

THE PRONUNCIATION OF ORTHOGRAPHIC <ä, äh> IN STANDARD AUSTRIAN GERMAN

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ABSTRACT

A graphemic representation of vowel mutated *a* is first documented in Middle High German texts. As a consequence of a strict letter-to-letter pronunciation, graphemic <ä> was pronounced as [ɛ(:)] in Early New High German and was subsequently prescribed in pronunciation dictionaries. Especially the pronunciation of long [ɛ:] has become an issue of debate. Many scholars point out that [ɛ:] had merged with [e:].

In the current investigation, it is tested whether speakers of Standard Austrian German merge the vowels orthographically represented as <ä, äh> and <e, ee, eh>. An acoustic analysis of all <ä, äh> and <e, ee, eh> of read and spontaneous speech of ten speakers was performed. No statistically significant differences were obtained, thus, a merger is assumed. The qualitative analysis proved some occasional realisations of [ɛ:] in read speech. It is concluded that some speakers adhere to a prescriptive norm which is sporadically activated in formal contexts.

Keywords: Standard Austrian German, pronunciation norms, long front mid vowels

1. INTRODUCTION

The graphemic representation of vowel mutated *a* (umlaut) is first documented in Middle High German texts [16]. The new grapheme was, however, inconsistently used and did not in any instance reflect etymological conditions [8, 17]. In Early New High German, as a consequence of the refined letter-to-letter pronunciation, people felt they had to distinguish graphemic <ä> from graphemic <e>, thus /ɛ:/ for <ä> arose as an “artificial phoneme” [21: 151]. This habit gained acceptance and was established as a pronunciation rule in Siebs’ [17] “Deutsche Bühnenaussprache”, first published in 1898. According to [17], long lax [ɛ:]¹ has to be pro-

nounced in German words when one of the following criteria is met:

- (1) <äh>, e.g. *wählen* ‘to choose’,
- (2) <ä> in open syllables, e.g. *Träne* ‘tear’,
- (3) <ä> in closed syllables with a single consonant, e.g. *spät* ‘late’ [17: 41].

Additionally, [ɛ:] has to be pronounced in foreign words as, e.g. *Ära* ‘era’, *Sphäre* ‘sphere’, *Rabelais*, *Portière* ‘portière’ [17: 44].

Siebs [17: 39] was well aware of the fact that orthography does not, in many cases, reflect etymological conditions, but that grammarians of the 16th, 17th, and 18th century formulated a rule that <ä> should be written if the vowel goes back to <a> in the base morpheme (e.g. *Männer* ‘men’ < *Mann* ‘man’). However, there are several exceptions: first, there are cases in which <ä> is not written, although <a> appears in the base morpheme, e.g. *behende*² ‘nimble’ < *Hand* ‘hand’ or *Eltern* ‘parents’ < *älter* ‘older’. Conversely, cases exist in which <ä> is written without any connection to <a>, e.g. *Bär* ‘bear’, *gebären* ‘to give birth’, *währen* ‘to last’ [8: 73f.].

In contrast to [17] who stated that [ɛ:] was the prevailing pronunciation for <ä>, Viëtor [20: 15] reported that besides the pronunciation of long <ä> as [ɛ:], the pronunciation [e:] is increasingly observed for this letter. In his overview on letters and their pronunciation, he recommended to pronounce [ɛ:] in open syllables and in closed syllables as for instance in *Gespräch* ‘conversation’ or *nächst* ‘next’ [20: 24].

Fifty years later, Moulton [12: 68f.] pointed out that “probably all educated speakers use long /ɛ/³ = [ɛ:] as the name of the letter ä” and for the distinction of minimal pairs such as *gäben* ‘would give’ – *geben* ‘to give’, but he stated in addition that “this /ɛ/ is not well integrated into the German vowel system”. Furthermore, he mentioned that /ɛ/ seems to be more frequent in formal speech as opposed to informal speech. Pilch [13] emphasised that he, in contrast to Siebs [17], who analysed the pronunciation on the stages, investigated standard

language ('Hochsprache') as it is actually spoken. He established /æ/⁴ as a phoneme, but restricted its use to the region along the middle course of the river Rhine; in all other regions he assumed /e/, although, according to his observations, careful speakers may consciously try to distinguish the two vowels, according to orthography, as this is regarded as the most refined pronunciation [13: 257].

