

VELAR PALATALIZATION IN PATAGONIAN AND SOUTH-AFRICAN AFRIKAANS: LANGUAGE AND SETTLEMENT HISTORY IN AN EXPATRIATE COMMUNITY

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ABSTRACT

An expatriate (heritage) language can differ along many linguistic dimensions compared to contemporary geographic varieties of the same language spoken in the community's country of origin. Such differences can help answer questions about language change and the linguistic traits used by the original settlers. In this study, we explore one difference between Afrikaans as spoken by a 120-year-old expatriate community in Patagonia, and so-called "standard" South-African Afrikaans. We focus on velar palatalization, a feature with known geographical variation in contemporary South-African Afrikaans. Through a dynamic analysis of F1 and F2 trajectories, we demonstrate that Patagonian Afrikaans, but not "standard" South-African Afrikaans, uses a palatal glide between /k/ and following non-back high and mid vowels. We interpret these results within our broader research aim of discerning the variety of Afrikaans that was spoken by the original Patagonian settlers.

Keywords: Afrikaans, velar palatalization, dialect variation, heritage languages

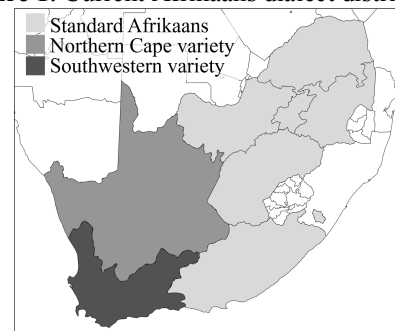
1. INTRODUCTION

1.1. Research overview

Within South Africa, there is documented dialectal and regional variation in Afrikaans, with three main dialects customarily distinguished: (i) Southwestern Afrikaans spoken in the region surrounding Cape Town, (ii) the Northern-Cape variety (sometimes called "Orange-River Afrikaans"), and (iii) Northeastern Afrikaans, typically considered the "standard" variety [10,12,13] (see Fig. 1). Given that the Patagonian-Afrikaans community (i.e., speakers of Afrikaans who currently reside in Patagonia, Argentina) originated from the northern regions of South Africa [4], their Afrikaans is more likely to be related to the Northeastern or Northern-Cape varieties than to the Southwestern variety. Furthermore, since Northern-Cape Afrikaans is spoken primarily by non-white speakers (with smaller numbers of white speakers), the default assumption would be that the

Afrikaans of the (exclusively white) Patagonian community will share most features with the "standard" Northeastern dialect. This, however, rests on the assumption that the original Patagonian settlers did indeed originate from the region where Northeastern Afrikaans is spoken in South Africa today, and also that the dialect distribution in South Africa at the turn of the 20th century (the time of the Patagonian settlement) was sufficiently analogous to the current situation in South Africa (see Section 4 for more discussion).

Figure 1: Current Afrikaans dialect distribution



As part of a larger research project aimed at understanding of the geographical and linguistic origins of the Patagonian-Afrikaans community, we are comparing phonetic features of Patagonian Afrikaans and the "standard" Northeastern variety (henceforth Standard Afrikaans), relying on features that are known to differ between Standard and Northern-Cape Afrikaans. For example, we are investigating an allophonic rule of /ε/-lowering that applies before /r l k x/ in Standard but not in Northern-Cape Afrikaans [3,13], yielding forms for the 1st person singular pronoun in the different varieties such as, [æk] in Standard Afrikaans vs. [εk] in the Northern-Cape variety. Although this research is ongoing, indications are that Patagonian Afrikaans differs from Standard Afrikaans on these features, and is thus more reminiscent of Northern-Cape Afrikaans.

1.2. The current study

In this study, we focus on another phenomenon that differentiates Standard Afrikaans from the Northern-

Cape variety, namely, velar palatalization. Northern-Cape Afrikaans palatalizes /k/ before non-back mid and high vowels, whereas Standard Afrikaans does not [3,13], yielding different pronunciations for words like /kænd/ *kind* ‘child’: [kjənt] vs. [kənt]. If Patagonian Afrikaans exhibits velar palatalization, it could be interpreted as evidence that this variety is more closely related to the modern variety of Northern-Cape Afrikaans than Standard Afrikaans.

