From Cape Dutch to Afrikaans A Comparison of Phonemic Inventories

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Abstract

This study focuses on the changes Afrikaans has undergone since Dutch colonisers introduced Cape Dutch to the indigenous population. Afrikaans has been influenced through both internal and external language forces. The internal forces were driven by koineisation, while the external language forces are the results of language contact.

The phonemic inventories of Afrikaans, Cape Dutch, Modern Standard Dutch, South African English, Xhosa and Zulu have been compared based on current and historical comparison studies.

Internal language change has caused the voiced fricatives to fortify, while external forces have reintroduced voiced fricatives after fortition occurred. Xhosa and Zulu have influenced some vowels to become more nasalised, while internal forces have risen and centralised vowels and diphthongs. Contact with South African English has enriched the phonemic inventory with affricates.

1. Introduction

South Africa has eleven official languages, one of them being Afrikaans. To speakers of Dutch and Afrikaans, both languages are mutually intelligible. Some linguists claim that Afrikaans is a descendant of Dutch and, therefore, the two languages have many similarities (Heeringa & De Wet, 2008). Others argue that Afrikaans is a creole which resulted from the contact between Dutch speakers and indigenous inhabitants of South Africa (Den Besten, 2009; Markey, 1982; Roberge, 2002). In either case, Dutch has been argued to be a major influence on the origin of Afrikaans.

In 1649, Dutch merchants first touched the grounds of Cape Town. Three years later, the Dutch settled in Cape Town and introduced the Dutch language into South Africa. The dialect introduced by the company of Jan van Riebeeck is now referred to as Cape Dutch. According to Den Besten (2009), Afrikaans is a descendant of Cape Dutch. He claims that due to internal and external language change Cape Dutch has transformed into Afrikaans.

The phonemic inventories of Modern Dutch and Afrikaans show similarities. However, many vowels and some consonants of the Dutch inventory no longer occur in the Afrikaans inventory. Additionally, Afrikaans has some phonemes that do not originate from the Dutch language. The affricates /dʒ, tʃ/ are commonly used in Afrikaans in loanwords that derive from other European languages.

In Modern Standard Dutch, the velar fricatives no longer distinct in word meaning, yet both forms are still used in Modern Standard Dutch. However, other fricatives (/s, z, f, v/) still form a

minimal pair. Most words that start with a voiced fricative in Modern Standard Dutch, have devoiced in Afrikaans (Donaldson, 1993). In some Dutch dialects, such as the dialect of Amsterdam, this change occurs too (Ponelis, 2005; Van der Sijn, 2005). It is possible that this change had already occurred in Cape Dutch prior to its introduction in South Africa. However, it is also possible that both languages went through the same changes separately. In addition to Afrikaans, a number of different languages are spoken as a mother tongue in South Africa. Another possibility is that this fortition is not a result of internal language change, but language contact with (some of) these languages.

Similar influences may have also impacted vowels. During the seventeenth century, Standard Dutch emerged. Some sound changes, which developed during this time, occurred naturally, others were forced upon speakers of Standard Dutch as they were thought to sound more proper by Van den Vondel, who firstly standardised Dutch (Van der Sijs, 2005).

Since the seventeenth century, Dutch speakers have pronounced /e:/ as [e1] and /o:/ as [oo] (Van Sijs, 2005), while in Afrikaans /e:/ resulted in [iə] and the /o:/ became [uə] (Wissing, 2014). In current Dutch, the long vowels have changed into diphthongs with a rising pattern. In Afrikaans, these vowels have a falling pattern. The vowels both changed, but in different manners. According to Van der Sijs (2005), the Dutch sound changes of these two vowels occurred naturally. Therefore, it is possible that the Afrikaans sound changes occurred due to language contact.

This study focuses on the causes that changed the phonemic inventory of Afrikaans since the introduction of Cape Dutch by Dutch colonisers. Given the differences between Afrikaans and Modern Standard Dutch, Afrikaans sound changes might be a result of language contact. However, some changes that occur in Afrikaans appear in different dialects of Dutch too. These differences could be the outcome of internal language change or have been introduced by the speakers of different Dutch dialects.

2. Theoretical Background

2.1 Origin of Afrikaans

Both Modern Dutch and Afrikaans stem from the Dutch spoken in the seventeenth century (Den

Besten, 2009; Heeringa & De Wet, 2008). Afrikaans derives from a koineisation of seventeenth century Dutch which is now referred to as Cape Dutch (Roberge, 2002). Cape Dutch developed over the following centuries into Afrikaans, which gained official status in 1961. Due to the simplification in grammar, Afrikaans is sometimes referred to as a creole (Markey, 1982; Roberge, 2002). However, according to Markey (1982), Afrikaans does not have enough signifying features to be considered a creole.

