The perception of Spanish lexical stress by French speakers: stress identification and time cost

Schwab*, Sandra and Joaquim Llisterri**
*Université de Genève, **Universitat Autònoma de Barcelona
Sandra.Schwab@unige.ch; Joaquim.Llisterri@uab.cat

By analogy with the crible phonologique ("phonological filter") proposed by Troubetzkoy (1949), it has been assumed that French speakers suffer from stress deafness. Studies which have examined this phenomenon have highlighted several factors which might affect the perception of lexical stress by French speakers: the competence in L2 (e.g. Muñoz et al., 2008), the accentual pattern (e.g. Muñoz et al., 2008), the lexical status of the stimuli (e.g. Dupoux et al., 2008), the phonetic variability in the stimuli (e.g. Dupoux et al., 1997) and the cognitive load involved in the experimental task (e.g. Dupoux et al., 2001).

The present study aims at examining the following factors, susceptible to affect the perception of lexical stress in Spanish by French speaking listeners: the competence in L2, the accentual pattern, the lexical status of the stimuli, and the acoustic parameters involved in the realization of stress.

Two groups of French speaking participants (advanced and with no knowledge in Spanish) were asked to listen to isolated words (e.g. médico, "doctor") and pseudowords (e.g. núlibo) in Spanish, and to indicate the position of the stress. The stimuli (words and pseudowords) consisted of proparoxytones (e.g. válido, /'baliðo/, "valid"), paroxytones (e.g. valido, /'ba'liðo/, "I validate") and oxytones (e.g. validó, / bali'do/., "he validated"). Moreover, the stimuli appeared in their “original” version, namely with their original accentual pattern (proparoxytone, paroxytone or oxytone), and in a “manipulated version”, in which they underwent a stress displacement. Stress displacement was generated by replacing the values of the acoustic parameters (duration, F0 and amplitude) of each vowel of a proparoxytone stimulus (e.g. válido) with the values of each vowel of a paroxytone stimulus (e.g. valido). In the same way, the values of duration, F0 and amplitude of each vowel of a paroxytone word (e.g. valido) were replaced by the values of each vowel of an oxytone word (e.g. validó). Each parameter (duration, F0 and amplitude) was manipulated separately and in combination with the other parameters (see Llisterri et al., 2005, for details). A total of 136 stimuli were presented to 20 subjects using the DMDX software.

Participants’ responses (correct/incorrect) and reaction times are analyzed using mixed-effects models (e.g. Baayen et al., 2008), in order to examine the influence of the aforementioned factors not only on the identification of stress, but also on the time necessary to process stress information. Results are discussed in the framework of existing research on stress deafness and models of L2 acquisition.

References: