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**ABSTRACT**

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The phonological integration of loanwords in Dutch

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# 1 Introduction

The least stable and most mutable part of language is the lexicon. In language contact situations, words are the first to be borrowed from one language to another (Coetsem 1988:26; Thomason and Kaufman 1988:37). However, words are units combining multiple levels of language in themselves. In the process of borrowing, they may carry not only their semantic features to the borrowing language, but some of their formal properties as well (Sankoff 2002:658). These formal properties include their sound shape: sounds, phonological segments and their sequences, prosodic features, and stress (Heffernan 2005; LaCharité and Paradis 2005).

Most of the time, the sound shape of loanwords conforms to the phonology of the borrowing language (Bloomfield 1934:445 ff.). However, in the case of long and dynamic language contact, it may retain some of its non-native sound elements (Benkő 1987:197 f.). Loanwords may carry sounds, prosodic and phonotactic patterns that are unknown in the borrowing phonology, e.g. the nasal vowel [ã], the [krv] consonant sequence, or the stress on the last syllable in the Dutch loanword *croissant* [krvas'a] 'croissant'. Some of these foreign elements and structures are short-lived, sooner or later they disappear from the borrowing phonology, cf. the pronunciation of *croissant* in present day informal northern Dutch: [kr'asant]. However, there are foreign sound elements that get anchored in the borrowing language: these are the subject of the present dissertation.

The international literature on loan phonology has grown substantially in the past decade (e.g. Kenstowicz 2007; Kertész 2006; Adler 2006; Boersma and Hamann 2009). Recent studies concentrate primarily on online phonetic and phonological processes taking place in the speaker of the borrowing language (e.g. Peperkamp and Dupoux 2003; Heffernan 2005). Very few works have been devoted to the historical aspects of the foreign phonological influence (e.g. Crawford 2008; Ito and Mester 1995). Regarding Dutch, only a handful of short articles have been published in the topic (Oostendorp 2000; Velde and Hout 2002; Bezooijen and Gerritsen 1994). With the present thesis I intend to provide some new insights in the field.

## **2 The aim and subject of the thesis**

In the present thesis I examine non-native sound segments and phonotactic patterns occurring in loanwords in the history of Dutch. The analysis is set in the context of the native phonological system, lexical borrowing and social contacts, i.e. language internal and language external factors.

The thesis is descriptive and diachronic in character. It is limited to the segmental level, i.e. borrowed prosodic structures are not discussed. In the analysis, I consider language an abstract, social formation whose internal structure, including its phonology, corresponds to the totality of the language competences of all its native speakers in a given period.

In this thesis I try to answer the following questions:

1. Which segmental phonological changes in the history of Dutch can directly or indirectly be associated with the influence of loanwords?
2. What is the diachronic impact of lexical borrowing on phonology, i.e. what kind of parallels can be drawn between the two?
3. Which language external (sociolinguistic), and language internal structural (phonological) factors influence the phonological effects of borrowing?
4. What place do borrowed segments and segment sequences occupy in the phonology and lexicon of Dutch, i.e. how "Dutch" are they?

## **3 Structure of the Thesis**

After the general introduction (I), I give an overview of the major general linguistic literature in the field, then I present the theoretical framework for the research with a conceptual and terminological background.

Beginning with chapter III I turn to the concrete subject of my research, i.e. Dutch. First, I present a synopsis of the historical periods of Dutch with special emphasis on its historical phonology. This serves as framework for the analysis of phonological borrowings in chapter V.

After the diachronic synopsis, I turn to a major subfield of my topic and present a brief overview of the history of lexical borrowing in Dutch and its socio-linguistic

background. The aim is to set phonological borrowings in the framework of lexical and sociolinguistic changes.

Chapter V is the discussion of the main subject of the thesis. I examine segmental changes in the history Dutch that can be attributed to the influence of loanwords. I discuss their history and determine their place in the borrowing sound system.

