Dialectal Variation of French Schwa in the Light of Speaker-related Factors
Sandrine Brognaux¹,², Mathieu Avanzi³
¹CENTAL – ICTEAM, Université catholique de Louvain; ²TCTS, UMons; ³DTAL, Cambridge University
sandrine.brognaux@uclouvain.be, mathieu.avanzi@unine.ch;

The motivations behind the presence vs. absence of a schwa vowel in the initial syllable of polysyllabic words (such as in il lui a d(e)mandé, or il est v(e)nu) has been a challenging issue for decades in the French phonology field. Recently, Bürki et al. [2011] aimed at shedding new light on the topic, based on a corpus of radio-broadcast news. The authors tested 17 predictors related to segmental, phonotactic, morphological, grammatical, prosodic and lexical variables, along with speech rate and word predictably. Five of these predictors were shown to be sufficient to account for schwa alternation. In this study nevertheless, the effect of speaking style and variables related to speaker, such as age and geographical origin were not considered due to the nature of the corpus.

Yet, the behavior of schwa in non-final word position has been shown to be very sensitive to speakers’ variation. Racine & Andreassen [2012, to app.] show for example that productions of Swiss speakers tend to manifest a greater schwa deletion rate in these positions compared to standard varieties of French (i.e. the varieties spoken in the North of France), and that schwa alternation varies as a function of the speakers’ age in Switzerland. Hambye [2005] also reports differences between Belgian and standard French speakers, the latter deleting less schwas. Discourse degree of formality was also highlighted as a key factor in that respect: Léon [1993] and Hansen [2000] argue that read speech would favor a greater production of schwa than spontaneous speech. Interestingly, little is known about how these sociolinguistic factors interact, and to which extent Switzerland productions differ from Belgian productions. This study aims at examining the role of the aforementioned sociolinguistic factors, by considering them simultaneously with the linguistic factors which have been shown to explain most of the variance in Bürki et al.’s work.

Our study presents the advantage of relying on a large manually-annotated corpus recorded in 15 geographical areas, equally spread over 3 European French-speaking countries: Metropolitan France, Switzerland and Belgium. For each of the 15 sites, 4 female and 4 male speakers were selected (aged between 20 and 80 years old), and recorded in a reading text task (the text is 398 words-long) and in semi-directed sociolinguistic interviews, in which the informant had minimal interaction with the interviewer [Durand et al. 2009]. The entire reading text and a stretch of 3 minutes of spontaneous speech for each speaker were orthographically transcribed and automatically aligned within Praat [Boersma & Weenink 2014] with the EasyAlign script [Goldman 2011], which provides a 3-layer annotation in phones, syllables and words. All the alignments were checked and corrected by hand, by inspecting waveforms and spectrograms [Avanzi 2014]. In total, 2440 sites of initial schwas were extracted from this database, based on an automatic phonetization of the corpus [Pagel et al., 1998] relying on the BruLex French phonetic dictionary [Content et al., 1990]. Data were analyzed by means of Generalized Linear Models [Baayen et al. 2004], with the realization of the schwa (1/0) and the following predictors as independent variables: speech rate, schwa position in the word, word position in the inter-pausal group, number of consonants in the consonant sequence, respect of the sonority principle in this sequence, geographic origin, speaking style and speaker age. Results show that all the predictors have a significant effect on schwa realization, some of them such as age and geographic origin being involved in complex interaction.
References


