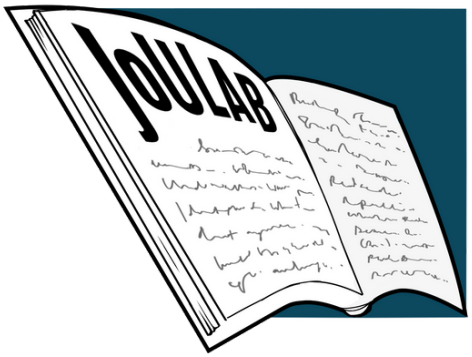

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GALLICISMS AND THE DUTCH FINAL STRESS: AN ETYMOLOGICAL APPROACH

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Gallicisms and the Dutch Final Stress: An Etymological Approach

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Abstract: In the light of the discussions regarding the Dutch word stress, syllable weight theories and generalisations were formulated and discussed in Metrical Phonology literature. Despite the minor differences in the postulations among different scholars, the main generalisations of the Dutch syllable weight theory seem to be overall in accordance. However, the very existence of a few exceptions in the lexicon reveals some of the inconsistencies to the main rules which Kager (1989) tried to soothe by adding minor rules. Since the realisation of final stress according to the main generalisations of the syllable weight theory in place is restricted, the aim of this text is to analyse final stress in the Dutch lexicon through an etymological and historical insight. The corpus analysed are words extracted from Kager (1989). The results of the analysis lead to a strong connection between final stress and Gallicisms and that phonological changes in French and Dutch are responsible for the high occurrence of oxytones in the Dutch lexicon.

Plain English Abstract: Discussions about word stress in the Dutch language gave rise to many theories about primary stress placement. In most theories, primary stress is found within the last three syllables of a word and can be predicted based on syllable weight. However, can primary stress be predicted by syllable weight only? In Dutch, primary final stress is restricted to superheavy syllables, which have a long vowel and a consonant, a diphthong and a consonant or a short vowel and two consonants as their rhyme. Although this main generalisation is consistent, words that deviate from it can be found in the lexicon. The nature of the words selected to substantiate the main generalisations of the syllable weight theory are also to be questioned: many of them happen to be loanwords, especially from romance languages that stress the last three syllables and derive from a quantity-sensitive language, Latin. Another oddity is the vast existence of words with primary final stress in Dutch, since final stress is unusual in Germanic languages and Latin. One of the hypotheses for the substantial occurrence of final stress in Dutch is the extensive borrowing and contact with French. Therefore, the goal of this paper is to investigate the correlation between final stress and the influence that French has had on Dutch through an etymological scope, as it is believed that French is responsible for the vast contingency of words with primary final stress in the Dutch lexicon.

Keywords: word stress; Dutch; French loanwords; final stress

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1 Introduction

Dutch is considered a free stress language in which the placement of primary stress within a word can vary. According to some authors of the syllable weight theory for Dutch, among them Kager (1989) and Booij (1999), Dutch is a quantity-sensitive language, which means that syllable weight has influence over stress placement. In this theory, weight is assigned to a syllable in consonance with its structure, and syllables are thus hierarchically classified as light, heavy, and superheavy. Even though most of the words in the Dutch lexicon that served as evidence seem to be in accordance with the main generalisations of this theory, there can be found exceptions to some of the main rules, often caused by oxytones due to the restriction of final stress only occurring on superheavies.

According to van Oostendorp (2012), most of the words that were selected as evidence were loanwords that usually maintained the stress in the same position as in their respective donor language, with the donor language being quantity-sensitive itself. In the specific case of French loanwords, they usually preserved their final stress, which constitutes a suprasegmental element that was integrated into the Dutch phonology (van der Sijs, 1996, 2009).

In addition to that, Booij (1999) describes Dutch as a mixture of three patterns of accentuation: a Germanic, a Latin, and a French pattern. Booij's statement suggests the coexistence of three main stress patterns in Dutch that are not in conformity. The existence of exceptions in the syllable weight theory is thus understandable as the French fixed final stress pattern is not in unison with the Germanic and Latin accentuation patterns.

Given the aforementioned issue, the main objective of this paper is to comprehend the placement of primary final stress according to the metrical phonology theory of syllable weight through an etymological and historical scope. Departing from the specific main generalisation that only final superheavies bear primary stress, an etymological analysis will be conducted in order to comprehend the circumstances in which primary final stress in Dutch occurs based on etymological and diachronic phonological events, in order to verify a possible French influence over Dutch and its extent.

2 Syllable Weight and Primary Stress Assignment

Regarding the Dutch syllable weight theory, the postulations, rules, and divergences among the authors investigated were assembled and summarised. They were gathered from Kager (1989), Booij (1999), Neijt and van Heuven (1992), Visch and Kager (1984), van Oostendorp (2012), van Oostendorp and Köhnlein (2016), and Domahs, Plag, and Carroll (2014).

The optimal metrical foot in Dutch is a bounded trochee (Booij, 1999). A trochee is a foot consisting of two nodes formed by a stressed and an unstressed syllable respectively. An underived word can have either one of its last three syllables stressed, and stress placement is largely predictable on account of the weight of the two last syllables of a word.

Weight is attributed to a syllable according to its structure. In Dutch, there are three main weight categories: light, heavy, and superheavy. Some authors attribute an additional weight category for syllables containing a schwa as their nucleus, called superlight by Neijt and van Heuven (1992) and 'schwallables' by Kager (1989). Stress is counted from the right edge to the left edge of a word. Table 1 shows the assignment of weight to a syllable according to its structure.

Table 1: *Weight Assignment*

Weight	Rhyme Structure
superlight / schwallable	nucleus: schwa coda: yes / no -ə(C)
light	nucleus: long vowel coda: no -VV-
heavy	nucleus: short vowel coda: yes VC nucleus: diphthong coda: no V_iV_j
superheavy	nucleus: short vowel coda: yes VCC nucleus: long vowel/diphthong coda: yes VVC

Superlight syllables, as previously mentioned, are syllables that have a schwa as their nucleus. Light syllables are open syllables containing a long vowel (VV). Heavy syllables are closed syllables, consisting of a short vowel and a consonant as their rhyme (VC). Kager (1989) also considers rhymes consisting of a diphthong (V_iV_j) in open syllables as heavy. Superheavy syllables are syllables containing a long vowel and a consonant (VVC), a short vowel and two consonants (VCC), or a diphthong and a consonant (V_iV_jC).

As for the main generalisations for primary stress placement within a word, antepenultimate primary stress occurs if the penultima is light. The penultima is stressed if the ultima is light or superlight, and the ultima is only stressed if it is superheavy, as shown in Table 2.

Table 2: *Main Generalisations for Primary Stress Placement*

Primary Stress Location	Lexicon Sample
antepenultima	*ca**ta**logus* ‘catalog’ ***al**cohol* ‘alcohol’ ***do**minee* ‘preacher, vicar’
penultima	***me**tro* ‘underground’ *choco**la**de* ‘chocolate’ *com**man**do* ‘order, command’
ultima	*presi**dent*** ‘president’ *abri**koos*** ‘apricot’ *manda**rijn*** ‘tangerine’

One of the criticisms of the quantity-sensitivity theory is that it was derived from the frequency of stress patterns in the lexicon, influenced by stress shifts in loanwords, neologisms, prosodic mistakes, acronyms, brand names and child language (Neijt & van Heuven, 1992). Moreover, since the study of stress by metrical phonology constitutes a research topic in generative phonology, as van Oostendorp (2012) argues, the evidence for a Dutch stress pattern should be designed from the speaker’s awareness of stress assignment, and not from the lexicon, regarded as static evidence (van Oostendorp, 2012; van Oostendorp & Köhnlein, 2016).

Furthermore, the substantiality of the words adduced as evidence in the theory are loanwords, the majority being from other Indo-European languages that usually retained the stress in the same original position from the donor language; the donor language commonly being quantity-sensitive itself (van Oostendorp, 2012).

Due to the extensive contact that Dutch had with French, besides the great prestige French had for centuries, Gallicisms are the greatest group of loanwords in the Dutch lexicon (followed by Latin). These loans brought not only new morphemes and phonemes, but also the French characteristic fixed final stress (van der Sijs, 1996, 2009). From the arisen issues, it is hypothesised that final stress in final heavy and light syllables, which are not in conformity with the main generalisation for final stress, has a direct interrelation with the frequency of oxytone French loans in the lexicon.

Concerning primary stress on final superheavies, it is hypothesised that this generalisation was conceived due to phonological events that occurred in French and in Dutch, those being apocope, vowel lengthening, and diphthongisation, resulting in stressed VCC and VVC final rhymes. In Old French, the apocope of the rhyme of the post-tonic ultima caused its onset to merge with the coda of the stressed penultima generating oxytones with VCC final rhymes. Dutch usually maintained the fixed final stress of French loanwords and consistently lengthened vowels in final closed syllables of Gallicisms (van der Sijs, 1996), creating, thus, VVC rhymes.

While analysing the syllable inventory of two corpora, Neijt and van Heuven (1992) built a table displaying information of polysyllabic words and their respective realisation of primary stress regarding the structure of the last two syllables. The corpora they analysed were two collections of words by van der Hulst and Langeweg which consisted of 4303 words extracted from van Dale’s dictionary, and the other is a list of words for automatic speech conversion initially developed at Leiden University, which consisted of 7259 words. The numbers extracted from the table built by Neijt and van Heuven (1992, p. 188) were summarised in Table 3, taking into account only the last syllable instead of the last two.

Table 3: *Final stress in Hulst & Langeweg and Leiden University lists*

	van der Hulst & Langeweg List		**Leiden University List**	
	stressed	*unstressed*	*stressed*	*unstressed*
final superlight	0	553	0	2273
final light	199	946	411	1109
final heavy	314	653	392	604
final superheavy	1446	192	2274	196

Table 3 shows that the realisation of primary final stress in the lexicon increases as the weight of the last syllable is heavier. The final superheavy group comprises the greatest number of words with realisation of primary stress, followed by final heavy and final light. Final superlights are not stressed as they cannot bear stress (Kager, 1989; van Oostendorp & Köhnlein, 2016).

Even though final stress is restricted to superheavies, there are final light and heavy words in the lexicon that bear primary stress, as illustrated in Table 3. Kager (1989) presented minor rules to the main rules in order to fill these gaps and provided samples of heavy and light oxytones. Some of the samples that were disposed of by Kager (1989), that comprise oxytone and non-oxytone words with final light, heavy and superheavy syllables, were etymologically analysed in this paper in order to demonstrate that the occurrence of final stress in the Dutch lexicon is a historical process pervaded by Romance and Germanic language contact, with a special regard to Gallicisms.

In order to understand the historical and phonological processes that led to final stress occurring in the Dutch lexicon, and how it was encoded by the quantity-sensitivity theory of syllable weight, it is necessary to revisit the phonological phenomena that led Latin proparoxytones and paroxytones to become oxytones, and how Dutch acquired this suprasegmental property either from borrowing oxytones from French or adapting Latin and Romance words similarly to French, as Modern French final stress is a phonological development conceived through the incorporation of Germanic prosodic properties of Franconian into Gallo-Romance.

3 The French Fixed Primary Final Accentuation

French is the outcome of the contact between the Gallo-Roman and Germanic languages spoken in Northern Gaul after the fall of the Roman Empire. Phonological events witnessed at the earliest stages of the French language such as lengthening and diphthongisation of the stressed syllable and the reduction and apocope of the syllables surrounding stress are developments associated with the Franconian superstratum in Gallo-Romance, being the latter responsible for Modern French having its characteristic fixed final stress (Bogacki & Giermak-Zielińska, 1999; Hayes, 2009).

The Frankish superstratum was an important factor for the evolution of the Latin accentuation and vowel system (Burov, 2015), characterised by differentiation of vowels in open syllables and closed syllables, diphthongisation, vowel reduction and apocope. As the Germanic expiratory stress was brought by the Franks into Gallo-Romance, so much emphasis was put on the stressed syllable that the vowel in its nucleus was lengthened and diphthongised if it was open (Rickard, 1989). As for the unstressed syllables,

the ones with pre-tonic stress had their vowels reduced while the vowels in post-tonic syllables underwent deletion (Burov, 2005; Rickard, 1989).

The Classical Latin and Vulgar Latin vowel systems were distinct. Classical Latin had five long vowels (*ā*, *ē*, *ī*, *ō*, *ū*), five short vowels (*ă*, *ĕ*, *ĭ*, *ŏ*, *ŭ*) and three diphthongs (*ae*, *au*, *oe*). While in Classical Latin vowels were distinguished by their duration, the seven Vulgar Latin vowels (*a*, *é*, *è*, *i*, *ò*, *ó*, *u*) were distinguished by their position, having two sets of closed (*ó*, *é*) and open (*è*, *ò*) vowels (Jonušaitė, 2010).

Examples of vowels in open syllables that suffered spontaneous diphthongisation, and that were later on monophthongised, but still left vestiges in orthography, are *toile* 'cloth' < *tēla*, *œuvre* 'work' < *ŏpera*, and *fleur* 'flower' < *flōrem* (Burov, 2015). The deletion of post-tonic vowels is an acknowledged phonological phenomenon in the history of French, already attested during the Empire era (Bogacki & Giermak-Zielińska, 1999). This process gave birth to the early oxytones derived from apocope, as *chrétien* 'Christian' < *Christĭānus*, and *serment* 'oath' < *săcrāmentum*. Post-tonic [a] was reduced and neutralised to a schwa as were other vowels that facilitated the articulation of a consonant cluster (Rickard, 1989), like *porte* 'door' < *porta*, *âme* 'soul' < *ănĭma*, and *peuple* 'people' < *pōpŭlus*.