In an investigation of Standard Austrian German vowels, Iivonen [6: 314f.], who assumed /ɛ:/, found a tendency to merge /ɛ:/ and /e:/, especially so in the production of women.

Moosmüller [11] confirmed a complete merger of /ɛ:/ and /e:/. From these results, she concluded that /ɛ:/ lacks phonemic status in the vowels system of Standard Austrian German. Similar results have been obtained by Wiesinger [23] and Ehrlich [3]. In their recommendations [4, 23], they proposed [e:] for graphemic long <ä>.

From the review of the literature, it can be stated that the pronunciation of [ɛ:] is, if at all, found in formal contexts in which speakers tend to overdo pronunciation and try to adhere to a distinct standard pronunciation.

However, in a recent study, Sloos [18] pursued the issue of proving an unmerger in Standard Austrian German. Apart from the fact that her results were not conclusive, her data were quite unbalanced for both speaker selection and phonetic context. Thus, she neglected the fact that the quality of /e:/ is changed to [ɛ:] preceding /r/ so that the contrast of, e.g. *Bären* 'bears' and *Beeren* 'berries' is neutralised [22: 17] and results in ['bɛɐ̯n] after the application of r-vocalisation. For this reason, *Bären/Beeren* cannot be lumped together with, e.g. *Mädchen* 'girl'.

Yet, since a reversal of a merger has been hypothesised, it is worth going deeper into that matter. For that purpose, we analyse speakers of Standard Austrian German, as defined in [10]. From these results, Standard Austrian German is spoken by persons with a high educational background. Moreover, since the standard variety as spoken in Vienna holds the highest prestige [5, 10, 19], we draw on speakers who were raised in Vienna with at least one parent having been raised in Vienna as well. In addition, a vast amount of variationist studies proved that female speakers use more standard forms than men [see, inter alia, 2, 7, 9, 14 for extensive overviews]. This led us to restrict our study to female speakers in a first step.

It is the aim of this study to examine whether there is a tendency of speakers of Standard Austrian German to unmerge /ɛ:/ and /e:/, eventually due to orthography. For this reason, we decided to compare read speech and spontaneous speech.

2. METHOD

2.1. Subjects and recordings

Semi-structured interviews containing spontaneous speech of approximately 20 minutes and several reading tasks were performed with ten female speakers (45 – 66 years) of Standard Austrian German as spoken in Vienna. In the current investigation, we analysed the spontaneous speech material and the task of reading a list of sentences, which had to be read twice. One subject had to be elided due to a lack of items containing <ä> in the spontaneous speech material. In the current study, we focus on <ä> and <e> in the first stressed syllable of disyllabic words triggering long vowels (short vowels were ignored, because no distinction is to be expected). Likewise, none of the words exhibits the target vowel preceding /r/ due to the neutralisation of [ɛ:] and [e:] before /r/.

2.2. Data extraction and analysis

All orthographic <ä, äh> and <e, eh, ee> as described above were segmented manually (n=126 for read speech, n=227 for spontaneous speech). F1, F2, and F3 were extracted over time by means of LPC (window length 46 ms, overlap 95%).

2.3. Statistics

For the statistical analysis, formant frequencies were averaged across repetitions per subject and condition. Subsequently, two-way repeated measures ANOVAs with vowel quality (<ä, äh> and <e, eh, ee>) and speaking task (read and spontaneous speech) as within-subject factors were done for each formant (F1, F2, F3).

3. HYPOTHESES

Hypothesis 1: No differences between <ä> and <e> exist in pronunciation; both graphemic representations are realised as [e:].

Hypothesis 1a: In accordance with [12], we hypothesise that in certain instances, speakers might

adhere to orthography in read speech, due to the formality of the task.

Hypothesis 1b: No differences are expected in the realisation of graphemic <ä> and <e> in spontaneous speech.

4. RESULTS

4.1. Quantitative analysis

For an overview, the mean values for the four different groups with the variables of vowel quality and speaking task are presented in Table 1. For read speech, F2 and F3 are higher for both vowels.