Chapter VI summarizes the main results of the thesis. Here, I answer the questions posed in the introduction, and briefly describe some possible directions for further research. A final Appendix (VII) contains the diachronic sound charts for reference.

## **4 Summary of the individual chapters**

### **II. Theoretical foundations**

In the first part of this chapter I present an overview of the major topics concerning the development of loan phonology in a number of important linguistic studies from the 19<sup>th</sup> and 20<sup>th</sup> centuries. The summary is by no means exhaustive. Only some of the most prominent works of the "traditional" linguistic trends (the Neogrammarians, structuralism and the classical generative framework) are discussed (e.g. Paul 1920; Saussure 1967; Trubetzkoy 1962; Jakobson and Halle 1956; Bloomfield 1934; Weinreich 1964; Chomsky and Halle 1968; King 1969).

In the second part of the chapter, I introduce the concrete framework of my thesis. I use a structural framework which is primarily borrowed from Frans van Coetsem's *Loan Phonology* (1988). The following table gives a summary of the most important terms of phonological borrowing:

Recapitulating table of phonological borrowing (1988:10 f., 14 f. 16 ff.)

LANGUAG:	SOURCE LANGUAGE	RECIPIENT LANGUAGE		
		message	language code	
PROCESS:		phonological borrowing		integration: lexical diffusion
ELEMENT:	phonological element of the source language	loan-segment		part of native phonology
EXAMPLES:	fr. <i>mar<u>ch</u>e</i> [marʃ] 'to march'	imitation	[marʃ]	<b>adaptation</b> → phoneme substitution: du. <i>mar<u>s</u></i> 'to march'
	fr. <i>par<u>fum</u></i> [parfɛ̃] 'parfume'		[parfɛ̃]	spelling pronunciation: du. <i>par<u>fum</u></i> [parfʏm] 'parfume'
	fr. <i>centrifuge</i> [sɑ̃trif'yʒ(ə)] 'spin-dryer'	→	[sɛntrif'y:ʒə]	<b>integration</b> → du. <i>centrifuge</i> [sɛntrif'y:ʒə] 'spin-dryer'
FUNCTION:		can be inserted in the recipient language (functional)		
ADAPTABILITY:		adaptable		not adaptable
VARIATION:		variation	→	<b>no variation</b>
NONNATIVENESS:	foreign	non-foreign continuum		

### III. Outline of the history of Dutch; summary of the phonological systems of the historical periods.

This chapter gives an overview of the historical periods of Dutch. I define each linguistic period in time and space. I present a summary of the sound system of each period. The aims of this chapter are

- (1) to provide a structural phonological background for the analysis of phonological borrowings in chapter
- (2) to help to define more clearly the relationship between the effects of phonological borrowing and sociolinguistic change
- (3) to provide a somewhat deeper linguistic description of the history of Dutch for the first time in Hungarian

#### **IV. The source of phonological borrowing: lexical borrowing**

The aim of the analysis of lexical borrowing is to explore the connection between its source (the donor language), its rate (the number of words borrowed) and its intensity (the distribution of borrowing in time) to the changes in the native phonology. The first part of this chapter describes the social history of lexical borrowing in Dutch with respect to the four major source languages: Latin, French, English, and German. In the second part I present a brief overview of the make-up of the vocabulary of Dutch in time and according to source languages.

#### **V. Analysis of the phonological outcomes of lexical borrowings in the history of Dutch**

In this section, I examine the history of foreign segments and sequences in loanwords, and their impact on the native phonology. I present phonological changes which are the results of foreign influence, and in particular: lexical borrowing. I explore the two basic types of foreign phonological influence: recipient language agentivity, i.e. phonological borrowing, and source language agentivity, i.e. the influence of the language use of non-native speakers on the recipient language's phonology. The two major types of change concerning the phonological loans are also described, i.e. adaptation (i.e. adjustment to the recipient phonological system) and integration (i.e. incorporation into the recipient phonological system). Their possible causes, chronology, and the connections between social and lexical changes are also discussed.