The phonological changes described above reveal that the location of the original stress was preserved; however, the subsequent deletion caused by the weakening of the syllable succeeding it interfered with the syllable count, propelling stress further to the end of the word. Besides, apocope in closed paroxytones culminated in the creation of VCC final rhymes, whereas it derived VVC final rhymes if diphthongisation occurred.

In summary, the phonological changes caused by the influence of the contact between Franconian and Gallo-Romance languages resulted in the shift from proparoxytones into paroxytones and the rising of the early oxytones, uncommon in Latin. As for the remaining paroxytones, they were all turned into oxytones by the 17th century when schwa at the end of a word was no longer pronounced (Griffiths, 2014; Burov, 2015).

4 Primary Final Stress in Dutch

Even though the restrictive generalisation for final stress is consistent, as depicted in Table 3, there is still a small amount of non-oxytone superheavies. van Oostendorp and Köhnlein (2016) give two examples: *vampier* 'vampire' and *asbest* 'asbestos'. Both have final superheavies and yet are not oxytones, while a counterexample, *sigaar* 'cigar' is.

An explanation for the matter could be the etymology of the paroxytones. The first two are loanwords, from German and Latin respectively. On the other hand, *sigaar* is an oxytone, borrowed from French *cigare* < *cigarro* (Spanish). The French loanword being the only one to have final stress could be explained based on socio-historical events:

> 'A difference between Latin and French loanwords is the way of borrowing: the oldest Latin loanwords were borrowed from the vernacular through direct contact of the population with Roman colonies, while French entered through the higher classes, and from there to other social circles. This has had consequences for the integration. The court circles, who firstly borrowed the French words, tried their best to speak French 'like the French'. Therefore, in French loanwords they usually retained the French final stress [...] while with the oldest Latin loanwords the stress has been pulled back on the first syllable - just as with the Germanic words of that period.' (van der Sijs, 1996, p. 173).

While the quantity-sensitivity theory relies on the current syllable structure, it aliens itself from the circumstances in which final stress in Dutch was conceived; due to the integration of suprasegmental properties of French loanwords, which according to van der Sijs's previous statement, emanated from the desirability of the Dutch higher classes to imitate French pronunciation.

The Middle Dutch vowels /y/, /i/, and /u/ were diphthongised to Modern Dutch /œy/, /ɛi/ and /ɔu/. The diphthongisation of these vowels is said to have taken place by the end of Middle Dutch (van Bree, 1996). It is also attested in old French and Latin loanwords (van Bree, 2016), as in the word *sluis* 'dike with doors', from Old French *escluse* < *(e)sclusa* (Medieval Latin), in which the stressed <-u-> was diphthongised to <-ui-> /œy/, and the word *tapijt* 'rug', from Old French *tapiz* < *tapete* (Latin). However, cases in which only lengthening occurs are also existing: *minuut* 'minute', from French *minute* or Medieval Latin *minuta*, and *precies* 'exact, precise' from French *précis* or Medieval Latin *precisus*.

In the examples previously illustrated, apocope, vowel lengthening, and diphthongisation of the original French and Latin paroxytones generated oxytones with superheavy rhymes. This could be assumed as the product of these words adapting into the Dutch prosodic system, which has prominence of stress on the left node of the foot.

In the experiment carried out by Dohmas, Plag, and Carroll (2014) which investigated the realisation of stress placement of pseudowords by native speakers of Dutch, English, and German, they concluded that the placement of final stress in Dutch relies on the structure of the final syllables, that final light syllables are not usually stressed, and that penultimate stress is preferable. Regarding final superheavies, the results point out that they are not as likely to be stressed as is postulated by the quantity-sensitivity theory of syllable weight.

A possible reason for the incompatibility in the results that Dohmas, Plag and Carroll (2014) obtained in respect of the main generalisation of final stress restriction to superheavies may have to do with the substantiality of French and Latin words with superheavy rhymes chosen as evidence to its fomentation, as van Oostendorp (2012) asserts.

As final stress was covered by the syllable weight theory along with a supplementary historical overview of phonological phenomena undergone in Dutch and French, additional etymological research will be carried out in order to find any connection between Gallicisms and final stress in the Dutch lexicon, analysing samples used to substantiate the major and minor rules of the syllable weight theory extracted from Kager (1989).

5 Methodology

This bibliographical research aims to verify the existence of a correlation between primary final stress and Gallicisms. The corpus analysed consists of 518 words randomly extracted from Kager's (1989) samples for major and minor generalisations of the quantity-sensitivity theory of syllable weight. The words have light, heavy and superheavy final syllables, antepenultimate, penultimate, and final stress, and vary etymologically among native Dutch (Germanic) words and loanwords. The words elected for analysis were polysyllabic words ending in light, heavy and superheavy syllables. Final superlight syllables were discarded since they cannot bear primary stress, as shown in Section 2.

The aspects analysed in the lexicon of the corpus are etymology, weight of the last syllable and placement of primary stress. The etymological information was gleaned from the online database *Etymologiebank* (2021). The phonological information of the samples was already provided by Kager (1989), however, two online dictionaries were additionally used to consult orthographical, segmental and suprasegmental phonological information. The dictionaries used were the *Algemeen Nederlandse Woordenboek* (2021) held by the *Instituut voor de Nederlandse Taal* and *Woorden – Nederlands Woordenboek* (2021).

The dictionaries were chosen because they were free and had the information required for the conduction of the research.

The words were separated into three groups according to the weight of the ultima, and in two subgroups according to the location of primary stress. Location of primary stress was encoded as (+ult) for final stress, and (-ult) for non-final stress. Etymology was encoded with (+fr) for Gallicisms, (-fr) loanwords from other languages, and (?et) for words with an uncertain/disputed etymology or that did not have an entry on the database. Table 4 presents the aforementioned codes.

Table 4: *Codes*

Location of primary stress	Etymology
+ult primary stress located on the last syllable **-ult** primary stress not located on the last syllable	**+fr** French loanword **-fr** native Dutch word/loanword from another language **?et** unclear etymology

Since it is predicted that Gallicisms typically maintain their primary final stress, the general hypothesis leads to encountering a significant amount of (+fr) in (X, +ult) combinations, in which (X) can be either light, heavy, or superheavy syllables.

6 Results

The corpus analysed consists of 518 words (W) assembled in 3 groups according to the weight of the last syllable. The datum was organised in a table that shows the quantity of the words collected. The encoding for the etymological, phonological and weight aspects were already covered in Section 5.

Table 5 displays the overall data from which the occurrence of Gallicisms in the corpus (+fr), the occurrence of final stress (+ult). and the occurrence of Gallicisms with final stress (+fr, +ult) will be quantified and then discussed.

Table 5: *Overall Data of the Corpus*

Weight	**Superheavy**		**Heavy**		**Light**	
Primary Stress	+ult = 52	-ult = 49	+ult = 109	-ult = 127	+ult = 96	-ult = 85
Etymology	+fr = 29 -fr = 19 ?et = 4	+fr = 11 -fr = 30 ?et = 8	+fr = 74 -fr = 19 ?et = 16	+fr = 12 -fr = 93 ?et = 22	+fr = 60 -fr = 15 ?et = 21	+fr = 5 -fr = 72 ?et = 8

Gallicisms compose 37% of the whole corpus, 191 of the 518 words are French loans (+fr). The distribution of Gallicisms in the three groups is also similar: French loans compose 40% of final superheavies, and 36% of final heavies and final lights.

As for primary final stress (+ult), among the 226 words, 163 are Gallicisms. This indicates a higher proportion of final stress in Gallicisms, corresponding to 72% of all the oxytones (+ult).

Regarding primary stress of Gallicisms in the corpus, French loans are more likely to be oxytones than bearing initial stress. 163 French loans are oxytones (+fr, +ult), which equals to 85% of the whole number of Gallicisms, while 28 French loans place stress on the penultima or on the antepenultima (+fr, -ult). The highest occurrence of Gallicisms with final stress is found in final lights (92%), followed by final heavies (86%), and superheavies (72.5%).

The results revealed a strong connection between French loanwords and final stress; Gallicisms are the most substantial group of words that bear final stress (72%) in the corpus, which indicates a French preeminence. Non-final stress occurred only in 15% of the French loans, which is considerably lower. The reason why stress changed to initial syllables is not encompassed in the research, but if one may infer, it is caused due to the manner in which they were borrowed or later adapted into the language. Besides French loanwords, a significant amount of loans from other languages was present in the corpus, mainly from other European languages.

