	no	R	a	R
warrer	n.	?c1225	/ˈwɔːrə(r)/	yes	no	R	a	R

Abbreviations: v. = verb, n. = noun, adj. = adjective, prep. = preposition, conj. = conjunction, int. = interjection, Brit. = British English, DP = voiceless plosives, VP = voiced plosives, DF = voiceless fricatives, VF = voiced fricatives, DA = voiceless affricates, VA = voiced affricates, N = nasals, L = liquids, G = glides, S+DP = /s/ plus voiceless plosive, DP+R = voiceless plosive plus /r/, VP+R = voiced plosive plus /r/, T = obstruent, R = sonorant.

13.4. List of [+high] OSL inputs

word in ModE	word class	date of borrow-ing	pronunciation in ModE	OSL	unstable second syllable	type of inter-syllabic C	vowel type	final C
advice	n.	c1300	Brit. /ədˈvʌɪs/	yes	yes	DF	i	
arrive	v.	c1275	/əˈraɪv/	yes	yes	VF	i	
assize	n.	1297	/əˈsaɪz/	yes	yes	VF	i	
avision	n.	c1300	Brit. /əˈvɪʃn/	no	yes/syllabic	DF	i	R
baptize	v.	1297	/bæpˈtaɪz/	yes	yes	VF	i	
Bible	n.	a1300	/ˈbaɪb(ə)l/	yes	yes/syllabic	VP	i	R
bride	n.	a1300	/braɪd/	yes	yes	VP	i	
Briton	n., adj.	c1275	Brit. /ˈbrɪtn/	no	no	DP	i	R
buffet	n.	?c1225	/ˈbʌfɪt/	no	no	DF	u	T
bugle	n.1	c1300	/ˈbjuːg(ə)l/	yes	yes	VP	u	
bugle	n.2	c1265	/ˈbjuːg(ə)l/	yes	yes	VP	u	
bushel	n.	c1300	/ˈbʊʃəl/	no	no	DF	u	R
buzzard	n.	c1300	/ˈbʌzəd/	no	no	VF	u	R
city	n.	?c1225	Brit. /ˈsɪti/	no	no	DP	i	
coup, coupe	v.	a1300	/kuːp/	yes	yes	DP	u	
cousin	n.	c1290	/ˈkʌz(ə)n/	no	no	VF	u	R
crime	n.	c1250	Brit. /krʌɪm/	yes	yes	N	i	
croup, croupe	n.	c1300	/kruːp/	yes	yes	DP	u	
crupper	n.	c1300	/ˈkrʌpə(r)/	no	no	DP	u	R
cubeb	n.	c1300	/ˈkjuːbɛb/	yes	no	VP	u	T
cuckoo	n.	c1240	/ˈkʊkuː/	no	no	DP	u	
current	adj.	c1300	/ˈkʌrənt/	no	no	R	u	R
curry	v.	c1290	/ˈkʌrɪ/	no	no	R	u	
debruise	v.	1297	/dɪˈbruːz/	yes	yes	VF	u	
delicious	adj.	c1300	/dɪˈlɪʃəs/	no	no	DF	i	T
deliver	v.	?c1225	/dɪˈlɪvə(r)/	no	no	VF	i	R
despite	n.	c1290	/dɪˈspaɪt/	yes	yes	DP	i	
device	n.	c1290	/dɪˈvaɪs/	yes	yes	DF	i	
devise	v.	a1300	/dɪˈvaɪz/	yes	yes	VF	i	
dine	v.	1297	/daɪn/	yes	yes	N	i	
dinner	n.	1297	Brit. /ˈdɪnə/	no	no	N	i	R
dispute	v.	a1225	/dɪˈspjuːt/	yes	yes	DP	u	
ditty	n.	a1300	/ˈdɪtɪ/	no	no	DP	i	
divers	adj.	c1250	/ˈdaɪvəz/	yes	no	VF	i	R
double	v.	c1290	/ˈdʌb(ə)l/	no	yes/syllabic	VP	u	R
dubber	n.	1225-6		no	no	VP	u	R
duke	n.	1129	/djuːk/	yes	yes	DP	u	
dure	v.	c1275	/djʊə(r)/	yes	yes	R	u	
duty	n.	1297	/ˈdjuːtɪ/	yes	no	DP	u	
entice	v.	1297	/ɛnˈtaɪs/	yes	yes	DF	i	
excuse	v.	a1250	/ɛkˈskjuːz/	yes	yes	VF	u	
familiar	n., adj., adv.	a1250	Brit. /fəˈmɪlɪə/	no	no	L	i	R
fine	n.	c1200	/faɪn/	yes	yes	N	i	
fine	adj., n., adv.	a1300	/faɪn/	yes	yes	N	i	
flourish	v.	13..	/ˈflʌrɪʃ/	no	no	R	u	T
flower	n.	c1200	/flaʊə(r)/, /ˈflaʊə(r)/	yes	no	G	u	R

