

The merger in process of [ç] and [j] in Luxembourgish

The young Germanic language Luxembourgish (Lux) shows some significant differences in the phonological system compared to its “big” neighbor, Standard German (StG). Some of these differences are found in the fricative system: The StG voiceless palatal fricative [ç] has its reflex in every context in the Lux voiceless alveolo-palatal fricative [ç̥] (e.g. germ. *richtig* [ˈʀɪçtɪç] > Lux *richteg* [ˈʀɪçtəç̥]), the palatal variant is missing in Lux altogether. The voiceless post-alveolar fricative [ʃ] in StG and Lux is more or less the same in context and phonetic shape, with a labialized variant [ʃ^w] found in Lux in the speech of mainly elder speakers (e.g. germ. *schön* [ʃø:n] > Lux *schéin* [ʃ^wəin] ‘beautiful’). The shift from voiceless palatal to alveolo-palatal fricative is recent. Older descriptions of Lux from the 19th to the middle of the 20th century transcribe the sound with the palatal fricative. First notifications of a “mixture” or a “middle-sound” appear in the late 40s and 50s, suggesting a sound shift or merger of both fricatives to an in-between sound: [ç] > [ç̥] < [ʃ]. As for many areas of Middle German dialect regions (e.g. documented in Koblenz, Erp, Leipzig) this sound shift led to the loss of the palatal variant and to no significant perceptual differences between the fricatives.

In the 90s, a first phonetic-acoustical investigation on a small scale was carried out¹, affirming this perceptual impression. My analyses intended to clarify the sound shift on a larger scale, including a more in-depth phonetic investigation of the spectral shape of the fricatives. To do so, the speech of 6 speakers (4 male, 2 female) from 3 different generations, all from the capital city of the Grand-Duchy of Luxembourg (seen as the center of the main dialect area, motor of the standardization process of Lux) was analyzed. The position of the first spectral peak, computed using the LPC-smoothing algorithm of the phonetic software PRAAT, proved most significant in order to distinguish the Lux fricatives. The combination of this information with the auditory transcription and the analysis of the general shape of the spectral curve led to some interesting results, which both affirmed and nuanced some of the suppositions in the literature:

- a) There is a clear difference in the fricative system of the three generations, with an opposition between a labialized post-alveolar fricative [ʃ^w] and an alveolo-palatal fricative [ç̥] for the elder generation, a less stronger opposition between an optionally labialized post-alveolar fricative [ʃ^w] and [ç̥] for the middle generation, and the virtual absence of opposition in the speech of the younger generation, with a clearly delabialized [ʃ] and an alveolo-palatal [ç̥] close to the latter, e.g. (the numbers indicate the range and the average frequency of the first spectral peak):

– Male speaker, 85:	[ʃ ^w] = 1150-1600 / 1310 Hz.	[ç̥] = 1760-2000 / 1860 Hz.
– Male speaker, 50:	[ʃ ^w] = 1480-1850 / 1650 Hz.	[ç̥] = 1850-2130 / 1970 Hz.
– Male speaker, 27:	[ʃ] = 1350-1725 / 1575 Hz.	[ç̥] = 1550-1750 / 1675 Hz.

- b) The inner-individual differences are systematical, i.e. every speaker shows a consistent fricative system. Inter-individual differences, on the other hand, are in some cases very strong.
- c) First impressionistic examinations of the voiced variants [ʒ] and [z], rather frequent in Lux, suggest a similar pattern to the one found for the voiceless fricatives.

¹ GILLES, Peter (1999): Dialektausgleich im Lëtzebuergeschen. Zur phonetisch-phonologischen Fokussierung einer Nationalsprache (= Phonai 44) (Tübingen).