The community that forms the focus of our study are the descendants of approximately 600 Afrikaans speakers who settled in central Patagonia, Argentina, between 1902 and 1906. Due to the remote area in which they settled, they were fairly isolated for the first fifty years, and therefore remained functionally monolingual in Afrikaans until the mid 1950s when commercial oil exploration resulted in the migration of Spanish speakers into central Patagonia. Since the 1950s, Spanish has gradually replaced Afrikaans in the community such that only the oldest generations (typically over the age of 65) still speak Afrikaans. We estimate that there are between 20 and 30 fluent speakers remaining in the community.

That Patagonian Afrikaans survived for over 120 years (rather than the typical 50 years for immigrant languages [5]) provides an opportunity to investigate the region in South Africa from which the settlers hailed, and potentially about the linguistic situation in South Africa at the turn of the 20th century.

2. METHOD

2.1. Speakers and data elicitation

Since Afrikaans is primarily a spoken language in Patagonia, we opted to collect data through sociolinguistic interviews. We interviewed 14 Patagonian-Afrikaans speakers (mean age 71.3, 5 male) in Patagonia, and 10 Standard-Afrikaans speakers (mean age 71.5, 6 male) in Potchefstroom, South Africa.

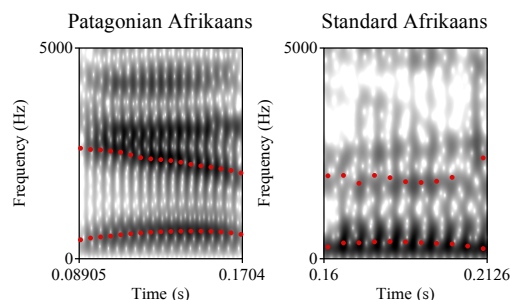
2.2. Acoustic analysis

From each interview, we extracted all instances of [k] followed by the non-back high and mid vowels [i ɛ ə i̯ə, e̯i̯], yielding 1,242 tokens (665 from Patagonian, 577 from Standard Afrikaans). Among the acoustic markers of velar palatalization [6,8], we focus here on trajectories of F1 and F2 out of the velar onset into the vowel. From the vocalic portion of every token, we extracted F1 and F2 at five equidistant intervals (starting at the 10% point), and subsequently calculated $\Delta F1$ and $\Delta F2$ —the difference in Hz between vowel midpoint (50%) and onset (10%). Although our statistical modelling is limited to $\Delta F1$ and $\Delta F2$, we extracted data beyond the midpoint to

visualize formant trajectories in the entire vowel (see Fig 3).

Assuming that the presence of a high front palatal glide will result in a low F1 and a high F2, we expect more extreme rising F1 and falling F2 out of the [k] if palatalization is present than if not. (This is expected for all vowels included, though perhaps less so for high front [i] and [i̯ə]. Space limitations prevent us from exploring between-vowel differences here.) Representative spectrograms for the post-[k] vowel from the word /kændərs/ *kinders* ‘children’ for Patagonian and Standard Afrikaans are given in Figure 2, showing that F1 has a slightly steeper rise and F2 a steeper fall in Patagonian than in Standard Afrikaans

Figure 2: Post-[k] vowel from *kinders* for a speaker of Patagonian Afrikaans (left) with palatalization (falling F2 and rising F1), and of Standard Afrikaans (right) without palatalization (mostly level F2 and F1). Entire vowel is shown.



2.3. Statistical analysis

Results were modelled with Linear Mixed-effects Modelling in *R* [6]. $\Delta F1$ and $\Delta F2$ were the dependent variables, with LANGUAGE VARIETY (Patagonian vs. Standard), STRESS, and their interaction as fixed effects. GENDER did not reach significance and was therefore excluded. We included STRESS since Afrikaans unstressed vowels are often reduced [15], and since speech targets are typically not fully achieved in such contexts [2]. Random intercepts were included for SPEAKER and VOWEL IDENTITY. Since data collection was done in the form of sociolinguistic interviews, we could not control the frequency with which different words appeared, resulting in some words appearing only once and others many times. For this reason, we opted to include a random intercept for VOWEL IDENTITY ([i ɛ ə i̯ə, e̯i̯]), rather than WORD.