flume	n.	c1175	/fluːm/	yes	yes	N	u	
gibbet	n.	?c1225	/ˈdʒɪbɪt/	no	no	VP	i	T
glutton	n., adj.	?c1225	/ˈglʌt(ə)n/	no	no	DP	u	R
griddle	n.	?c1225	/ˈgrɪd(ə)l/	no	yes/syllabic	VP	i	R
griffin, griffon, gryphon	n.	13..	/ˈgrɪfɪn/, /ˈgrɪfən/	no	no	DF	i	R
guile	n.	?c1225	/gaɪl/	yes	yes	L	i	
guile	v.	?c1225	/gaɪl/	yes	yes	L	i	
guise	n.	c1275	/gaɪz/	yes	yes	VF	i	
gutter	n.	a1300	/ˈgʌtə(r)/	no	no	DP	u	R
huge	adj., adv.	a1275	/hjuːdʒ/	yes	yes	VA	u	
ides	n.	OE	Brit. /ʌɪdz/	yes	yes/syllabic	VP	i	T
isle	n.	c1290	/aɪl/	yes	yes	L	i	
judge	v.	?c1225	Brit. /dʒʌdʒ/	no	yes	VA	u	
juice	n.	c1290	/dʒuːs/	yes	yes	DF	u	
June	n.	lOE	Brit. /dʒuːn/	yes	yes	N	u	
jupe	n.	c1290	/dʒuːp//ʒuːp/	yes	yes	DP	u	
libel	n.	1297	/ˈlaɪbəl/	yes	no	VP	i	R
liquor	n.	?c1225	/ˈlɪkə(r)/	no	no	DP	i	R
malicious	n., adj.	a1250	Brit. /məˈlɪʃəs/	no	no	DF	i	T
miner	n.	a1300	Brit. /ˈmʌɪnə/	yes	no	N	i	R
minor	adj., n.	c1230	Brit. /ˈmʌɪnə/	yes	no	N	i	R
mirror	n.	a1300	Brit. /ˈmɪrə/	no	no	R	i	R
mitcher	n.	?c1225	Brit. /ˈmɪtʃə/	no	no	DA	i	R
mitten	n.	1287-8	Brit. /ˈmɪtn/	no	yes/syllabic	DP	i	R
mutton	n.	c1300	Brit. /ˈmʌtn/	no	yes/syllabic	DP	u	R
nice	adj., adv.	c1300	Brit. /nʌɪs/	yes	yes	DF	i	
nourish	v.	c1300	Brit. /ˈnʌrɪʃ/	no	no	R	u	T
physician	n.	?c1225	Brit. /fɪˈzɪʃn/	no	yes/syllabic	DF	i	R
pickaxe, pickax	n., adj.	1256	Brit. /ˈpɪkaks/	no	no	DP	i	T
pillar	n.	c1180	Brit. /ˈpɪlə/	no	no	L	i	R
pitcher	n.	c1300	Brit. /ˈpɪtʃə/	no	no	DA	i	R
pity	n.	a1250	Brit. /ˈpɪti/	no	no	DP	i	
plume	n.	OE	Brit. /pluːm/	yes	yes	N	u	
power	n.	c1300	Brit. /ˈpaʊə/	yes	no	G	u	R
price	n.	c1225	Brit. /prʌɪs/	yes	yes	DF	i	
prime	n.	OE	Brit. /prʌɪm/	yes	yes	N	i	
prise	n.	c1300	Brit. /prʌɪz/, /priːz/	yes	yes	VF	i	
prison	n.	OE	Brit. /ˈprɪzn/	no	yes/syllabic	VF	i	R
privy	adj., n., adv.	?c1225	Brit. /ˈprɪvi/	no	no	VF	i	
prowess	n.	c1300	Brit. /ˈpraʊɪs/, /ˈpraʊɛs/, /praʊˈɛs/	yes	yes	G	u	
pudding	n.	1287	Brit. /ˈpʊdɪŋ/	no	no	VP	u	R
quitter	n.	c1300	Brit. /ˈkwɪtə/	no	no	DP	i	R
recluse	adj., n., adv.	?c1225	Brit. /rɪˈkluːs/	yes	yes	DF	u	
religion	n.	a1225	Brit. /rɪˈlɪdʒ(ə)n/	no	yes/syllabic	VA	i	R
religious	adj., n.	a1225	Brit. /rɪˈlɪdʒəs/	no	no	VA	i	T
remission	n.	?c1225	Brit. /rɪˈmɪʃn/	no	yes/syllabic	DF	i	R
rhyme	n.	?c1200	Brit. /rʌɪm/	yes	yes	N	i	
rhyme	v.	c1300	Brit. /rʌɪm/	yes	yes	N	i	
ribald	n., adj.	a1250	Brit. /ˈrɪbld/,	no	no	VP	i	R

			/ˈrɪbɔːld/					
river	n.	c1300	Brit. /ˈrɪvə/	no	no	VF	i	R
route	n.	?c1225	Brit. /ruːt/	yes	yes	DP	u	
rowel	n.	1299-1300	Brit. /ˈraʊ(ə)l/	yes	yes/syllabic	G	u	R
rule	n.	a1225	Brit. /ruːl/	yes	yes	L	u	
rule	v.	?c1225	Brit. /ruːl/	yes	yes	L	u	
russet	n., adj.	a1300	Brit. /ˈrʌsɪt/	no	no	DF	u	T
size	n.	a1300	/saɪz/	yes	yes	VF	i	
spice	n.	?c1225	/spaɪs/	yes	yes	DF	i	
spirit	n.	13..	/ˈspɪrɪt/	no	no	R	i	T
spousal	n.	a1300	/ˈspaʊzəl/	yes	no	VF	u	R
spouse	n.	c1200	/spaʊz//-s/	yes	yes	VF	u	
spouse	v.	c1290	/spaʊz/	yes	yes	VF	u	
strife	n.	a1225	/straɪf/	yes	yes	DF	i	
strive	v.	?c1225	/straɪv/	yes	yes	VF	i	
stubble	n.	1297	/ˈstʌb(ə)l/	no	yes/syllabic	VP	u	R
study	n.	c1300	Brit. /ˈstʌdi/	no	no	VP	u	
study	v.	lOE	Brit. /ˈstʌdi/	no	no	VP	u	
succour	n.	?c1225	/ˈsʌkə(r)/	no	no	DP	u	R
succour	v.	c1250	/ˈsʌkə(r)/	no	no	DP	u	R
sudden	adj., adv., n.	a1300	/ˈsʌd(ə)n/	no	no	VP	u	R
suffer	v.	a1250	/ˈsʌfə(r)/	no	no	DF	u	R
sugar	n.	c1299	/ˈʃʊgə(r)/	no	no	VP	u	R
suitor	n.	c1290	/ˈs(j)uːtə(r)/	yes	yes	DP	u	
sumach, sumac	n.	13..	/ˈsjuːmæk/, /ˈʃuːmæk/	yes	no	N	u	T
summon	v.	c1250	/ˈsʌmən/	no	no	N	u	R
summons	n.	c1290	/ˈsʌmənz/	no	no	N	u	R
superstition	n.	c1230	Brit. /ˌsuːpəˈstɪʃn/, /ˌsjuːpəˈstɪʃn/	no	yes/syllabic	DF	i	R
supper	n.	a1300	Brit. /ˈsʌpə/	no	no	DP	u	R
suspicion	n.	c1290	/səˈspɪʃən/	no	no	DF	i	R
towel	n.	?1284	/ˈtaʊəl/	yes	no	G	u	R
trifle	n.	a1250	/ˈtraɪf(ə)l/	yes	yes/syllabic	DF	i	R
tripe	n.	a1300	/traɪp/	yes	yes	DP	i	
trousseau	n.	c1230	/ˈtruːsəʊ/	yes	no	DF	u	
use	n.	?c1225	Brit. /juːs/	yes	yes	DF	u	
use	v.	a1250	Brit. /juːz/	yes	yes	VF	u	
vicar	n.	a1300	/ˈvɪkə(r)/	no	no	DP	i	R
vice	n.	1297	/vaɪs/	yes	yes	DF	i	
vigil	n.	a1250	/ˈvɪdʒɪl/	no	no	VA	i	R
vigour	n.	13..	/ˈvɪgə(r)/	no	no	VP	i	R
vile	adj., adv., n.	c1290	/vaɪl/	yes	yes	L	i	
vine	n.	a1300	/vaɪn/	yes	yes	N	i	
visit	v.	a1250	/ˈvɪzɪt/	no	no	VF	i	T
wicket	n.	1296	/ˈwɪkɪt/	no	no	DP	i	T

