

L1 intonational categories as “perceptual attractors” during L2 imitation

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When adult speakers learn a foreign language (L2), native (L1) phonological representations can work as “perceptual attractors” constraining the linguistic interpretation of the acoustic signal as it builds up during the perception of L2 speech (Best, 1995). Such representations play an important role in tuning imitative behavior. For instance, English speakers are less capable to reproduce stops with reduced VOT, possibly to avoid phonological ambiguity with the voiced counterparts (Nielsen, 2011). Furthermore, with the passing of time, the auditory details of the speech sound fade in working memory and they are replaced by the properties defining the phonological category instantiated by that sound (e.g., Baddley, 2002).

Here, we investigate how L1 perceptual representations affect imitation of L2 intonation. We focus on the imitation of (Northern Standard) German yes/no questions by speakers of Neapolitan and Lecce varieties of Italian. In German, questions are marked by a terminal f₀ rise with a steep slope. In Italian, the specific pattern varies across regional varieties. Lecce Italian questions are realized with a terminal rise but, differently from German, the terminal rise has a shallower slope. In Neapolitan, questions show a different phonological configuration (a f₀ rise-fall). If perceptual representations behave as attractors, Lecce speakers will perceive German intonational contours as variants of their native dialect contours. Hence, they will be less accurate than Neapolitans in the imitation of German f₀ rises. The reproduction of the phonetic details of the f₀ rises will be worse when imitation is temporally delayed and/or when memory load is increased.

18 Lecce and 18 Neapolitan Italian speakers and with no knowledge of German were instructed to imitate the pronunciation of 20 questions produced in “a foreign language”. Participants started to imitate (i) immediately after the end of the question; (ii) after a silent pause of 4 s. at the end of the question; (iii) after a filled pause of 4 s. at the end of the question (i.e., the answer to it). Degree of imitation was assessed through time-series analysis of the f₀ contours, by integrating cross-recurrence-analysis and Wavelet-based Functional Mixed Models. Preliminary results confirm that Lecce speakers are less accurate than Neapolitans in imitating German rises, suggesting that L2 terminal rises are “assimilated” to L1 rises. No effects have been found on memory, which might be explained by task-specific reasons (e.g., easy of the task).

References

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