Some superheavy loanwords underwent a deletion process analogical to that witnessed in Old French, creating -VCC final rhymes conceived by the apocope of post-tonic final rhymes preceded by a closed penult, such as *amorf* 'amorphous' < *amorphus* (Latin) and *apocalyps* 'apocalypse' < *apocalypsis* (Latin). Vowel lengthening along with the apocope of the post-tonic syllable created superheavies with final -VVC rhymes: *anakoloet* 'anacoluthon' < *anakolouthos* (Greek), *gladiool* 'gladiolus' < *gladiolus* (Latin).

The results obtained from superheavies are in accordance with the hypothesis. Gallicisms are the biggest group of words that have primary stress on final superheavies (55.7%), despite a few words shifting stress to initial positions (27.5%), and the presence superheavies from other languages.

French and other Romance loanwords that did not have their vowels lengthened after suffering the apocope of the post-tonic syllable resulted in heavy oxytones: *charlatan* 'charlatan' < *charlatan* (French), *caramel* 'caramel' < *caramel* (French), *ampul* 'ampulla' < *ampulla* (Latin), *artisjok* 'artichoke' < *articiocco* (Italian). The corpus has it that stressed final diphthongs are mostly French loans; *gelei* 'jelly' < *gelée*, *harpij* 'harpy' < *harpie*, *kopij* 'copy' < *copie*.

The results obtained from the analysis of the final heavies are also in accordance with the general hypothesis. Gallicisms are the biggest group of final heavies with primary final stress with a 68% occurrence rate, but 14% of the French loans of the corpus had the stress on initial syllables.

Most of the words that end in light final syllables and do not present primary final stress are not Gallicisms while most of the words with primary final stress do. Some of the paroxytone and proparoxytone loans come from Romance languages other than French, such as *bodega* 'store, warehouse', from Spanish. Since the last vowel of French words was reduced and deleted, the current last vowel which bears final primary stress belonged previously to the nucleus of the former stressed penultima, giving French final vowels a distinguished aspect, such as in *menu* 'menu' < *menu* (French) < *minutus* (Latin).

Gallicisms ending in <-ie> such as *excursie* 'excursion' < *excursion* are a peculiar case because Dutch adapted the <-ion> French suffix to <-ie>, that carries penult primary stress and is confronted with the final stressed suffix <-ie>, usually from Greek or Latin <-ia> such as in *chemie* 'chemistry' < *chimia* (Latin) < *khemeia* (Greek) or from French <-ie> as in *ironie* 'irony'.

The results show that final light words are also in accordance with the hypothesis. Gallicisms are the biggest group of final lights with primary stress (62.5%) and the group with the lowest rate of stress in initial syllables (8%).

7 Conclusion

The results secured by the analysis of the corpus corroborate with the hypothesis that the realisation of primary stress in words of the lexicon have a strong link with French loanwords due to the great number of oxytones among French loans. However, primary final stress is not restricted to this group alone due to the presence of oxytones from other etymologies. In addition, some of the French loanwords have the realisation of primary stress in penultimate and antepenultimate syllables.

It is also worth mentioning a collateral effect that succeeded the loss of the rhyme of the post-tonic final syllable, in which original paroxytones became oxytones after the deletion of the ultima already in French or later on in Dutch. Since French final rhymes systematically suffered apocope already in Old French, the current majority of vowels in final open rhymes of French are the nucleus of the former penult that becomes the last syllable after the apocope of the original Latin ultima.

The deletion of the last syllable of some loans gives them final heavy and superheavy VCC rhymes depending on the structure of the penultima in the donor language. Vowel lengthening in final closed syllables creates superheavies with VVC rhymes.

In sum, French loanwords are the major responsible for the presence of oxytones in the corpus analysed and other words, especially from European languages, bear primary final stress after adapting in Dutch similarly to Latin words in Old French.

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9 Appendix

The data in the tables below is synthesised from Neijt and Heuven (1992).