The chapter is divided into three sections according to historical periods. The three periods of the history of Dutch are different in two aspects. First, they differ in the sociolinguistic setting which also has an effect on the phonological processes (Old-Dutch: very few written monuments, minimal literacy; Middle-Dutch: few written monuments, growing literacy; New-Dutch: wide range of written monuments, widespread literacy). Second, different methods can be used for their analysis.

I began the analysis of the two earlier periods by browsing through the literature for references to possible foreign phonological influence. Then, I checked the contemporary and present-day forms and occurrences of the given words in the historical and modern

dictionaries. The results obtained in these two ways were then investigated in depth in order to reconstruct the actual phonological processes in detail.

The main part of the present thesis is the chapter on New-Dutch. The method used in this chapter is somewhat different from the one used in the historical chapters. Here, the starting point was not the "discovery" of foreign phonological influence, but its exhaustive analysis. In this chapter, New-Dutch phonological borrowings are analysed with a method not yet employed in the Dutch literature. The major points of my method were as follows:

1. Using pronunciation, and other dictionaries providing phonetic data, I built a corpus with standard Dutch loanwords containing loan-segments (Coninck 1970; Heemskerk and Zonneveld 2000; Bastiaansen 2008; Boon and Geeraerts 2005).
2. I collected all alternative pronunciation variants, and adapted forms, pl. *cartoon* [kart'u:n]~[kart'un] 'id.'.
3. Item by item I checked the etymological dictionaries for the direct source language and the first appearance of the word in written form (e.g. Philippa et al. 2004; Franck 1892).
4. Finally, I checked all the data with two standard Dutch native speakers (one from the Netherlands, one from Belgium). With their help I verified every pronunciation variant, and their use (general, rare, archaic etc.). On the whole, there were no significant discrepancies between the dictionary corpus and the data of the native speakers.

During the exploitation of the database, I was searching the answer to the following questions: (1) what is the origin of the given sounds (were they borrowed from one particular language or more languages?) (2) How long have they been present in the Dutch (3) What place do they occupy in Dutch phonology (are they "full-fledged" members of the sound system, or just occasional, temporary and marginal elements?) (4) Which factors have facilitated and still facilitate integration, and what are the most common ways of adaptation?

Through the analysis of the database, I could determine the "age" of loan segments in Dutch. The analysis supported the conclusion drawn from the discussion of Middle-Dutch: the *ʒ* was indeed integrated into Middle-Dutch phonology through Old-French loanwords, as opposed to the *ʃ*, which was then? in all cases adapted, and integrated only in the New-Dutch period. The age of a given loan-segment and the intensity of lexical borrowing show

significant conformity, e.g. the integration of **tʃ** corresponds to the intensive period of borrowing from English in the 20th century. Further results of the research are treated in the next section.

## 5 Summary of the results

The results of the research are formulated in the answers to the questions posed in the introduction. Most of these answers have general linguistic significance.

- a. Which segmental phonological changes in the history of Dutch can directly or indirectly be associated with the influence of loanwords?

In the majority of the cases discussed, the changes in Dutch phonology were caused by the foreign phonological elements or structures carried by loanwords. This includes the cases where the given element or structure integrated into the native phonology, e.g. the **ir** sequence or the **ʒ** in Old-Dutch. However, there were foreign segments which caused no phonological change, but lost their nonnativeness markers instead, and were adapted to the native phonology, cf. the Old-French affricates in Middle-Dutch, e.g. OF. *chartre* → MD. *sarter* 'charter'.

The phonological changes discussed in the Old- and – to some extent – the Middle-Dutch period were most probably not induced by the loanwords themselves, but the very intensive overall linguistic influence of French. Therefore, these changes did not occur as the result of recipient language agentivity, but rather of source language agentivity. This conclusion is supported (a.) by the low number of loanwords to which the sound change could be ascribed, (b.) by the regularity with which the sound "law" took place, and (c.) the very intensive social and linguistic contact between the source- and recipient language at the time.