In contrast to Markey, Den Besten (2009) claims that Afrikaans is a semi-creole. He argues that Afrikaans has derived from a pidginised version of Dutch which slaves and merchants used as a lingua franca. Roberge (2002) agrees that Afrikaans should be viewed as a semi-creole; however, not as fully as Den Besten. Roberge (2002) argues that pidginised Dutch was the second or third language used to communicate and, therefore, cannot be seen as a normal creole.

When the Dutch occupied Cape Town, Dutch became the language of the church. The Authorised Translation of the Bible, the *Statenvertaling*, strengthened the position of Dutch in Cape Town (Roberge, 2002). Due to the superstrate status of Dutch in early stages of occupation, it has not creolised regularly.

Before Dutch merchants introduced their language to Cape Town, it had already undergone koineisation in the Netherlands. The merchants were from different parts of the Netherlands. Features that Dutch dialects share with Afrikaans are spread all over the Netherlands (Heeringa & De Wet, 2008; Roberge, 2002). Due to this koineisation, and the koineisation that occurred in Cape Town after settlement, Afrikaans is still similar to current Dutch (Roberge, 2002).

2.2 Language Change

Over time, Cape Dutch has developed into Afrikaans. Language change is noticeable over generations (Yang, 2000). Younger generations often use language differently from their parents. Also, when those younger people become parents themselves, their language use will have changed compared to when they were young. These observable changes are known as language changes. When these changes occur in pronunciation, they are referred to as sound changes.

Language change occurs due to two different causes. External language change results from language contact. Lexical borrowings can introduce new phonemes to the phonemic inventory; immigrants can introduce new components of language to indigenous inhabitants of countries. Additionally, second language acquisition can result in codeswitching and overgeneralising of the new language, which could result in language change.

Internal language change is the second cause of language change. First language acquisition is often an important feature. Children generally learn language from their parents; however, they do not fully imitate their parents' language. With the input of older generations and peers, children create their own language which differs from older generations (Fromkin, Rodman & Hyams, 2011; Yang, 2000).

In sound changes, assimilation is often caused by internal language change. Vowels that are pronounced prior to a nasalized consonant are often nasalized to reduce the effort of pronunciation (Fromkin, Rodman & Hyams, 2011). Another example of assimilation, it that plosives are often voiced when preceded by a nasal consonant. Due to the sonorisation of the nasal sound, it is easier to pronounce a voiced plosive instead of a voiceless one. When sounds have assimilated so much that it results in confusion, speakers often reverse the process and contrast sounds more clearly (Fromkin, Rodman & Hyams, 2011).

2.3 Sound Changes

When sounds change, whether due to either external or internal forces, similar patterns can be found in all the languages all over the world.

In early development of Old Dutch, fricatives weakened (Van der Sijs, 2005). This resulted in the minimal pairs /s z/, /f v/ and /x y/ (Van der Sijs, 2005). When phonemes form minimal pairs, words that only differ by one phoneme change in meaning; for example, veal (/vi:l/) and feel (/fi:l/). During lenition, voiceless consonants become voiced (see Figure 1).

Fortition is the opposite of lenition (see Figure 1). During fortition, voiced consonants become voiceless. This often results in a reduction of minimal pairs. In some languages, words then become

homonyms. Word meaning can then only be extracted using context.

Figure 1.

Lenition and Fortition (Fromkin, Rodman & Hyams, 2011)

Lenition	р	>	b	
	р	<	b	Fortition

Vowels often change due to three processes: rounding/unrounding, rising/lowering or monophthongisation/diphthongisation of the vowels. In South African English, a vowel shift occurred during the nineteenth century (Lass, 2002). As a result, all the front vowels rose a little and the KIT vowel became slightly nasalised, moving towards the back of the mouth. When vowels change from unrounded to rounded, the NURSE vowel changes into a THOUGHT vowel. During the Great Vowel Shift in English, some long vowels diphthongnised. For example, /i:/ diphthongnised into [at] (Fromkin, Rodman & Hyams, 2011).