Superheavy					
+ult			**-ult**		
+fr (29)	-fr (19)	?et (4)	+fr (11)	-fr (30)	?et (8)
1. abrikoos *2. alkoof* *3. allooi* *4. ambassadeur* *5. asterisk* *6. azijn* *7. azuur* *8. bankroet* *9. biljart* *10. carambole* *11. concert* *12. contrast* *13. direct* *14. emerald* *15. fazant* *16. figuur* *17. funest* *18. grafiek* *19. kapoen* *20. kostuum* *21. papier* *22. paraaf* *23. paragraaf* *24. paradox* *25. perkament* *26. piraat* *27. profiel* *28. tarief* *29. toneel*	*1. amorf* *2. anakoloet* *3. apocalyps* *4. astronaut* *5. augurk* *6. basilisk* *7. effect* *8. gladiool* *9. lawaai* *10. labyrint* *11. locomotief* *12. mangaan* *13. manuscript* *14. paradijs* *15. pineut* *16. pistool* *17. product* *18. proleet* *19. smaragd*	*1. bibliotheek* *2. pelikaan* *3. sonorant* *4. triomf*	*1. asfalt* *2. bastaard* *3. emir* *4. kalief* *5.majesteit* *6.marsepein* *7. minstreel* *8. olifant* *9. paranimf* *10. pierewiet* *11. uniform*	*1. ablaut* *2. adelaar* *3. altaar* *4. arbeid* *5. asbest* *6. avond* *7. ballast* *8. biceps* *9. climax* *10. crucifix* *11. eiland* *12. eland* *13. falanx* *14. herberg* *15. hospitaal* *16. Index* *17. katapult* *18. kibboets* *19. kobalt* *20. kobold* *21. kroepoek* *22. larynx* *23. leukoplast* *24. lichaam* *20. mammoet* *25. multiplex* *26. napalm* *27. sieraad* *28. thorax* *29. vampier*	*1. adelheid* *2. fakir* *3. hasjiesj* *4. kierewiet* *5. koekoek* *6. lanterfant* *7. tureluur* *8. wierewaal*

Heavy							
+ult				**-ult**			
+fr (74)		-fr (19)	?et (16)	+fr (12)	-fr (93)		?et (22)
1. accordeon *2. aceton* *3. adres* *4. amaril* *5. balkon* *6. ballon* *7. baron* *8. bastion* *9. bataljon* *10. bidon* *11. bombardon* *12. bonbon* *13. bordes* *14. carnaval* *15. champig-non* *16. charlatan* *17. cichorei* *18. cipres* *19. dragon* *20 .envelop* *21. expres* *22. fauteuil* *23. galei* *24. galop* *25. gazon* *26. gelei* *27. harpij* *28. jargon* *29. kandij* *30. kalebas* *31. kanon* *32. kanton* *33. karamel* *34. karton* *35. karwei* *36. kassei* *37. kersouw* *38. kompas* *39. kopij* *40. kordon (cordon*)* *41. kristal* *42. krokodil* *43. lakei* *44. lampion* *45. livrei* *46. maniak* *47. marmot* *48. matras* *49. minaret* *50. model*	*51. moeras* *52. mus-keton* *53. ocelot* *54. pantalon* *55. parasol* *56. pardon* *57. partij* *58. pastei* *59. pion* *60. ponton* *61. proces* *62. rabauw* *63. reliëf* *64. roman* *65. salon* *66. soldij* *67. spion* *68. succes* *69. tampon* *70. terras* *71. tiran* *72. trompet* *73. vallei* *74. violet*	*1. abdis* *2. ampul* *3. april* *4. artisjok* *5. bacil* *6. carbon* *7. hagedis* *8. juffrouw* *9. karbouw* *10. lamprei* *11. magnetron* *12. mandril* *13. mevrouw* *14. paperas* *15. papil* *16. paskwil* *17. perron* *18. schalmei* *19. tonsil*	*1. akelei* *2. apostrof* *3. barok* *4. cholesterol* *5. congres* *6. diagram* *7. kabeljauw* *8. kamaleon* *9. karwij* *10. katrol* *11. kolom* *12. kolos* *13. miauw* *14. nitril* *15. patat* *16. wagon*	*1. bivak* *2. bizon* *3. demon* *4. divan* *5. harnas* *6. moeflon* *7. moesson* *8. molton* *9. mormon* *10. natron* *11. paljas* *12. sorbet*	*1. acrostichon* *2. alligator* *3. amok* *4. ansjovis* *5. asyndeton* *6. atheneum* *7. atlas* *8. badminton* *9. bariton* *10. boycot* *11. bronchitis* *12. canon* *13.canvas* *14. chaos* *15. claxon* *16. clematis* *17. consul* *18. curator* *19. debet* *20. decorum* *21. denim* *22. desideratum* *23. diabetes* *24. dictator* *25. elektron* *26. elevator* *27. epitheton* *28. epos* *29. epsilon* *30. equator* *31. ethos* *32. eunuch* *33. foton* *34. foxtrot* *35. futurum* *36. ganglion* *37. gladiator* *38. goelasj* *39. haring* *40. hepatitis* *41. heros* *42. herpes* *43. hertog* *44. idioticon* *45. indicator* *46. jubileum* *47. kaftan* *48. kajak* *49. kampong* *50. katjang*	*51. ketchup* *52. kokos* *53. koning* *54. kosmos* *55. lexicon* *56. lombok* *57. lyceum* *58. mausoleum* *59. micron* *60. moloch* *61. moslim* *62. museum* *63. neon* *64. neuron* *65. notaris* *66. nylon* *67. ozon* *68. pantheon* *69. papyrus* *70. pathos* *71. perforator* *72. philodendron* *73. pinguin* *74. pisang* *75. proton* *76. radiator* *77. revisor* *78. robot* *79. rododendron* *80. rotan* *81. sabbat* *82. sambal* *83. senator* *84. sesam* *85. slalom* *86. sonar* *87. spectator* *88. stadion* *89. topos* *90. ultimatum* *91. vademecum* *92. wajang* *93. zenit*	*1. ambon* *2. bios* *3. bisam* *4. centurion* *5. curiosum* *6. diftong* *7. dromedaris* *8. eros* *9. kieviet* *10. logos* *11. marathon* *12. nectar* *13. pelgrim* *14. python* *15. pentagon* *16. pias* *17. poespas* *18. salaris* *19. sinas* *20. sisal* *21. sultan* *22. symposion*