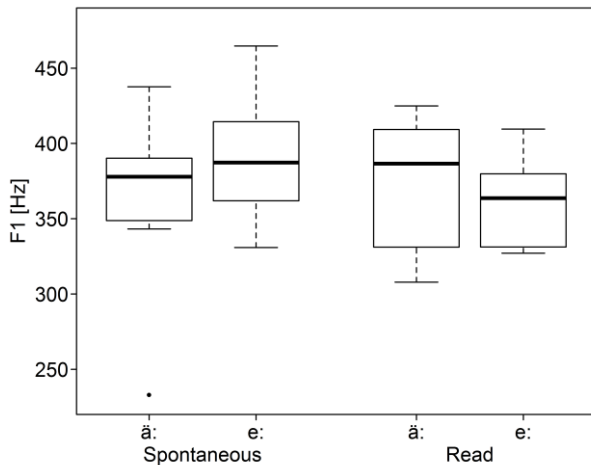
Vowel quality	Speaking task	F1 [Hz]	F2 [Hz]	F3 [Hz]
<ä>	spontaneous	364	2286	2851
<e>	spontaneous	391	2299	2901
<ä>	read	369	2446	3027
<e>	read	362	2372	3026

Table 1: Overview of the mean values of four conditions

4.1.1. Results on F1

For the first formant, no significant effects were found. The outlier of <ä> in spontaneous speech does not have a significant influence on the result.

Figure 1: Boxplot for F1 presenting the mean values of four conditions (averaged across repetitions per subject and condition)

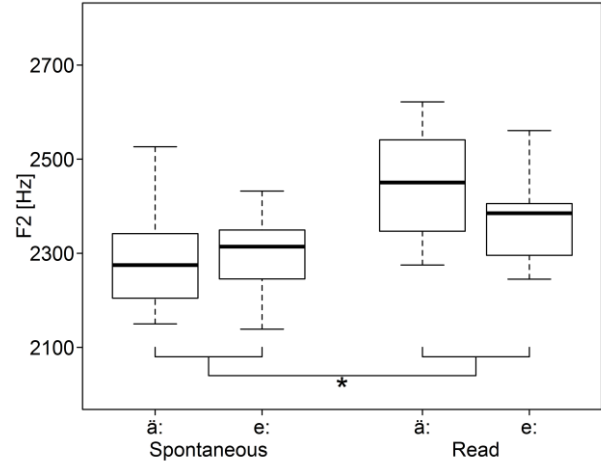


4.1.2. Results on F2

For the second formant, the main effect of speaking task is significant ($p=0.01$). In read speech, F2 of the

summarised vowels is higher than in spontaneous speech, a well-known result in phonetic studies (for German, see, e.g. [11]).

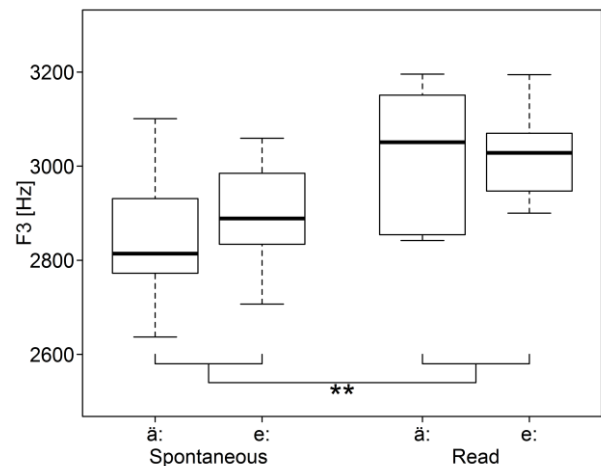
Figure 2: Boxplot for F2 presenting the mean values of four conditions (averaged across repetitions per subject and condition)



4.1.3. Results on F3

Again, a significant main effect of speaking task emerged ($p=0.002$) for F3. In the same way as for F2, F3 is higher in read speech than in spontaneous speech.

Figure 3: Boxplot for F3 presenting the mean values of four conditions (averaged across repetitions per subject and condition)



4.1.4. Interaction

The interaction of both speaking task and the vowel quality does not reach significance.