2.4 External Language Change

Besides Afrikaans, South Africa has ten other official languages of which English, Zulu and Xhosa are the most widely spoken (Heeringa & De Wet, 2008). Due to this multilingual policy, most speakers in South Africa are bi- or multilingual. Therefore, Afrikaans is in constant contact with other languages. In Cape Town, Afrikaans, Xhosa and English are the dominant languages (Deumert, Inder & Maitra, 2005).

Ever since colonisation, the language spoken by the settlers and their descendants became the superstrate language of South Africa (Branford & Claughton, 2002; Roberge, 2002). Language contact between Cape Dutch/Afrikaans speakers and speakers of indigenous languages has enriched the indigenous languages with Dutch vocabulary (Branford & Claughton, 2002). According to Branford and Claughton (2002), Xhosa and Zulu have not influenced the Afrikaans vocabulary in the same manner.

The contact between speakers of Afrikaans and speakers of other languages have influenced Afrikaans on different levels. Donaldson (1993) states that the phonemic inventory can be divided into phonemes that are only used in Afrikaans words and those used in loanwords. These loanwords have integrated into the Afrikaans lexicon and the phonemes have become part of the Afrikaans phonemic inventory. The process of language contact might not only have an influence in terms of adding phonemes to the phonemic inventory, but also by changing the original phonemes. In Afrikaans, the fricatives have fortified and therefore sounds as /z s/ and /f v/ no longer form a minimal pair in Afrikaans words. In Dutch, these minimal pairs still occur.

2.5 Internal Language Change

Van der Sijs (2005) claims that in Old Dutch fricatives weakened. However, in the seventeenth century, fortition of the fricatives had occurred in some dialects of Dutch (Ponelis, 2005; Van der Sijs, 2005). This pronunciation was not considered proper and was not adopted into Standard Dutch (Van der Sijs, 2005).

The first Dutch settlers of South Africa were mainly from current day South Holland. However, not all Afrikaans words correspond to the dialect spoken in South Holland in the seventeenth century. The word 'koon' (cheek) which is typical of the Southern Holland dialect is missing, while the word 'toon' (toe) was typically used by speakers in North Holland (Den Besten, 2009).

Another Afrikaans feature originates from (West) Frisian dialects in which /sk/ is pronounced in words as *school* and *schip* (Heeringa & De Wet, 2008). The dialect spoken by both the merchants, slaves and indigenous inhabitants was a koineisation of Dutch (Den Besten, 2009; Heeringa & De Wet, 2008; Ponelis, 2005; Roberge, 2002).

The fortition of the fricatives may be a result of koineisation in which the South African population preferred the voiceless fricatives. However, Ponelis (2005) claims that Dutch speakers already pronounced initial fricatives voicelessly prior to their arrival in Cape Town. Afrikaans speakers have then only established that fricatives in all their positions are voiceless.

Wissing's (2014) results show that the long vowels /e:/ and /o:/ have changed in different

directions in Dutch and Afrikaans. According to Van der Sijs (2005), the Dutch vowels changed from /e:/ to [ei] and /o:/ to [ov]. She claims that these changes are results of internal language change. Dutch speakers first inserted a [j] when pronouncing long vowels as /e:/. Over time /e:/ changed into [ei]. Both [ei] and [ov] have a rising pattern. The realisation of /o:/ in Afrikaans shows a falling pattern of which the final vowel is unrounded. In Flemish, a Dutch dialect, this unrounding is common too (Vandekerckhove, 2005). The unrounding in Afrikaans might have been influenced by merchants from Flanders, or have changed due to other factors.

3. Research Questions

Afrikaans and modern Dutch both stem from seventeenth century Dutch. Both languages sound similar; however, some phonemes no longer exist in both languages. In order to understand the changes in Afrikaans' phonemic inventory, the following questions need to be addressed.

<u>Main question:</u> What caused the phonemic inventory of Afrikaans to change since the introduction of Cape Dutch in the seventeenth century, and what has changed since?

Hypothesis: Afrikaans has changed due to internal changes as well as language contact. The internal language changes mainly will have occurred due to koineisation both prior and during settlement. During the process of koineisation, external factors will have had limited influence on the language. However, once one koiné was established, external factors will have an influence on the phonemic inventory.

Also, the change of power, from the Dutch to English colonisers, will have influenced the Afrikaans phonemic inventory. Given the geographical distance between speakers of Afrikaans and Xhosa and Zulu, the influence of these South African languages of Afrikaans will have been limited.

Sub-question 1: Which phonemes occurred in Cape Dutch?