Abbreviations: v. = verb, n. = noun, adj. = adjective, Brit. = British English, DP = voiceless plosives, VP = voiced plosives, DF = voiceless fricatives, VF = voiced fricatives, DA = voiceless affricates, VA = voiced affricates, N = nasals, L = liquids, G = glides, T = obstruent, R = sonorant.

13.5. List of HOL inputs

word in ModE	word class	date of borrow-ing	pronunciation in ModE	HOL/ long in ModE	second syllable stable	vowel type	moras of post-tonic syllable	homor-ganic cluster
accumber	v.	c1275	Brit. /əˈkʌmbə/		x	u	2	/mb/
andiron	n.	a1300	/ˈænˌdaɪən/		x	a	2	/nd/
bound	n.	c1275	/baʊnd/	x		u		/nd/
chamber	n.	?c1225	Brit. /ˈʧeɪmbə/	x	x	a	2	/mb/
chamberlain	n.	?c1225	Brit. /ˈʧeɪmbəlɪn/	x	x	a	2	/mb/
December	n.	OE	Brit. /dɪˈsɛmbə/		x	e	2	/mb/
descend	v.	a1300	/dɪˈsɛnd/			e		/nd/
dismember	v.	1297	/dɪsˈmɛmbə(r)/		x	e	2	/mb/
found	v.	c1290	/faʊnd/	x		u		/nd/
fundament	n.	1297	/ˈfʌndəmənt/		x	u	2	/nd/
Ind	n.	?c1225	/ɪnd/			i		/nd/
Mahound	n., adj.	c1275	Brit. /məˈhuːnd/, /məˈhaʊnd/	x		u		/nd/
member	n., adj.	c1300	Brit. /ˈmɛmbə/		x	e	2	/mb/
mend	v.	a1225	Brit. /mɛnd/			e		/nd/
mould, mold	n.	a1225	Brit. /məʊld/	x		u		/ld/
mound	n.	?a1300	Brit. /maʊnd/	x		u		/nd/
number	n.	c1300	Brit. /ˈnʌmbə/		x	u	2	/mb/
pendent	adj.	?a1300	Brit. /ˈpɛnd(ə)nt/		x	e	3	/nd/
profound	adj., n.	c1300	Brit. /prəˈfaʊnd/	x		u		/nd/
rondel	n.	c1300	Brit. /ˈrɒndl/		x	o	2	/nd/
round	adj.	c1300	Brit. /raʊnd/	x		u		/nd/
scald	v.	?c1225	/skɔːld/	x		a		/ld/
scandal	n.	?c1225	/ˈskændəl/		x	a	2	/nd/
sendal	n.	a1225	/ˈsɛndəl/		x	e	2	/nd/
slander	n.	c1290	/ˈslɑːndə(r)/ /-æ-/	? counted as short	x	a	2	/nd/
soldan	n.	1297	/ˈsɒldən/		x	o	2	/ld/
sound	n.	1297	/saʊnd/	x		u		/nd/
sound	v.	a1300	/saʊnd/	x		u		/nd/
spelder	v.	?c1200	/ˈspɛldə(r)/		x	e	2	/ld/
standard	n., adj.	1154	/ˈstændəd/		x	a	3	/nd/
suspend	v.	c1290	/səˈspɛnd/			e		/nd/
tender	adj., n., (adv.)	?c1225	/ˈtɛndə(r)/		x	e	2	/nd/
timber	n.	a1150	/ˈtɪmbə(r)/		x	i	2	/mb/
tomb	n.	c1290	/tuːm/	x		o		/mb/

Abbreviations: v. = verb, n. = noun, adj. = adjective, Brit. = British English.

13.6. List of TRISH inputs

word in ModE	word class	date of borrow-ing	pronunciation in ModE	TRISH/ short in ModE	C type	unstable schwa	vowel type	trisyllabic if final schwa is unstable
abstinence	n.	?c1225	Brit./ˈabstɪnəns/	x	2+	x	a	x
accidie	n.	?c1225	Brit./ˈaksɪdi/	x	1		a	x
adventure	n.	?c1225	Brit./ədˈvɛn(t)ʃə/	x	2+	x	e	x
amethyst	n.	c1290	/ˈæmɪθɪst/	x	1		a	
ancestor	n.	1297	/ˈænsɪstə(r)/	x	2+		a	
andiron	n.	a1300	/ˈænˌdaɪən/	x	HC		a	
Araby	n., adj.	a1225	Brit./ˈarəbi/	x	1		a	
asperity	n.	?c1225	/əˈspɛrɪtɪ/	x	1		e	
astronomy	n.	c1275	Brit./əˈstrɒnəmi/	x	1		o	
authority	n.	?c1225	Brit./ɔːˈθɒrɪti/	x	1		o	
bachelor	n.	1297	/ˈbætʃələ(r)/	x	1		a	
balance	n.	1297	/ˈbæləns/	x	1		a	
banneret	n.	1297	/ˈbænərɪt/	x	1		a	
barony	n.	1297	/ˈbærənɪ/	x	1		a	
basinet, basnet	n.	c1300	/ˈbæsɪnɪt/, /ˈbæsnɪt/	x	1		a	
baudekin, baudkin	n.	c1300	/ˈbɔːdɪkɪn/, /ˈbɔːdkɪn/		1		o	
benison	n.	a1300	/ˈbɛnɪsən/	x	1		e	
betony	n.	a1275	/ˈbɛtənɪ/	x	1		e	
blasphemy	n.	c1230	/ˈblɑːsfɪmɪ/, /-æ-/	? counted as short	2+		a	
butlery	n.	1297	/ˈbʌtlərɪ/	x	2+		u	
calendar	n.	c1275	Brit./ˈkalɪndə/	x	1		a	
capital	n., adj.	?c1225	Brit./ˈkapɪtl/	x	1		a	
capitulary	n., adj.	OE	Brit. /kəˈpɪtjʉlərɪ/, /kəˈpɪtʃʉlərɪ/	x	1		i	
cellarer	n.	?a1300	Brit./ˈsɛl(ə)rə/	x	1		e	
centurion	n.	c1275	/sɛnˈtjʊərɪən/	x	2+		e	
challenge	v.	?c1225	/ˈtʃælɪndʒ/	x	1	x	a	
chamberlain	n.	?c1225	Brit./ˈtʃeɪmbəlɪn/		HC		a	
chanticleer	n.	a1300	/ˈtʃɑːntɪklɪə(r)/, /ˈtʃæ-/		2+		a	
chastity	n.	?c1225	/ˈtʃæstɪtɪ/	x	2+		a	
chasuble	n.	c1300	/ˈtʃæsjʊb(ə)l/	x	1	x	a	
chrysolite	n.	c1300	/ˈkrɪsəlaɪt/	x	1	x	i	x
chrysoprase	n.	c1275	/ˈkrɪsəpreɪz/	x	1	x	i	x
company	n.	a1275	Brit. /ˈkʌmp(ə)ni/, /ˈkʌmpn̩i/	x	2+		o	
concubine	n.	1297	/ˈkɒŋkjuːbaɪn/	x	2+	x	o	x
countenance	n.	c1290	/ˈkaʊntɪnəns/		2+	x	u	x
courage	n.	c1300	/ˈkʌrɪdʒ/	x	1	x	o	
covenant	n.	1297	/ˈkʌvɪnənt/	x	1		o	
coverture	n.	?c1225	/ˈkʌvətjʊə(r)/	x	1	x	o	x
covetous	adj.	a1300	/ˈkʌvɪtəs/	x	1		o	
cowardice	n.	c1300	/ˈkaʊədɪs/		1	x	u	x
creature	n.	c1300	Brit./ˈkriːtʃə/		0	x	e	x
crocodile	n.	c1300	/ˈkrɒkədaɪl/	x	1	x	o	x
crucifix	n.	?c1225	/ˈkruːsɪfɪks/		1		u	

cruelty	n.	c1230	/ˈkruːɪltɪ/		0		u	
damage	n.	1300	/ˈdæmɪdʒ/	x	1	x	a	
dangerous	adj.	?1225	/ˈdeɪndʒərəs/		2+		a	
deliverance	n.	c1290	/dɪˈlɪvərəns/	x	1	x	i	x
desirous	adj.	c1300	/dɪˈzaɪərəs/		0		i	
diadem	n.	c1290	/ˈdaɪədɛm/		0		i	
dialogue, dialog	n.	OE	Brit./ˈdʌɪəlɒg/		0	x	i	x
dignity	n.	?c1225	/ˈdɪgnɪtɪ/	x	2+		i	
discipline	n.	a1225	Brit./ˈdɪsɪplɪn/	x	1	x	i	x
discipline	v.	c1300	Brit./ˈdɪsɪplɪn/	x	1	x	i	x
dittany	n.	c1150	/ˈdɪtənɪ/	x	1		i	
dragoman	n.	13..	/ˈdrægəmən/	x	1		a	
dragonet	n.	13..	/ˈdrægənɪt/	x	1		a	
drapery	n.	a1300	/ˈdreɪpərɪ/		1		a	
element	n.	a1300	/ˈɛlɪmənt/	x	1		e	
emerald	n.	c1300	/ˈɛmərəld/	x	1		e	
emperor	n.	?c1225	Brit./ˈɛmp(ə)rə/	x	2+		e	
engine	n.	?a1300	Brit./ˈɛn(d)ʒ(ɪ)n/	x	2+	x	e	
engine	v.	c1300	Brit./ˈɛn(d)ʒ(ɪ)n/	x	2+	x	e	
evangelist	n.	c1175	/ɪˈvændʒɪlɪst/	x	2+		a	
evidence	n.	a1300	/ˈɛvɪdəns/	x	1	x	e	x
executor	n.	a1280	/ɛkˈs/, /ɛgˈzɛkjʊtə(r)/, /ˈɛksəkjʊtə(r)/	x	2+		e	
familiarity	n.	?c1225	Brit./fəˌmɪlɪˈarɪti/	x	1		a	
February	n.	c1225	Brit./ˈfɛbr(ər)i/, /ˈfɛbjʊri/, /ˈfɛbjʊəri/	x	2+		e	
felony	n.	c1290	/ˈfɛlənɪ/	x	1		e	
figure	n.	?c1225	/ˈfɪgə(r)//-jʊə(r)/	x	1	x	i	
foolhardy	adj.	?c1225	/ˈfuːlˌhɑːdɪ/		2+		o	
forester	n.	1297	/ˈfɒrɪstə(r)/	x	1		o	
franchise	n.	c1300	Brit./ˈfran(t)ʃʌɪz/	x	2+	x	a	
fundament	n.	1297	/ˈfʌndəmənt/	x	HC		u	
garrison	n.	1297	/ˈgærɪsən/	x	1		a	
general	n., adj.	c1230	Brit./ˈdʒɛn(ə)rəl/, /ˈdʒɛn(ə)rl̩/	x	1		e	
gentrice	n., adj.	?c1225		x	2+	x	e	
gingerbread	n.	1299	/ˈdʒɪndʒəbrɛd/	x	2+		i	
glorious	adj.	13..	/ˈglɔərɪəs/		1		o	
gluttony	n.	?c1225	/ˈglʌtənɪ/	x	1		u	
governor	n.	13..	/ˈgʌvənə(r)/	x	1		o	
grievance	n.	a1300	/ˈgriːvəns/		1	x	e	
heresy	n.	?c1225	/ˈhɛrɪsɪ/	x	1		e	
heritage	n.	a1225	ˈhɛrɪtɪdʒ/	x	1	x	e	x
horoscope	n.	c1050	/ˈhɒrəskəʊp/	x	1	x	o	x
horribility	n.	13..	/hɒrɪˈbɪlɪtɪ/	x	1		i	
hospital	n.	c1300	/ˈhɒspɪtəl/	x	2+		o	
hostage	n.	c1290	/ˈhɒstɪdʒ/	x	2+	x	o	
hosteler	n.	c1300	/ˈhɒstələ(r)/	x	2+		o	
hypocrisy	n.	?c1225	/hɪˈpɒkrɪsɪ/	x	2+		o	
hypocrite	n.	?c1225	/ˈhɪpəkrɪt/	x	1	x	i	x
ignorance	n.	?c1225	/ˈɪgnərəns/	x	2+	x	i	x
image	n.	c1225	Brit./ˈɪmɪdʒ/	x	1	x	i	
iniquity	n.	13..	/ɪˈnɪkwɪtɪ/	x	2+		i	
innocent	adj., n.	13..	/ˈɪnəsənt/	x	1		i	
instrument	n.	c1290	/ˈɪnstrəmənt/	x	2+		i	