4.2. Qualitative analysis

Although the quantitative analysis proved no significant differences with respect to vowel quality, there are some instances which are worth to be discussed in a qualitative analysis. All these were found in read speech. Some items were produced in a way that from the auditive and acoustic analysis we rather opted for [ɛ:]. This was the case in eight out of 126 items. The following items were affected: *Käfer* ‘beetle’ (twice), *Mägde* ‘maidservant’ (three times), and *räkelt* ‘he/she lolls’ (three times). It is noteworthy that these special cases have been produced by three out of ten test subjects.

In further four items, <ä> was pronounced in a way that made a decision impossible. The same target words as listed above were affected: *Käfer* ‘beetle’ (once), *Mägde* ‘maidservant’ (once), and *räkelt* ‘he/she lolls’ (twice). Again, three test persons (of which two were the same as in the above mentioned cases) were involved.

One item, *gewählt* ‘chosen’, deserves special mention, although it is not included in the statistical analysis because it is stressed on the second syllable. The word was produced as last word of a read sentence. The subject read the sentence and produced [e:] for <ä> in *gewählt* ‘chosen’. After a break of about one second, the subject repeated the word *gewählt*, but this time with great effort to consciously pronounce [ɛ:]. In this second trial, the duration of the vowel was approximately twice as long as in the first trial (216 ms vs. 137 ms).

No “outliers” have been found in spontaneous speech.

5. DISCUSSION AND CONCLUSION

It can be concluded that our data agree with our hypotheses; long <ä> and long <e> are not distinguished by means of different vowel qualities. Both are pronounced as [e:]. Yet, some residual normative ideas with respect to a “correct” pronunciation are still present in some speakers’ minds, which are the result of some obsolete beliefs about standard pronunciation based on orthography.

These residual norms affect some rare cases in read speech in which a prescriptive norm seems to apply. As stated in the introduction, some centuries ago it was usual that intellectuals strictly followed orthography in their pronunciation, since they were unaware of the historical development of the sounds

which did not always go hand in hand with the formation of orthography. Nonetheless, with respect to <ä>, the prescriptive norms hold their ground up to the present day. In the example of *gewählt* ‘chosen’, this is quite obvious: after having read the sentence, it apparently came to the subject’s mind that she “should” have pronounced <ä> as [ɛ:] in read speech as the norm prescribes. Therefore she pronounces the word again in a hypercorrect way.

This norm seems to be half-conscious in some speakers, since only four speakers exhibit instances of [ɛ:] in read speech. Those test persons who sometimes produce [ɛ:] seem to be insecure as regards the proper realisation of this grapheme, since they only realised [ɛ:] in some instances. Each sentence containing the target item had to be read twice, but the two realisations are usually not pronounced in the same way which points into the direction that [ɛ:] is only exceptionally produced. Word frequency seems to play a decisive role. Although we performed no frequency counting, the word *täglich* ‘daily’ can be considered a high-frequency word as compared to *räkelt* ‘he/she lolls’. Unsurprisingly, *täglich* ‘daily’ was never pronounced with [ɛ:], whereas *räkelt* ‘he/she lolls’ evoked insecurity with respect to pronunciation.

This influence of orthography is only found in read speech, which shows that there is a more or less conscious influence of a prescriptive norm still present in some speakers’ minds. In spontaneous speech, this prescriptive norm does not influence the speaker’s pronunciation habits.

In a further step, an apparent-time analysis will be performed including younger speakers of both sexes and adding male speakers to the group of elder speakers. This will reveal whether the obsolete pronunciation norm still persists in younger speakers or whether it has been abandoned altogether.

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¹ Short <ä> is not an issue of debate, since it is always pronounced [ɛ].

² According to the German orthography reform of 1996, this word is now written *behände*.

³ Moulton [12] does not write /ɛ:/, but in his phonetic transcription it is made clear that /ɛ/ is a long vowel.

⁴ Pilch [13] uses the symbol /æ/ for what is generally transcribed as [ɛ]. He uses no symbol for marking /æ/ as long

and states that /æ/ belongs to the class of long vowels having no short counterpart.