Hypothesis: The phonemes of Cape Dutch will be very similar to the phonemic inventory of current Dutch. As Van der Sijs (2005) and Smakman (2006) claim, Standard Dutch was formed

during the seventeenth century. Since the standardisation, Dutch has barely changed in its phonemes; however, the distribution of several phonemes has changed. Therefore, the phonemic inventory of Cape Dutch will be similar, but the environment in which some phonemes occur will be different. Some phonemes will have changed in realisation too, however this has probably not influenced the phonemic inventory.

Sub-question 2: Which sounds from Cape Dutch correspond to current Afrikaans?

Hypothesis: Since Afrikaans has been influenced by both internal and external language changes, several changes will have occurred. Internal language change might have changed or omitted phonemes from the inventory. As Donaldson (1993) argues, some phonemes of Afrikaans are only used in loanwords. Therefore, external language change introduced new sounds to the Afrikaans language.

However, the basis of the phonemic inventory will have barely changed. All languages that will be used to compare Afrikaans to in this study have plosives, fricatives, nasals and approximants which correspond to the phonemic inventory of Cape Dutch. Changes in the Afrikaans consonants may therefore be limited.

As for the vowels, in all languages the five basic vowels occur (/i e a o u/). The realisation of these vowels differs between the languages. Dutch and South African English have approximately thirteen vowels that form minimal pairs (Neijt 1991; Lass, 2002), Zulu has five and Xhosa has ten vowels. It could be that every non-corresponding vowel among these languages will form minimal pairs in Afrikaans. On the other hand, creolisation of Afrikaans could have caused the vowel system to simplify to the five basic vowels.

Compared to the consonants inventory, the vowel system may show more differences, due to koineisation, simplification and language contact.

<u>Sub-question 3:</u> Are the non-corresponding phonemes influenced by language contact with other languages widely spoken in South Africa?

Hypothesis: Language contact has most likely added phonemes to the phonemic inventory. Loanwords will have introduced new phonemes to the phonemic inventory. However, most changes will have occurred due to internal language change. As stated previously, Cape Dutch has undergone koineisation several times. Through these different koineisations, the phonemic inventory will have changed until it stabilised into Afrikaans.

For example, the fortition of the fricatives has occurred language internally. This change was already initiated by Dutch speakers in the Netherlands. During the seventeenth century, different Dutch dialects had already fortified alveolar and velar fricatives. Therefore, it is likely that Afrikaans has further fortified the fricatives due to internal language change. If voiced fricatives then still occur in the phonemic inventory, it might be a result of borrowing, which occurred after the fortifion.

4. Method

In order to research the changes Afrikaans has undergone, the phonemic inventory of Cape Dutch must first be established. The studies of Van der Sijs (2005) and Ponelis (2005) will form the basis of the composition of the Cape Dutch phonemic inventory. Van der Sijs (2005) has written about sounds changes that happened per period of time. By starting at the Modern Dutch inventory and reading the results of Van der Sijs (2005) backwards, a Cape Dutch phonemic inventory can be derived from the Modern Standard Dutch inventory. This will then be compared to the findings of Ponelis (2005). Finally, Smakman (2006) stated that the Authorised Version of the Bible, the *Statenvertaling*, was of influence when Standard Dutch was codified during the seventeenth century. The phonemic inventory composed according to the results of Ponelis (2005) and Van der Sijs (2005) will finally be compared to the *Statenvertaling* to receive more insight on the use of the phonemes.

Since the other phonemic inventories are of current languages, these will be established according to the findings of other researchers. Zulu will be established by the results of Kumalo (2014) and Lanham (1969). Nurse and Philippson (2003) and Jessen and Roux (2002) have described the Xhosa inventory, while Van der Sijs (2005) and Neijt (1991) described the Modern Standard Dutch phonemic inventory. For South African English, the research of Lass (2005) is used. Finally, the current Afrikaans phonemic inventory is composed based on the studies by Wissing (1982), Donaldson (1993) and Le Roux and Le Roux (1946).

Zulu, Xhosa and Afrikaans will mainly be compared on their phonemic inventories only. However, the research of Niesler, Louw and Roux (2005) and Roux and Pienaar (1970) allows us to compare the acoustic features of Zulu, Xhosa and South African English vowels to acoustic features of Afrikaans.

South African English, Modern Dutch, Cape Dutch and Afrikaans will also be compared to each other through their phonemic inventories and phonetic distribution.