irregularity	n.	a1300	/ɪrɛgjuːˈlærɪtɪ/	x	1		a	
January	n.	OE	Brit./ˈdʒanjʊəri/, /ˈdʒanjɐri/	x	2+		a	
jealousy	n.	?c1225	/ˈdʒɛləsɪ/	x	1		e	
jeopardy	n.	a1300	/ˈdʒɛpədɪ/	x	1		e	
jollity	n.	a1300	/ˈdʒɒlɪtɪ/	x	1		o	
judgement	n.	a1250	/ˈdʒʌdʒm(ə)nt/	x	1		u	
justice	n.	?a1160	Brit./ˈdʒʌstɪs/	x	2+	x	u	
justice	v.	c1300	Brit./ˈdʒʌstɪs/	x	2+	x	u	
language	n., (int.)	c1300	Brit./ˈlaŋgwɪdʒ/	x	2+	x	a	
lastage	n.	1205	Brit./ˈlɑːstɪdʒ/, /ˈlastɪdʒ/	? counted as short	2+	x	a	
lavender	n., adj.	c1265	/ˈlævɪndə(r)/	x	1		a	
lechery	n.	c1230	/ˈlɛtʃərɪ/	x	1		e	
legate	n.	lOE	/ˈlɛgət/	x	1	x	e	
leisure	n.	a1300	/ˈlɛʒ(jʊ)ə(r)/, /ˈliːʒ(jʊ)ə(r)/	x	1	x	e	
lettuce	n.	c1300	Brit./ˈlɛtɪs/	x	1	x	e	
library	n.	13..	/ˈlaɪbrərɪ/		2+		i	
lineage	n.	13..	/ˈlɪnɪɪdʒ/	x	1	x	i	
liquorice, licorice	n.	c1275	/ˈlɪkərɪs/	x	1	x	i	x
lorimer, loriner	n.	c1230	/ˈlɒrɪmə(r)/, /ˈlɒrɪnə(r)/	x	1		o	
lovage	n.	c1300	Brit./ˈlʌvɪdʒ/	x	1	x	o	
mackerel	n.	c1300	Brit./ˈmak(ə)rəl/, /ˈmak(ə)rl̩/	x	1		a	
majesty	n.	c1300	Brit./ˈmadʒɪsti/	x	1		a	
malady	n.	c1275	Brit./ˈmalədi/	x	1		a	
malison	n.	c1300	Brit./ˈmalɪs(ə)n/, /ˈmalɪz(ə)n/	x	1		a	
manciple	n.	?c1225	Brit./ˈmansɪpl/	x	2+	x	a	
mariner	n.	c1300	Brit./ˈmarɪnə/	x	1		a	
marriage	n.	c1300	Brit./ˈmarɪdʒ/	x	1	x	a	
mastery	n.	c1225	Brit./ˈmɑːst(ə)ri/, /ˈmast(ə)ri/	? counted as short	2+		a	
matfellon	n.	?a1300	Brit./ˈmatfɛlən/	x	2+		a	
measure	n.	a1225	Brit./ˈmɛʒə/	x	1	x	e	
melody	n.	c1300	Brit./ˈmɛlədi/	x	1		e	
memory	n.	?c1225	Brit./ˈmɛm(ə)ri/	x	1		e	
menace	n.	c1300	Brit./ˈmɛnɪs/	x	1	x	e	
message	n., adj.	c1300	Brit./ˈmɛsɪdʒ/	x	1	x	e	
messenger	n.	?c1225	Brit. /ˈmɛs(ɪ)ndʒə/	x	1		e	
minister	n.	c1300	Brit./ˈmɪnɪstə/	x	1		i	
miniver	n., adj.	c1300	Brit./ˈmɪnɪvə/	x	1		i	
miracle	n.	?a1160	Brit./ˈmɪrɪkl/	x	1	x	i	
misericord	n., (int.)	c1230	Brit. /mɪˈzɛrɪkɔːd/, /mɪˈzɛːrɪkɔːd/	x	1		e	
multiply	v.	a1275	Brit./ˈmʌltɪplʌɪ/	x	2+		u	
multure	n.	?a1300	Brit./ˈmʌltʃə/, /ˈmʌltʃ(j)ʊə/	x	2+	x	u	
nativity	n.	lOE	Brit./nəˈtɪvɪti/	x	1		i	
natural	adj., adv.	c1275	Brit./ˈnatʃ(ə)rəl/, /ˈnatʃ(ə)rl̩/	x	1		a	
nature	n.	c1275	Brit./ˈneɪtʃə/		1	x	a	

