An acoustic and comparative study of Luxembourgish vowels

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Luxembourgish (Lëtzebuergesch) vowels as they are realized nowadays are under-described in phonetic literature. There are some phonological and phonetic in descriptive studies, but research still requests more investigation about Luxembourgish speech [Goudaillier, 1987; Gilles, 1999; Gilles, 2011; Gilles and Trouvain, 2013; Nishide, 2014; Adda-Decker, 2014]. In my study, I focus on the production of Luxembourgish vowels produced by adult Luxembourgish native speakers and French speakers. I compare Luxembourgish and French vowels to see if there are any interferences between the mother tongue and the foreign language in the speech of French speakers. The study of Gilles and Trouvain (2013) is the starting point of my research, because it presents a general phonetic description of the segmental and sub-segmental systems of Luxembourgish based on data collection and synchronic analysis.

So far, I recorded 9 native speakers on spoken and spontaneous speech, which resulted in 4h30 hours of Luxembourgish recorded speech for the first group. I also recorded 7 French speakers, which resulted in 5h15 hours of recorded speech for the second group. In this presentation, I show first observations about the Luxembourgish vocalic system of three natives and 1 non-native participant. I extracted and aligned semi-automatically acoustic data of vowels contained in single monosyllabic and disyllabic words and in Luxembourgish sentences.

The first observations of vowels in read speech reveal differences between native and non-native vowel production, but also shows some interferences between the native and the second language. Thus, the analysed data and the results can be used (i) to give more information about the acoustic characteristics of Luxembourgish vowels for phonetic and phonological research, (ii) to compare different analytical and alignment methods for future improvement and use of speech recognition systems, including foreign accent [Vieru-Dimulescu, 2008], and finally (iii) to give information about the acquisition of Luxembourgish as foreign language.
References


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NISHIDE, Kayo (2014). „Das Vokalsystem des Zentralluxemburgischen“, Neue Beiträge zur Germanistik, volume 43, number 1, München, page 278-295