ACOUSTIC DESCRIPTION OF WESTERN CATALAN VOWELS READ ALOUD BY ADOLESCENT SPEAKERS WITH WESTERN CATALAN, ROMANIAN AND ARABIC AS L1

This paper investigates the acoustic variability of stressed Catalan vowels produced while a tale is read aloud by Western Catalan speakers who have: Western Catalan (C), Romanian (R) and Maghrebi Arabic (A) as their L1. The stressed vocalic systems of these languages are quite different, i.e. C has /i e ɛ a ɔ o u/, R /i e a ɤ ɯ o u/ and A /i iː a aː u uː/. Therefore, a comparison is made of how this affects the Catalan vowel pronunciation. The data comes from 39 adolescent speakers: 12 C, 15 R and 12 A, while reading aloud a Catalan tale. A total of 1960 vowels were retained.

Linguistic variables under examination were: vowel duration, values of F0, F1, F2 and F3, and immediate phonetic context. Social variables included: the subject's L1, sex, number of years spent in Western Catalonia, age of arrival to Western Catalonia. Also included was the L1 and L2 language use: at home, at school and with peers. Mono tracks sampled at 48,000 Hz were used, and formant measurements were taken using Praat.

Preliminary results show that /i e ɛ a ɔ o u/ have different lengths depending on the subject's L1: C speakers produce shorter vowels than R or A speakers. Formant values of F1 are significantly different between the informants: they are higher in C than in R or A for [ɛ, ɔ], and higher in R than in C or A for [i e a o u]. As for F2 values, they are significantly higher in C than in R or A for [a], and significantly lower in C than in R or A in [ɛ]. Finally, values of F3 are lower in C vowels than in the others.