nourice	n.	c1225	Brit./ˈnʌrɪs/	x	1	x	u	
obedience	n.	a1225	Brit. /ə(ʊ)ˈbiːdɪəns/		1	x	e	x
obedient	adj., n.	?c1225	Brit. /ə(ʊ)ˈbiːdɪənt/		1		e	
offerand	n.	a1225	Brit./ˈɒfərand/, /ˈɒf(ə)rənd/, /ˈɒf(ə)rn̩d/	x	1		o	
office	n.	c1300	Brit./ˈɒfɪs/	x	1	x	o	
ogive	n.	1290	Brit./ˈəʊdʒʌɪv/		1	x	o	
oliphant	n.	c1275	Brit./ˈɒlɪf(ə)nt/	x	1		o	
olive	n., adj.	a1225	Brit./ˈɒlɪv/	x	1	x	o	
orache	n.	a1300	Brit./ˈɒrətʃ/	x	1	x	o	
orison	n.	a1225	Brit./ˈɒrɪzn/	x	1		o	
outrage	n.	c1300	Brit./ˈaʊtreɪdʒ/		2+	x	u	
palace	n.	c1300	Brit./ˈpalɪs/	x	1	x	a	
parable	n.	c1250	Brit./ˈparəbl/	x	1	x	a	
parage	n.	c1250	Brit./ˈparɪdʒ/	x	1	x	a	
passage	n.	c1300	Brit./ˈpasɪdʒ/	x	1	x	a	
patience	n.	?c1225	Brit./ˈpeɪʃns/		1	x	a	
pavement	n.	a1300	Brit./ˈpeɪvm(ə)nt/		2+		a	
pavilion	n.	c1225	Brit./pəˈvɪlɪən/	x	1		i	
penance	n.	a1300	Brit./ˈpɛnəns/	x	1	x	e	
perdurable	adj.	c1275	Brit./pəˈdjʊərəbl/ /pəˈdjɔːrəbl/, /pəˈdʒʊərəbl/, /pəˈdʒɔːrəbl/		1	x	u	
perilous	adj., adv.	c1300	Brit./ˈpɛrɪləs/,/ˈpɛrl̩əs/	x	1		i	
phantasm	n., adj.	a1250	Brit./ˈfantaz(ə)m/	x	2+	x?	a	
pilgrimage	n.	c1275	Brit./ˈpɪlgrɪmɪdʒ/	x	2+	x	i	x
piteous	adj.	c1300	Brit./ˈpɪtɪəs/	x	1		i	
pittance	n.	?c1225	Brit./ˈpɪt(ə)ns/	x	1	x	i	
pottage	n.	?c1225	Brit./ˈpɒtɪdʒ/	x	1	x	o	
poverty	n.	a1225	Brit./ˈpɒvəti/	x	1		o	
pre-eminence	n.	?c1225	Brit. /priːˈɛmɪnəns/, /prɪˈɛmɪnəns/	x	1		e	x
prejudice	n.	c1300	Brit./ˈprɛdʒʊdɪs/	x	1	x	e	x
prelate	n.	?c1225	Brit./ˈprɛlət/	x	1	x	e	
primate	n.	c1275	/ˈprʌɪmət/, /ˈprʌɪmeɪt/		1	x	i	
principal	adj., n., adv.	c1300	Brit./ˈprɪnsɪpl/	x	2+		i	
prioress	n.	c1300	Brit./ˈprʌɪərɪs/, /ˌprʌɪəˈrɛs/		0		i	
priory	n.	c1300	Brit./ˈprʌɪəri/		0		i	
privity	n.	?c1225	Brit./ˈprɪvɪti/	x	1		i	
prophecy	n.	?c1225	Brit./ˈprɒfɪsi/	x	1		o	
prosperity	n.	?c1225	Brit./prɒˈspɛrɪti/, /prəˈspɛrɪti/	x	1		o	
provender	n.	c1300	Brit./ˈprɒv(ɪ)ndə/	x	1		o	
publican	n.	?c1200	Brit./ˈpʌblɪk(ə)n/	x	2+		u	
purity	n.	c1225	Brit./ˈpjʊərɪti/, /ˈpjɔːrɪti/		1		u	
quality	n., adj.	c1300	Brit./ˈkwɒlɪti/	x	1		a	
quittance	n.	?c1225	Brit./ˈkwɪt(ə)ns/	x	1	x	i	