3. RESULTS

Figure 3 shows the average F1 and F2 trajectories for Patagonian and Standard Afrikaans, for stressed and unstressed vowels, over the course of the time-

normalized vowel. As the figure shows, both varieties have an initial rise in F1 and fall in F2. This effect is generally larger for Patagonian than Standard Afrikaans, and also generally in stressed than unstressed syllables (though perhaps not for F2 in Standard Afrikaans). Of the differences between varieties and stressed vs. unstressed syllables visible in Figure 3, we chose the difference in F1 and F2 between the 10% and 50% points in the vowel for comparison in this paper.

Figure 3: Average F1 and F2 trajectories (by stress) for Pat. & Standard Afrikaans.

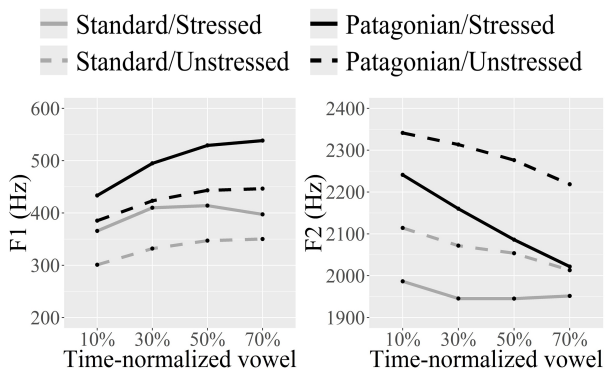


Figure 4: Average $\Delta F1$ and $\Delta F2$ for each speaker. Top panel represents stressed vowels, and bottom panel unstressed vowels.

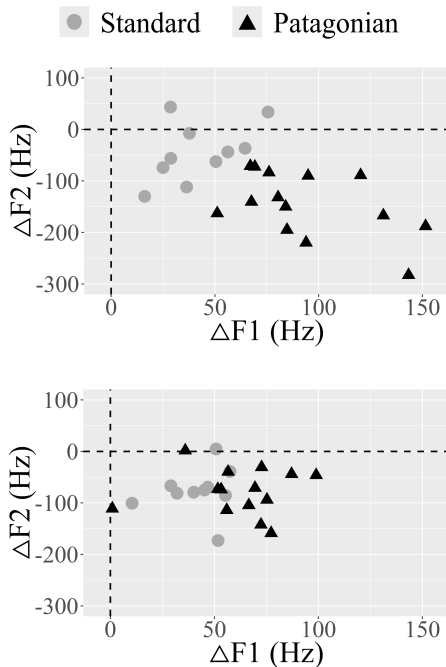


Figure 4 plots by-speaker average changes in F1 and F2, calculated as the difference in Hz between vowel midpoint (50%) and onset (10%), separately for stressed and unstressed vowels. A negative value indicates a falling formant trajectory, and positive value a rising trajectory, over the course of the vowel. Figure 4 reveals that all speakers have a rising F1

(positive $\Delta F1$), and most speakers a falling F2 (negative $\Delta F2$), and that these effects are generally larger in stressed than unstressed syllables (especially for $\Delta F2$). The effects are also larger for Patagonian than Standard-Afrikaans speakers.

The $\Delta F1$ and $\Delta F2$ measures were submitted to statistical modeling as described above, confirming the patterns visible in Figures 3 and 4. For $\Delta F1$, we found significant effects of LANGUAGE VARIETY ($p < .001$) and its interaction with STRESS ($p = .010$), but not for STRESS alone ($p = .180$). The effect of LANGUAGE VARIETY confirms that Patagonian-Afrikaans speakers have on average a more steeply rising F1 into the vowel than Standard-Afrikaans speakers. The interaction between LANGUAGE VARIETY and STRESS is due to the fact that the effect of LANGUAGE VARIETY is generally larger in the stressed than the unstressed condition.

For $\Delta F2$, we found significant effects of LANGUAGE VARIETY ($p < .001$), STRESS ($p = .004$), and their interaction ($p = .001$). The effect of LANGUAGE VARIETY confirms that Patagonian-Afrikaans speakers have on average a more steeply falling F2 than Standard-Afrikaans speakers, and the effect of STRESS that the fall is, on average, steeper for stressed than unstressed vowels. The interaction between LANGUAGE VARIETY and STRESS follows from the generally larger effect of LANGUAGE VARIETY in stressed than in unstressed syllables.