- b. What is the diachronic impact of lexical borrowing on phonology, i.e. what kind of parallels can be drawn between the two?

The present research has supported the assumption that lexical factors have a deep impact on phonological borrowing. A correlation can be established between lexical and



phonological borrowing in two aspects: quantity (i.e. the number of loanwords in which the phonological loan is present) and time (the length of time for which the phonological loan is present in the borrowing language, i.e. its age).

- With regard to the quantity of lexical borrowing and its effect on phonological borrowings, it can be pointed out that an increasing number of loanwords correlates with an increasing number of phonological borrowings. Owing to the substantial increase in the number of loanwords in the New-Dutch period, more loan segments appeared at this time than before, e.g. the three new vowel sequences, which include ten vowels: **i:**, **y:**, **u:**, **œ:**, **ɛ:**, **ɔ:**, **ɑ:**, **ẽ**, **õ**, **ã**.

In the case of the individual loan-segments, the number of loanwords may not necessarily be determinant, cf. the short-long **œ:**, which appears only in twelve loanwords, or the phonetically long **y:**, which appears in just three. Yet, both segments are integral part of the Dutch sound system. This means that the stability of the phonological loan is also determined by other factors in the recipient language, than the number of loanwords (for these factors see section c.) On the other hand, the adaptation of a phonological loan may be hindered by a large number of loanwords, cf. the nasal vowels and the **ʃ** in present-day Dutch.

- The age of borrowing is not determinant with respect to the phonological loan. The **ʃ** could not integrate during the Middle-Dutch period, although Dutch had been borrowing words with it for centuries. The same segment has successfully been ? integrated in New-Dutch, due to phonological changes that created the structural basis for its integration. Yet, it is remarkable that all the loan-segments discussed in the New-Dutch period have been present in the language for one or two hundred years. In the meantime they have increased their stability by continually appearing in new loanwords.
- Concerning the source language, it is notable that at first each loan-segment is borrowed in words from only one language. Only later do they appear in words from other languages.
- The reason for which neither the quantity, nor the age of the borrowing is determinant for the integration of loan-segments is that the phonological loan – as it is bound to a word – exerts its influence word by word, i.e. it spreads by lexical diffusion. That is the explanation why it differs so much from source language agentivity, which works like sound changes, i.e. not with regard to lexical elements, but to segments. In the present thesis the different character of source- and recipient language agentivity have been

represented by two Old-Dutch vowelshifts ( $\bar{e} > ie$ ;  $\bar{u} > \bar{y}$ ) and the integration of the 3 respectively.

- c. Which language external (sociolinguistic), and language internal structural (phonological) factors influence the phonological effects of borrowing?

Foreign phonological influence is intimately connected to the changes of intensity in the sociolinguistic contact. The changes discussed in the Old-Dutch period are most probably the result of source language agentivity and not of lexical borrowing, e.g.  $\bar{u} > \bar{y}$ . The Middle-Dutch changes are partly, e.g. the diphthongisation of **ui**<sup>1</sup>, still to be attributed to this type of agentivity. However, in New-Dutch, there is no trace of this process. This corresponds closely to the sociolinguistic setting of the three periods: the intensity of the contact diminishes continuously. The very intensive contact between the Dutch and the French speaking communities in the Old-Dutch period diminishes continuously through Middle-Dutch to New-Dutch. The interrelation between the intensity of language contact and the type of agentivity is demonstrated rather clearly by Dutch: dynamic contact = source language agentivity; less dynamic contact = both source and recipient language agentivity; still less contact = only recipient language agentivity.