ramage	adj.	c1300	Brit./ˈramɪdʒ/	x	1	x	a	
ravissant	adj.	c1300	Brit./ˌravɪˈsɒ̃/, /ˌravɪˈsɑːnt/	? counted as short	1		a	
remedy	n.	?c1225	Brit./ˈrɛmɪdi/	x	1		e	
renable	adj., (adv.)	c1300	Brit./ˈrɛnəbl/	x	1	x	e	
ribaldy	n.	c1300	Brit./ˈrɪbldi/	x	1		i	
robbery	n.	a1225	Brit./ˈrɒb(ə)ri/	x	1		o	
romance	n., adj.	c1300	Brit./rə(ʊ)ˈmans/, /ˈrəʊmans/		1	x	o	
sacrament	n.	c1175	/ˈsækrəmənt/	x	2+		a	
sacrifice	n.	c1250	/ˈsækrɪfaɪs/	x	2+	x	a	x
sapphire	n.	a1272	/ˈsæfaɪə(r)/	x	1	x	a	
savage	n., adj.	c1250	Brit./ˈsavɪdʒ/	x	1	x	a	
savoury	n.	c1225	Brit./ˈseɪv(ə)ri/		1		a	
secular	adj., n.	c1290	/ˈsɛkjʊlə(r)/	x	2+		e	
seigniory, seignory	n.	c1290	/ˈseɪnjərɪ/		2+		ei	
senate	n.	c1275	/ˈsɛnət/	x	1	x	e	
senator	n.	c1275	/ˈsɛnətə(r)/	x	1		e	
sentence	n.	?c1225	/ˈsɛntəns/	x	2+	x	e	
sepulchre	n.	c1200	/ˈsɛpəlkə(r)/	x	1	x	e	
signify	v.	c1275	Brit./ˈsɪgnɪfʌɪ/	x	2+		i	
silence	n.	?c1225	/ˈsaɪləns/		1	x	i	
simony	n.	?c1225	/ˈsɪmənɪ/	x	1		i	
sodomy	n.	1297	/ˈsɒdəmɪ/	x	1		o	
solace	n.	c1290	/ˈsɒləs/	x	1	x	o	
solace	v.	1297	/ˈsɒləs/	x	1	x	o	
solemnity	n.	c1290	/sɒˈlɛmnɪtɪ/	x	2+		e	
sovereign	n., adj.	c1290	/ˈsɒvrɪn/	x	1		o	
specify	v.	a1300	/ˈspɛsɪfaɪ/	x	1		e	
spicery	n.	1297	/ˈspaɪsərɪ/		1		i	
spousage	n.	13..		? counted as long	1	x	u	
stability	n.	13..	/stəˈbɪlɪtɪ/	x	1		i	
statute	n.	c1300	Brit./ˈstatʃuːt/, /ˈstatjuːt/	x	2+	x	a	
symphony	n.	c1290	/ˈsɪmfənɪ/	x	2+		i	
tallage	n.	c1290	/ˈtælɪdʒ/	x	1	x	a	
tournament	n.	?c1225	/ˈtʊənəmənt/	? counted as long	1		u	
treachery	n.	?c1225	/ˈtrɛtʃərɪ/	x	1		e	
trinity	n.	a1250	/ˈtrɪnɪtɪ/	x	1		i	
tyrant	n.	c1290	/ˈtaɪərənt/		0		i	
unicorn	n.	?c1225	/ˈjuːnɪkɔːn/		1		u	
urinal	n.	c1300	/ˈjʊərɪnəl/, /jʊəˈraɪnəl/		1		u	
usurer	n.	c1290	/ˈjuːzjʊərə(r)/		1		u	
vanity	n.	c1230	/ˈvænɪtɪ/	x	1		a	
vengeance	n., adj., adv.	1297	/ˈvɛndʒəns/	x	2+	x	e	
venial	adj., n.	a1300	/ˈviːnɪəl/		1		e	
venison	n.	c1290	/ˈvɛnz(ə)n/, /ˈvɛnɪz(ə)n/, /ˈvɛnɪs(ə)n/	x	1		e	
venomous	adj.	c1290	/ˈvɛnəməs/	x	1		e	
villainy	n.	?c1225	/ˈvɪlənɪ/	x	1		i	

vision	n.	c1290	/ˈvɪʒən/	x	1		i	
voyage	n.	1297	/ˈvɔɪɪdʒ/		0	x	oy	
warrener	n.	1297	/ˈwɒrənə(r)/	x	1		a	
withernam	n.	1292	/ˈwɪðənɑːm/	x	1		i	

Abbreviations: v. = verb, n. = noun, adj. = adjective, int. = interjection, Brit. = British English, HC = homorganic cluster, 2+ = two or more postvocalic consonants.

13.7. List of SHOCC inputs

word in ModE	word class	date of borrow-ing	pronunciation in ModE	SHOCC/ short in ModE	vowel type	cluster with bound-ary	type of C clust-er	# of Cs in coda	# of post-tonic syllab-les
abstinence	n.	?c1225	Brit. /ˈabstɪnəns/	x	a	x	BFP	1	3
adventure	n.	?c1225	Brit. /ədˈvɛn(t)ʃə/	x	e	x	BF	1	2
ancestor	n.	1297	/ˈænsɪstə(r)/	x	a	x	NF	1	2
blasphemy	n.	c1230	/ˈblɑːsfɪmɪ/, /-æ-/	x counted as short	a	x	FF	1	2
butlery	n.	1297	/ˈbʌtlərɪ/	x	u	x	PL	1	2
chanticleer	n.	a1300	/ˈtʃɑːntɪklɪə(r)/, /ˈtʃæ-/	x	a	x	NP	1	2
chastity	n.	?c1225	/ˈtʃæstɪtɪ/	x	a		FP	0 or 2	2
company	n.	a1275	Brit. /ˈkʌmp(ə)ni/, /ˈkʌmpn̩i/	x	o	x	NP	1	2
concubine	n.	1297	/ˈkɒŋkjuːbaɪn/	x	o	x	NPG	1	3
counte-nance	n.	c1290	/ˈkaʊntɪnəns/		u	x	NP	1	3
dangerous	adj.	?1225	/ˈdeɪndʒərəs/		a	x	NA	1	2
dignity	n.	?c1225	/ˈdɪgnɪtɪ/	x	i	x	BN	1	2
emperor	n.	?c1225	Brit./ˈɛmp(ə)rə/	x	e	x	NP	1	2
engine	n.	?a1300	Brit. /ˈɛn(d)ʒ(ɪ)n/	x	e	x	NA	1	2
engine	v.	c1300	Brit. /ˈɛn(d)ʒ(ɪ)n/	x	e	x	NA	1	2
ensemble	v.	a1300		x	e	x	NBL	1	1
evangelist	n.	c1175	/ɪˈvændʒɪlɪst/	x	a	x	NA	1	2
executor	n.	a1280	/ɛkˈs-/, /ɛgˈzɛkjʊtə(r)/, /ˈɛksəkjʊtə(r)/	x	e	x	PF	1	2
February	n.	c1225	Brit./ˈfɛbr(ər)i/, /ˈfɛbjʊri/, /ˈfɛbjʊəri/	x	e	x	BL	0 or 1	2
franchise	n.	c1300	Brit. /ˈfran(t)ʃʌɪz/	x	a	x	NA	1	2
gentrice	n., adj.	?c1225		x	e	x	NPL	1	2
gingerbrea d	n.	1299	/ˈdʒɪndʒəbrɛd/	x	i	x	NA	1	2
grange	n.	c1300	/greɪndʒ/		a	x	NA	2	1
granger	n.	c1112	/ˈgreɪndʒə(r)/		a	x	NA	1	1
hospital	n.	c1300	/ˈhɒspɪtəl/	x	o		FP	0 or 2	2
hostage	n.	c1290	/ˈhɒstɪdʒ/	x	o		FP	0 or 2	2
hosteler	n.	c1300	/ˈhɒstələ(r)/	x	o		FP	0 or 2	2
humble	adj.	c1250	/ˈhʌmb(ə)l/	x	u	x	NBL	1	1
hypocrisy	n.	?c1225	/hɪˈpɒkrɪsɪ/	x	o		PL	0	2
ignorance	n.	?c1225	/ˈɪgnərəns/	x	i	x	BN	1	3
iniquity	n.	13..	/ɪˈnɪkwɪtɪ/	x	i		PG	0	2