5. Results

5.1 Phonemic Inventory of Cape Dutch

In order to establish the phonemic inventory of Cape Dutch, the Modern Dutch phonemic inventory (see Figure 2) needed to be provided. According to these phonemic inventories (see Figures 2 and 3), two changes have occurred. Van der Sijs (2005) argues that a vowel split occurred during the sixteenth and seventeenth century in the Netherlands. The /æ/ has split into a [e] and [a:]. This change was not only present in pronunciation, but also in writing. Most words that contain an /a:/ in Modern Dutch are written as 'ae' in the *Statenvertaling*.

Other changes are not observed in the phonemic inventories. Van der Sijs (2005) claims that the schwa vowel was not used as often in Cape Dutch as it is in Modern Dutch. Modern Dutch

Figure 2.

Phonemic Inventory Standard Modern Dutch (Van der Sijs, 2005; Neijt, 1991; Ponelis, 2005)

				iĭ	/ y:	u
Plosives	Affricates	Fricatives	Nasals	Approximants	e	0: / ö
pb td c kg ?		$ \begin{array}{ccc} f & v \\ s & z \\ \int & 3 \\ x & y \\ h \end{array} $	m n ŋ	w r l j	ε/œ a:	ן ס ש

Figure 3.

Phonemic Inventory Cape Dutch (Van der Sijs, 2005; Ponelis, 20005)

					i	i: / y:	u
Plosives	Affricates	Frie	catives	Nasals	Approximants		o: / ö
p b t d c k g ?		f s∫ x h	v z 3 Y	m n ŋ	w r l j	$ \begin{array}{c c} & \varepsilon & - & - \\ & & & & \\ & & & & \\ & & & & \\ & & & &$	 0

speakers pronounce all unstressed DRESS and /I/ as a schwa, while during the seventeenth century, only unstressed *-ig* morphemes were pronounced with a schwa (Van der Sijs, 2005).

The consonants inventory has not changed since the seventeenth century. The bilabial 'w' (/w/) changed into the labiodental [v] in Modern Standard Dutch (Neijt, 1991). Also, the fricatives, which all have voiceless and voiced forms, have changed in their use over time. During the seventeenth century, fricatives were often devoiced in initial position. Van den Vondel omitted this pronunciation when establishing Standard Dutch (Van der Sijs, 2005). However, in Modern Dutch, initial fricatives are again often devoiced (Van der Sijs, 2005).

5.2 Cape Dutch compared to Afrikaans

One difference between Afrikaans (see Figure 4) and Cape Dutch (see Figure 3) is that Afrikaans

Figure 4.

Phonemic Inventory Afrikaans (Wissing, 1982; Donaldson, 1993; Le Roux & Le Roux, 1946)

				i / i: / y	u / y: u
Plosives	Affricates	Fricatives	Nasals	Approximants	
p b t d k g	t∫ dʒ	$ \begin{array}{cccc} f & v \\ s & z \\ \int & 3 \\ x \\ \end{array} $	m n ŋ	r l j	$\begin{bmatrix} \varepsilon / \omega & & & & \\ & & & \\ & & & \\ \varepsilon / \varepsilon & / \omega & & \\ & & & \\ $

has added affricates to its inventory. The /w/ no longer occurs in the Afrikaans consonant system. Additionally, the y/ and glottal stop have disappeared from the phonemic inventory.

The vowel system has expanded. While the Cape Dutch inventory contained thirteen distinctive vowels, the Afrikaans inventory has seventeen vowels. Many vowels became minimal pairs because the short as well as the long form of the vowels (e.g. $(\epsilon: \alpha: /)$ are distinct in word meaning. The $/\alpha$ no longer occurs in the phonemic inventory. However, Ponelis (2005) claims that most speakers pronounce |a| slightly higher, which results in a [a].

According to the phonemic inventories, Afrikaans speakers both use the short as well as the long form of the /i/. Besides /i/, /y $\varepsilon \propto a \sigma$ exist in their short and long forms. The close-mid front vowels (/e ø/) only exist in long forms. This differs compared to Cape Dutch, in which only a short /e/ occurs.

Finally, the /I/ has disappeared from the Afrikaans phonemic inventory. According to Wissing Figuur 5.

