THE CHANGE OF DIPHTHONGS IN STANDARD VIENNESE GERMAN:
THE DIPHTHONG /æə/

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ABSTRACT

The realization of the diphthongs /æə/ and /ɛə/ of Standard Austrian German differs between the two big dialect regions and this difference also affects the process of monophthongization, especially affecting the direction of the assimilation. However, neither the difference in diphthong realization nor the difference in the application of the process of monophthongization existed in the late nineteen-fifties. Observing the realization of the diphthong /æə/ over the past decades, a constant rise of F2 can be observed at the onset of the diphthog in the Viennese Standard variety. Gradually, in the Viennese Standard variety, the onset steady state of the diphthong /æə/ has given way to a gliding movement. Long offset steady state portions could be observed in the late seventies for the first time, consequently, they have to be interpreted as uncertainty in diphthong articulation due to the rapid progression of the process of monophthongization.

1. INTRODUCTION

1.1. Some preliminary remarks on the language situation in Austria.

The situation of the German language in Austria differs markedly from that in Germany. It is often described as a dichotomy consisting of two systems, a dialectal one and a standard one [4]. Additionally, both systems can be differentiated regionally [9]. This dichotomy has been described in terms of a so-called two-competence model [3], that is, it is assumed that speakers of Austrian German have competence in two varieties, a dialect one and a standard one, each of which may be partial.

This concept implies that some dialect forms differ completely from "corresponding" standard forms, and that speakers switch from one form to the other. These forms are described in terms of "input-switch-rules", which show that the dialect form and the standard form coexist independently. Nevertheless, the situation in Austria is not diaglossic, since in may cases intermediate forms between the two extremes of dialect and standard do in fact occur. Therefore, both systems do share many natural phonological processes [9].

However, a process of one system can be in an input-switch-relation with a process of the other system, as it is the case with the process of monophthongization. This process has been completed in the Viennese Dialect at least fifty years ago, and resulted in a restructuring of the phonological system of the dialect [3]. The former diphthongs /æə/ and /ɛə/ have been substituted by the new monophthongs /æ/ and /ɛ/. These additional new monophthongs did not disturb the vowel system, since the dialect lacked lax vowels anyway. The opposition of Standard long tense and short lax vowels is expressed by long versus short tense vowels in the dialect system. In the Viennese dialect, therefore, the process of monophthongization has to be described as a prelexical process [2].

Probably as a result of the Viennese Dialect, the process of monophthongization affected the Viennese Standard as well, though postlexically. That means, the process is applied as a function of well-known linguistic and socio-psychological variables [8, 9, 12]. The relation between the Viennese Dialect and the Viennese Standard as concerns the process of monophthongization can be described as follows:

![Diagram](image)

figure 1: interaction of the Viennese Standard (St) and the Viennese Dialect (Dial) as concerns the process of monophthongization.

To put it in another way, synchronically, the process of monophthongization is a process of the Standard, in the Viennese Dialect a long monophthong might be reduced as a function of linguistic and socio-psychological variables. Nevertheless, the output might be the same.

A quantitative analysis of the spontaneous speech material of Viennese Standard and Dialect speakers exhibited a peak of monophthongal realizations of the diphthongs /æə/ and /ɛə/.
(=dialect) and a standard distribution curve with respect to gradual
decrease or increase of diphthongal movement [12]. This result
supports the suggestion of a two-competence-model for Austrian
German.

1.2. The actual realization of the diphthong /ae/ in Standard Austrian German.
Following the definition given by Lehiste [6], a diphthong is
characterized as a sequence consisting of an initial steady state
which is followed by a transition and a final steady state. The
timing relations between these three elements are language
specific [7] and contribute to qualitative differences of one and the
same diphthong. As far as the Austrian varieties are concerned,
differences with respect to these timing relations can be observed.
The main differences of these timing relations correspond to the
two large dialect regions of Austria [10, 11]. The typical South-
Bavarian diphthong is characterized by a long onset steady state
portion, whereas the offset is relatively short (figure 2).