inquest	n.	c1290	/ˈɪnkwɛst/	x	i	x	NPG	1	1
instrument	n.	c1290	/ˈɪnstrəmənt/	x	i	x	NFPL	1	2
January	n.	OE	Brit. /ˈdʒanjʊəri/, /ˈdʒanjɐri/	x	a	x	NG	1	3
jest	n.	a1300	/dʒɛst/	x	e		FP	2	0
justice	n.	?a1160	Brit. /ˈdʒʌstɪs/	x	u		FP	0 or 2	2
justice	v.	c1300	Brit. /ˈdʒʌstɪs/	x	u		FP	0 or 2	2
language	n., (int.)	c1300	Brit. /ˈlaŋgwɪdʒ/	x	a	x	NBG	2	2
lamp	n.	c1200	/læmp/	x	a		NP	2	0
lamprey	n.	1297	/ˈlæmprɪ/	x	a	x	NPL	1	1
lastage	n.	1205	Brit. /ˈlɑːstɪdʒ/, /ˈlastɪdʒ/	x counted as short	a		FP	0 or 2	2
library	n.	13..	/ˈlaɪbrərɪ/		i		BL	0	2
manciple	n.	?c1225	Brit. /ˈmansɪpl/	x	a	x	NF	1	2
mastery	n.	c1225	Brit. /ˈmɑːst(ə)ri/, /ˈmast(ə)ri/	x counted as short	a		FP	0 or 2	2
matfellon	n.	?a1300	Brit./ˈmatfɛlən/	x	a	x	PF	1	2
minstrel	n.	?c1225	Brit. /ˈmɪnstr(ə)l/	x	i	x	NFPL	1	1
multiply	v.	a1275	Brit. /ˈmʌltɪplʌɪ/	x	u	x	LP	1	2
multure	n.	?a1300	Brit. /ˈmʌltʃə/, /ˈmʌltʃ(j)ʊə/	x	u	x	LP	1	2
mustard	n., adj.	1289	Brit. /ˈmʌstəd/	x	u		FP	0 or 2	1
ointment	n.	c1300	Brit. /ˈɔɪntm(ə)nt/		oi	x	NPN	2	1
ostrich	n., adj.	a1250	Brit. /ˈɒstrɪtʃ/, /ˈɒstrɪdʒ/	x	o	x	FPL	1 or 2	1
outrage	n.	c1300	Brit./ˈaʊtreɪdʒ/		u	x	PL	0 or 2	2
pavement	n.	a1300	Brit. /ˈpeɪvm(ə)nt/		a	x	FN	1	2
phantasm	n., adj.	a1250	Brit. /ˈfantaz(ə)m/	x	a	x	NP	1	2
pilgrimage	n.	c1275	Brit. /ˈpɪlgrɪmɪdʒ/	x	i	x	LBL	1	3
post	n.	OE	Brit. /pəʊst/		o		FP	2	0
principal	adj., n., adv.	c1300	Brit. /ˈprɪnsɪpl/	x	i	x	NF	1	2
publican	n.	?c1200	Brit. /ˈpʌblɪk(ə)n/	x	u	x	BL	0 or 1	2
roundel	n.	c1300	Brit. /ˈraʊndl/		u	x	NBL	1 or 3	1
sacrament	n.	c1175	/ˈsækrəmənt/	x	a	x	PL	0 or 1	2
sacrifice	n.	c1250	/ˈsækrɪfaɪs/	x	a	x	PL	0 or 1	3
secular	adj., n.	c1290	/ˈsɛkjʊlə(r)/	x	e	x	PG	1	2
sect	n.	13..	/sɛkt/	x	e		PP	2	0
seigniory, seignory	n.	c1290	/ˈseɪnjərɪ/		ei	x	NG	1	2
sentence	n.	?c1225	/ˈsɛntəns/	x	e	x	NP	1	2

signify	v.	c1275	Brit. /ˈsɪgnɪfʌɪ/	x	i	x	BN	1	2
soldier	n.	a1300	/ˈsəʊldʒə(r)/		o	x	LBG	1	1
solemnity	n.	c1290	/sɒˈlɛmnɪtɪ/	x	e	x	NN	1	2
statute	n.	c1300	Brit. /ˈstatʃuːt/, /ˈstatjuːt/	x	a		PG	1	2
strange	adj.	c1290	/streɪn(d)ʒ/		a	x	NA	2	1
stranger	n., (adj.)	13..	/ˈstreɪndʒə(r)/		a	x	NA	1	1
symphony	n.	c1290	/ˈsɪmfənɪ/	x	i	x	NF	1	2
vengeance	n., adj., adv.	1297	/ˈvɛndʒəns/	x	e	x	NA	1	3
wimble	n.	1295	/ˈwɪmb(ə)l/	x	i		NBL	1 or 3	1

Abbreviations: v. = verb, n. = noun, adj. = adjective, int. = interjection, Brit. = British English, P = voiceless stop, B = voiced stop, F = fricative, A = affricate, N = nasal, L = liquid, G = glide.