Phonemic Inventory of South African English (Lass, 2005).

				i	i / i:	u:
					V ï V σ	
Plosives	Affricates	Fricatives	Nasals	Approximants		0
pb td c kg ?	t∫ dʒ	$ \begin{array}{ccc} f & v \\ s & z \\ \int & 3 \\ x & \gamma \\ h \end{array} $	m n ŋ	w r l j	$\left \begin{array}{c} \varepsilon & - \varepsilon \\ \varepsilon & \varepsilon \\ \varepsilon &$	 ^ / o p

(2014) and Le Roux and Le Roux (1946), the /I/ has merged with the schwa vowel. Donaldson (1993), on the other hand claims that the I/I still occurs, however, it is mostly realised more nasalised as [\ddot{I}]. In both cases, the /I/ moved more towards the back of the mouth.

5.3 External Language Changes

The affricates in the Afrikaans inventory are most likely a result of external language change. Due to language contact between Afrikaans and English speakers during British colonisation, words such as Figuur 6.

<i>Phonemic Inventory of Zulu</i> (Kumalo, 2014; Lanham, 1969)	
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Plosives	Affricates	Fricatives	Nasals	Approximants	
p b t d c k g ?	t∫ dʒ kx	$ \begin{array}{ccc} f & v \\ s & z \\ \frac{1}{2} & \frac{1}{3} \\ \end{array} $	m n ր ŋ	w l j	

jelly and budgy became part of the Afrikaans language (Donaldson, 1993). This included the /dʒ/ sound. The /tʃ/ is used mostly in words introduced by the British speakers, as *chop* and *cheque* (Donaldson, 1993). Besides the existence of affricates in South African English (see Figure 6), affricates are also common in Zulu and Xhosa (see Figure 6 and 7). However, the use of affricates in Afrikaans is mainly in European loanwords (Donaldson, 1993).

According to Donaldson (1993), the z/z is no longer used in Afrikaans words, only in loanwords. Most of the words in which the z/z is pronounced originate from other African languages, e.g. Zulu and Zambia (Donaldson, 1993). However, when words are borrowed from other European languages (e.g. the word *zirconium*), these words preserve their 'z'-pronunciation too.

Besides /z/, $/3 \int$ are also used in loanwords only (Donaldson, 1993). These words often originate from French. During the Middle Ages, Dutch speakers adopted many words from the

i / i: _____

Figuur 7.

Phonemic Inventory of Xhosa (Nurse & Philippson, 2003; Jessen & Roux, 2002)

Plosives	Affricates	Fricatives	Nasals	Approximants	
p b t d c k g ?	ts/t∫ dz/d3 kx	$ \begin{array}{ccc} f & v \\ s & z \\ \frac{1}{4} & \frac{1}{5} \\ \int & \frac{3}{3} \\ x & y \\ h \end{array} $	m n ŋ	w r l j	

u / u:

o / o:

French language (Van der Sijs, 2005). Even though /ʒ/ and /ʃ/ are both in Afrikaans and Dutch only common in loanwords, Afrikaans speakers might not have inherited these sounds from the Dutch. Donaldson (1993) claims that loanwords from French introduced in an early period of time have changed /ʒ/ into /s/. This change has occurred in words such as *bagage* (/bə.xasi:/) and *passasier* (/ pa.sasi:r/) (Donaldson, 1993). French words that have been introduced to South Africa at a later time have not undergone this change and preserved the /ʒ/. During the seventeenth century, however, many French Huguenots sought refuge in South Africa (Roberge, 2002). Therefore, it could be that the /ʒ/ introduced by Dutch speakers has changed into /s/, and that the /ʒ/ has been reintroduced to the phonemic inventory by French Huguenots.

Figure 5 shows that South African English contains /f/ too. However, it is unlikely that the British introduced /f/ to the Afrikaans language. Afrikaans words in which /f/ occurs such as *sjampanje* (champagne) and *sjarmant* (charming), have been pronounced with a /tf/ in English since the Middle Ages. In Modern Standard Dutch these words are pronounced with a /f/ (Van der Sijs, 2005). Therefore, it is more likely that /f/ has been introduced due to French loanwords in the Dutch language.

The vowel system of Afrikaans has expanded since Cape Dutch. The vowel systems of Zulu and Xhosa are very limited (see Figure 6 an 7). Zulu has just five vowels (/a,e,i,o,u/). Xhosa uses the same vowel qualities, although Xhosa uses them both in the short and long forms. Niesler, Louw and Roux (2005) claim that Afrikaans vowels overlap more with Xhosa and Zulu vowels than South African English vowels. The /u:/ and /a/ could have been adapted from language contact between Afrikaans and Xhosa or Zulu speakers.