As can be seen from figure 2, the onset steady state comprises half
of the diphthong and is followed by a short transition and a
relatively short offset steady state. The three phases are not as
sharp with respect to F1, it has to be mentioned that the change
of diphthong quality affects first the movement of F1. That means,
within the South-Bavarian region, diphthong realization is most
distinct in the city of Innsbruck, in Graz, however, the distinct
movements of F1 have been substituted by a gliding movement.
Already, the characteristic South Bavarian pattern is obvious
within the movement of F2 only.
The typical Viennese Standard diphthong, on the other hand, is
characterized by a gliding movement with no clear detectable
onset or offset steady state portion (figure 3). A greater span of
 gliding within the Viennese Standard variety as compared with
East Middle German has also been described by Iivonen [5]. This
means that the change in diphthong quality is very progredient in
Vienna already. However, in the few cases, a steady state portion
can be observed at a diphthong articulated by a Standard Viennese
speaker, it is rather the offset that is affected (figure 4).

1.3. The process of monphthongization.
It follows from this that the process of monophthongization,
triggered by the Viennese Dialect, has regionally different outputs
as well. Whenever diphthongs are monophthongized in the South
Bavarian region, the offset of the diphthong is assimilated towards
the onset (see figure 5). Figure 5 shows 4 realizations of the
diphthong /æ/ from "vielleicht" (perhaps) from a Styrian speaker.
As can be seen, none of the four realizations exhibits a movement
with respect to the first formant. Looking at the second formant
however, a gradual decrease at the offset of the diphthong can be
observed, the last realizations being totally monophthongized (the
arrow at the right side of the figure indicates the direction of the
assimilation).
In Standard Viennese, however, the onset of the diphthong is
assimilated towards the offset in case of monophthongization
(figure 6). Again, assimilation is completed with respect to the
movement of the first formant, the direction of the assimilation
can be observed in the second formant (the arrow at the left side
of the figure indicating the direction of the assimilation).
Again, no movement with respect to the first formant can be observed. The second formant, however, exhibits an increase at the onset of the diphthong. This direction of the assimilation process could point to a more prominent offset of the Viennese diphthong.

From the observed differences the questions arise whether Viennese Standard diphthongs were characterized by long offset steady states before the start of the process of monophthongization or whether the observed differences are simply the result of an uncertainty in diphthong articulation due to the rapid spread of the process of monophthongization?

2. METHOD

Official speech samples of 5 male Viennese Standard speakers of the late fifties, the late sixties, the late seventies and the late eighties have been used. At least one speaker from each period has been analyzed a decade later in order to look at intra-individual change. The recorded speech samples were digitized at 16 kHz, 16 Bit, by means of the acoustic workstation S_Tools [1]. First and second formants were calculated by LPC, 22 coefficients and a pre-emphasis of 0.9, linear time-standardization was ensured by calculating 30 frames over each diphthong.

3. RESULTS

Interestingly enough, Standard Viennese diphthongs in the late fifties exhibited a long onset steady state portion, comprising about 2/3 of the diphthong, a short transition and a short offset steady state portion. This pattern can be observed in the movement of both the first and the second formant (figure 7):

That means, the pattern of the diphthongs resembles those observed in today's South Bavarian diphthongs. Moreover, whenever a diphthong was monophthongized in the late fifties, the offset assimilated towards the onset (figure 8):

Therefore, in the late fifties, no regional difference with respect to diphthong articulation could be observed yet. Over the decades, however, a rise of F2 at the onset of the diphthong can be observed (figure 9) in the Viennese Standard:
This change can also be observed within one and the same speaker (figure 10):

**4. CONCLUSION**

It has to be concluded from these results that

1. in the late nineteen-fifties, the diphthongs of the Viennese Standard and the corresponding monophthongs of the Viennese Dialect co-existed independently. The process of monophthongization in the Viennese Standard applied as a postlexical process; no input-switch relation could be observed yet.

2. As a next step, the monophthongs of the Viennese Dialect influenced the diphthong realization of the Viennese Standard, resulting in a progressive raise of F2. Consequently, the onset of the Viennese Standard diphthong loses the [a]–quality. Moreover, as this raise affected only the onset of the diphthong, the diphthong proceeds towards monophthongization.

3. Monophthongization in the Viennese Standard is launched from two sides: from the Viennese Dialect on the one hand and from well-known linguistic and socio-psychological factors causing the application of backgrounding processes.

4. This results in a great uncertainty with respect to diphthong articulation in the Viennese Standard.

5. As the Viennese Standard functions as a model for Austrian varieties in general, the process of monophthongization gradually spreads all over Austria.

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**REFERENCES**