Literacy and orthography also play an important role in phonological borrowing. The influence of the written form has clearly been demonstrated in the case of adaptation, cf. the spelling pronunciation **s** for **ʃ** in Middle-Dutch, as well as in the case of integration, cf. the integration of the **ps-** sequence. Orthography functions as a nonnativeness marker. This is not only true for foreign letters, such as  $\langle x \rangle$ , but also for the foreign phoneme-grapheme correspondences, such as the between  $\langle j \rangle$  and  $[dʒ]$  in recent English loanwords. That is why the spreading of literacy had a major effect on phonological borrowing. The integration of affricates in New-Dutch, and the adaptation of *plaats* 'place' as *plaas* can also be ascribed to this influence.

The results of my analysis have also underpinned the general assumption that the syntagmatic level of language is more susceptible to change than the paradigmatic level (Coetsem 1988). Most of the phonological borrowings presented in the thesis, caused reordering of the native phonological elements, e.g. the **tʃ** could successfully integrate as it was interpreted a combination of the phonemic **t** and the allophonic **ʃ**. In other words, its integration affected the paradigmatic level only indirectly. The integration of the same

segment was prevented in Middle-Dutch by the fact that there was no allophonic ʃ in the native phonology, so the integration of tʃ would have caused a direct paradigmatic change. The integration of the New-Dutch nasal vowels can also be interpreted as a syntagmatic change, since the nasal feature is allophonically present in the post lexical phonology. The integration of the ʒ in Middle-Dutch is a remarkable case, because it was a direct paradigmatic change: a new palato-alveolar place feature entered the phonology. Although this integration can, to a large extent, be ascribed to the very frequent French -ge [ʒə] suffix, the precise circumstances are not yet clarified, and are open for further research.

- d. What place do borrowed segments and segment sequences occupy in the phonology and lexicon of Dutch, i.e. how "Dutch" are they?

It is very difficult to assign the place of borrowed segments and segmental patterns in the phonology of the borrowing language. There are certain factors by which the degree of integration can be specified. However, the proportion of adapted forms and the age of the segment in the borrowing language are both rather vague specifications to define the place of a borrowing in the non-native continuum. Although some of the segments discussed have been present in Dutch for centuries, they still have adapted variants in a few words, e.g. the short-long ε:, which is already about 400 years old in Dutch, still has adapted form: *parterre* [part'ɛ:rə]/[part'ɛrə] 'pit (in a theatre)'.

The difficulty of the question lies in the fact that words carrying a phonological loan are bound together by a cohesive force. The bases of this cohesion are nonnativeness markers. New members may join the group, others may be left out, but the group itself remains in one. In the present thesis, I have only explored one of these cohesive forces, i.e. the loan-segment itself. Orthography, stress, morphological behaviour, meaning – they are all nonnativeness markers that keep certain groups of morphemes together. Therefore, it is impossible to answer the last question adequately. New research in several fields is needed to provide a satisfying answer. One of these fields is, for example, the investigation of actual language use that can give a more realistic picture of the ways of adaptation and possible variation (cf. Bezooijen and Gerritsen 1994).

## 6 Areas for further research

A logical further step in the research would be the analysis of those loan-segments that have not been discussed in this thesis, e.g. the velar plosive **g** in words, such as *goal* 'id.'. This segment has been missing from the native phonology for centuries. Is there a change in this respect? Other segments that should be analysed are **ʃ** and **ɲ**, e.g. *djembé* [ʃ'ɛmbe] 'African drum', *oranje* 'orange (colour)'. Although these two sounds are usually analysed as sequences of segments (**ʃ**=**dj**, **ɲ**=**nj**), my personal survey with native speakers (syllabification tests) contradict this assumption, for most speakers are ambivalent towards these sounds. The present thesis can be interpreted as a first step in the analysis of all the loan-segments of Dutch. Besides an exhaustive analysis of all loan segments in Dutch, the analysis of foreign influences in the native phonotactics is also a promising area. Another possible direction for further research would be a deeper analysis of the historical facts, e.g. concerning the integration of **ʒ**.

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