In addition, Zulu and Xhosa contain many nasalised sounds (Niesler, Louw & Roux, 2005). Therefore, they often pronounce their /I/ as [\ddot{I}] when followed by a nasalised sound. As Donaldson (1993) and Wissing (2014) claim, Afrikaans speakers often nasalise their /I/. Their / ϵ / vowels are often nasalised too resulting in [α] (Wissing, 1982).

5.4 Internal Language Change

Over time, Afrikaans /z v χ / have fortified, yet the /z/ and /v/ are commonly used. As explained earlier, the /z/ is only used in loanwords. These words are most likely inherited after the fortition of these fricatives. In Modern Dutch, the /w/ is often realised as the labiodental [v] (Neijt, 1991). In Afrikaans, the /w/ has changed into a /v/, however, the /v/ is still pronounced as [w] when preceded by another consonant, in all other cases the /v/ is realised as a [v] (Donaldson, 1993). The /v/ as it is used in the Netherlands has fully fortified to /f/ in Afrikaans.

The fortition of fricatives did not only occur in South Africa. Prior to the introduction of Cape Dutch in Cape Town, speakers in the Netherlands already merged /x/ and / χ /. Both forms can still be heard in the Netherlands, but no longer form a minimal pair in Modern Standard Dutch (Neijt, 1991; Van der Sijs, 2005). In addition, Dutch speakers in the seventeenth century already fortified initial fricatives, which resulted in pronunciations such as /so:n/ instead of /zo:n/ and /fan/ instead of /van/ (Ponelis, 2005; Smakman, 2006; Van der Sijs, 2005). However, these fortitions have been reversed when standardising Dutch (Van der Sijs, 2005). In Modern Standard Dutch, the initial /v/ and /z/ are still voiced. In Afrikaans, the fortition of /z v χ / means they are not only voiceless in initial position but merged with their voiceless counterparts, with the exception of loanwords. In loanwords, the distinction between voiced and voiceless fricatives still occurs (Donaldson, 1993).

As Ponelis (2005) argues, some of the long and short vowels have raised realisations. He claims that /e/ is often realised as [ï], and /a/ as [æ]. According to Wissing (2014), Afrikaans speakers realise the long /e:/ as [iə]. During the glide, the vowels move more to the centre of the mouth. In Dutch, this diphthong rises resulting in [ei]. For Dutch, this pattern also occurs when realising the long /o:/, which results in [ov]. In Afrikaans, the same pattern for the realisation of /e:/ and /o:/ does not occur. The long /o:/ is does not nasalise during its glide, but actually centralises [uə]. According to Wissing (2014), this realisation is not a result of centralisation, but of unrounding which occurs in Flemish and occasionally in Dutch diphthongs too. However, if both diphthongs first rose, as Ponelis (2005) argues, then the centralising changes can be applied to both long vowels.

6. Conclusion

6.1 Affricates

Compared to Cape Dutch, the phonemic inventory of Afrikaans has expanded. Affricates have found their way into the inventory, through the introduction of loanwords of European origin. These words were most likely introduced by the English colonisers during the colonisation of Cape Town in the nineteenth century.

6.2 Fricatives

The fricatives in Afrikaans have undergone several changes since Dutch colonisation. Some fricatives have undergone fortition while others are added to the inventory due to language contact. Since not all fricatives have fortified, for example, /3/ still forms a minimal pair with /f/, it seems that fortition of the Cape Dutch fricatives occurred prior to the inheritance of loanwords containing voiced fricatives and after the /3/ to /s/ change in French loanwords which were borrowed in an early stage.

Also, the fortition of the fricatives needs to have preceded the /w/ split. Otherwise, the [v] would not be contrastive with the /f/. These two conditions result in the following rules:

$$\begin{array}{l} 1. \ /3/ \rightarrow /s/ \\ 2. \ \emptyset \rightarrow \ /3/ \\ 3. \ F_{+voiced} \rightarrow F_{-voiced} \\ 4. \ \emptyset \rightarrow F_{+voiced} \\ 5. \ /w/ \rightarrow /v/ \end{array}$$

It is important that the first rule comes first. If rule 3 and 4 were switched, the outcomes would not match the changes in Afrikaans. Rule 4 and 5 are interchangeable since they do not influence the outcomes. To illustrate the importance of ordering, /z/ will be used as an example. In the order prescribed above, the following would happen:

a)
1.
$$3 \rightarrow s$$

2. $\emptyset \rightarrow 3$
3. $z \rightarrow s$
4. $\emptyset \rightarrow z$
5. $w \rightarrow v$

However, if rule 3 and 4 were switched, the results would not correspond.

b)
$$1: 3 \rightarrow s$$
$$2: \emptyset \rightarrow 3$$
$$3: \emptyset \rightarrow z$$

4.
$$z \rightarrow s$$

5. $w \rightarrow v$

With the ordering of b) the /z/ would no longer occur in the Afrikaans inventory. However if the ordering of a) is correct, it can be concluded that /3 z/ are results of external language change.