Light							
+ult				**-ult**			
+fr (60)		-fr (15)	?et (21)	+fr (5)	-fr (72)		?et (8)
1. adieu *2. amnestie* *3. avenue* *4. biscuit* *5. bistro* *6. bougie* *7. bureau* *8. cadeau* *9. café* *10. calorie* *11. chim-pansee* *12. comité* *13. compromis* *14. continu* *15. corvee* *16. dictee* *17. difterie* *18. energie* *19. etui* *20. fantasie* *21. fobie* *22. hachee* *23. harmonie* *24. hobo* *25. idee* *26. individu* *27. industrie* *28. ironie* *29. jaloezie* *30. kariboe* *31. kopie* *32. magie* *33. melodie* *34. menu* *35. milieu* *36. moskee* *37. niveau* *38. nostalgie* *39. onoma-topee* *40. orgie* *41. paraplu* *42. parodie* *43. poëzie* *44. portemon-nee* *45. prosodie* *46. prostituee* *47. puree* *48. ragout* *49. rapsodie* *50. reçu*	*51. regie* *52. residu* *53. reünie* *54. revu* *55. rococo* *56. souper* *57. symfonie* *58. travestie* *59. trofee* *60. varieté*	*1. amfibie* *2. anemie* *3. chemie* *4. elpee* *5. epilepsie* *6. essay* *7. hiërarchie* *8. hoera* *9. leukemie* *10. orchidee* *11. pygmee* *12. relikwie* *13. sacristie* *14. sateh* *15. trochee*	*1. allegorie* *2. ambigu* *3. anarchie* *4. autopsie* *5. blas-phemie* *6. bravo* *7. categorie* *8. chocola (chocolade)* *9. dada* *10. diarree* *11. elegie* *12. epidemie* *13. farmacie* *14. lethargie* *15. poeha* *16. scarabee* *17. sympath-ie* *18. taboe* *19. taugeh* *20. theorie* *21. therapie*	*1. andijvie* *2. domino* *3. excursie* *4. noga* *5. maraboe*	*1. accu* *2. agenda* *3. akela* *4. algebra* *5. alibi* *6. aloë* *7. anaconda* *8. angina* *9. arena* *10. avocado* *11. bamboe* *12. benzoë* *13. bikini* *14. bodega* *15. bolero* *16. camera* *17. cholera* *18. commando* *19. diafragma* *20. diploma* *21. dominee* *22. dynamo* *23. echo* *24. eldorado* *25. evangelie* *26. farao* *27. februari* *28. goeroe* *29. harakiri* *30. hernia* *31. hyena* *32. hupsakee* *33. jaffa* *34. januari* *35. judo* *36. kangoeroe* *37. kiekeboe* *38. kaketoe* *39. koala* *40. koffie* *41. kolonie* *42. libido* *43. macaroni.* *44. merrie* *45. mica* *46. mikado* *47. monopolie* *48. okapi* *59. olie* *50. opera*	*51. opoe* *52. pagina* *53. panorama* *54. peterselie* *55. pijama* (pyjama)* *56. pinda* *57. platina* *58. premie* *59. primula* *60. radio* *61. rimboe* *62. rondo* *63. rumba* *64. saldo* *65. samba* *66. specie* *67. studio* *68. tango* *79. taptoe* *70. tombola* *71. toffee* *72. veranda*	*1. bazoeka* *2. begonia* *3. diabolo* *4. embargo* *5. indigo* *6. kano* *7. kolibrie* *8. taugee*

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