4. DISCUSSION

Altogether, our results demonstrate evidence for velar palatalization in Patagonian but not in Standard Afrikaans (or minimally for greater palatalization in Patagonian Afrikaans). This is exemplified by a more steeply rising F1 and falling F2 from the [k] into the following vowel in Patagonian Afrikaans. We also found evidence for more extreme palatalization in stressed than in unstressed syllables, consistent with the notion that speech targets are achieved more fully in prosodically strong positions [2]. In the rest of this section, we consider possible explanations for this difference between language varieties, and the implications of this difference for the history of the Patagonian-Afrikaans settlement and the history of Afrikaans at the turn of the 20th century.

Given that velar palatalization is not observed in Spanish, the presence of this phenomenon in Patagonian Afrikaans cannot be explained by contact between Afrikaans and Spanish in Patagonia. Velar palatalization is therefore either an independent internal development in Patagonian Afrikaans, or reflects the variety of Afrikaans that the original Patagonian settlers brought with them at the start of the 20th century. Velar palatalization is a phonetically

motivated process [6,8] with wide typological distribution [1], and it could therefore have developed independently in Patagonian Afrikaans. However, since this process is also present in contemporary South-African varieties of the language [3,13], it is more likely that it is a feature that was brought to Patagonia by the original settlers.

Can the presence of velar palatalization in Patagonian Afrikaans be used as evidence for the region in South Africa from which the Patagonian settlers hailed? The historical records regarding the regional origin of the settlers are incomplete [4]. For certain settlers, the records indicate an origin from the northeastern regions of the country (where Standard Afrikaans is spoken today), but for others an origin from the Northern-Cape region. However, for the majority of settlers, no records are available.

From a historical perspective, an origin from the northeastern regions would seem most likely. This is the region of modern-day South Africa that lost independence to the British in the second Anglo-Boer War, the event that sparked the migration of Afrikaans speakers to Patagonia. How should it then be explained that Patagonian Afrikaans has a feature that differs from Standard Afrikaans as spoken in the northeastern parts of modern-day South Africa, and that agrees more with the variety of the language spoken today in the Northern Cape?

One possible explanation is that the majority of settlers originated from the Northern Cape, contrary to expectations summarized above. A second possible explanation is that the contemporary geographic distribution of Afrikaans dialects may not reflect the dialectal distribution at the start of the 20th century. Specifically, velar palatalization may have exhibited a wider geographic distribution and may have been found in the northeastern regions of South Africa, even though it is currently absent from this region.

Little information is available about the history and dialectal distribution of Afrikaans at the turn of the 20th century. During that time period, Afrikaans was primarily a spoken language used in informal settings, whereas Dutch (or English) was used as a written language and in more formal settings [9]. Since Afrikaans was hence not subject to the standardizing pressures of being a written language at that time, it can be expected that there was more variation in the language. In other words, certain features that are currently associated with the Northern-Cape variety could have also been present in the northeastern regions, today associated with the “standard” variety.

South Africa used English and Dutch as official languages until 1925 when Afrikaans replaced Dutch as the second official language [11]. It was only after 1925 that Afrikaans came to be used regularly in

formal settings (government, schools, etc.). Officialization is often associated with standardization: a specific variety of the language has to be chosen as the variety that will be codified in textbooks and dictionaries, and that will be taught in schools. It is hence possible that the contemporary “standard” northeastern variety lacks velar palatalization not because this feature was never present in this region, but because the feature disappeared from the region as a consequence of the standardization that followed from Afrikaans gaining official status in 1925.

Given available data, it is currently not possible to decide definitively between the different possibilities mentioned here. However, our study demonstrates how linguistic evidence, especially evidence based on expatriate varieties of a language, can augment incomplete historical records, and result in questioning otherwise seemingly obvious assumptions about the history of such communities and the early dialectal history of a language. Since heritage languages typically do not survive for more than fifty years [5], the opportunities for doing this kind of research are limited. There are, however, other similar communities spread across the globe, including an even older Welsh-speaking community in the same region of Patagonia where the Afrikaans community resides [14].

5. CONCLUSION

Our study examined the presence vs. absence of velar palatalization in two varieties of Afrikaans, within our broader goal of interrogating the dialectal origin of the Patagonian-Afrikaans settlement from the start of the 20th century. Because velar palatalization is present in contemporary non-standard Afrikaans varieties, the use of this feature in Patagonian Afrikaans highlights the benefits of sociophonetic research for reconstructing the linguistic history of expatriate communities, as well as that of their countries of origin. Along these lines, data in future research should also be collected from Northern-Cape speakers.

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