6.3 Vowels

The vowel system of Afrikaans has expanded. It seems that the nasalisation of vowels, which occurs in Xhosa and Zulu (Niesler, Louw and Roux, 2005), has been adapted in Afrikaans (Donaldson, 1993; Wissing, 1982). As Branford and Claughton (2002) claim, Xhosa and Zulu have not influenced Afrikaans very much due to the superstrate status of Cape Dutch.

The realisation of long /e/ and /o/ differs from the Dutch realisation. Wissing's (2014) results show that both realisations in Afrikaans show a falling pattern ([iə] and [uə]), while the realisation in Dutch show risings patterns ([ei] and [oʊ]). Ponelis (2005) claims that Afrikaans speakers often realise their vowels higher in the mouth than the phonemes suggest. If the long /e/ and /o/ first rose as Ponelis (2005) suggests and then centralised, the same results would occur as in Wissing's (2014) research.

6.4 Summary

Both internal and external forces caused Cape Dutch to develop into Afrikaans. External forces mostly expanded the phonemic inventory, while internal forces limited minimal pairs. Contact with English speakers added affricates to the phonemic inventory and loanwords from European and African origin (re)introduced several fricatives /z ʒ/. The internal change of the /w/ to /v/ has preserved the voiced labiodental fricative. However, this change must have occurred after the fortition of the fricatives in Cape Dutch.

The vowel system has most likely expanded by language contact. However, centralisation and rising which occurs when realising diphthongs and mid-vowels might be the start of internal language changes. The nasalisation of high-, front-vowels which occurs too in realisation would be influenced by indigenous South African languages.

7. Discussion

This study mainly focused on the differences in phonemic inventories of different languages spoken in South Africa. Even though the differences are demonstrable, the phonological distribution of all the languages researched is not discussed in depth. Therefore, the influence of other languages on Afrikaans has not been fully researched. Additionally, many researchers argue that a variety of Creole Portuguese, Khoekhoe, which is no longer spoken, and Malay have influenced Cape Dutch in the early stages of colonisation (Den Besten, 2009; Ponelis, 2005; Roberge, 2002). In this study, Afrikaans has only been compared to several current languages in South Africa. A historical comparison with the languages mentioned above would result in a more accurate description of the development of Afrikaans.

As stated previously, South Africa has eleven official languages. In this study, the three languages with the most speakers have been researched. However, Afrikaans originated in Cape Town, while Zulu and Xhosa are mostly spoken in the eastern part of South Africa. The geographical distance between these languages might have decreased their influence on one another. Other official languages in South Africa, which originated or are spoken closer to Cape Town might have influenced Afrikaans more. However, currently Xhosa belongs to the three most widely spoken languages in Cape Town.

In addition, the method to establish the phonemic inventory of Cape Dutch has not captured all potential influences on Cape Dutch in that time. In the Netherlands, many dialects are spoken and even in the seventeenth century Flemish speakers lived in the Netherlands. Features shared by Dutch and Afrikaans speakers can be found all over the Netherlands (Heeringa & De Wet, 2008; Roberge, 2002). The pronunciation of vowels corresponds most to the dialect spoken in Wassenaar and Zoetermeer, while the realisation of the consonants is closest to the dialect of Heerenveen (Heeringa & De Wet, 2008). The unrounding of the diphthongs, then again, occur in West Flemish dialects (Vandekerckhove, 2005). Therefore, these features, that also occur in Afrikaans, might not be a result of sound change, but might have been introduced by the speakers of different dialects during the occupation of the Dutch in the seventeenth century.

Finally, this study is mainly focused on comparing outcomes of other studies. Research

projects such as Niesler, Louw and Roux (2005) or Wissing (2014), in which speakers are recorded and acoustic features are measured, would result in more accurate outcomes when comparing the current languages of South Africa. Further research on the establishment of Cape Dutch, influences of early languages in Cape Town and comparing acoustic features of these different languages will result in a more complete explanation of how Afrikaans has phonemically developed over time.

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