The role of perceptual salience in the acquisition of postlexical process in L2 and L3

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This paper examines the role of perceptual salience in the production of voicing related allophonic alternations in the speech of proficient trilingual speakers (L1 Hungarian, L2 English, L3 Spanish):

1. Regressive Voicing Assimilation (RVA) (between adjacent obstruents), present in participants' L1 and in most voice languages.
2. Pre-sonorant Voicing (PSV), not present in participants' L1 and is a typologically uncommon process.

Both are dynamic phonological processes, and neither of them creates new segments.

3. Aspiration of voiceless stops in English (VOT) in which case a new phonetic category has to be learned for L1 Hungarians.
4. Intervocalic voiced stop spirantisation in Spanish (SPIR), an allophonic alternation that creates new segments.

The production experiments investigated voicing in /s/ before voiced obstruents (RVA) and sonorants (PSV). Voicing was measured as a percentage of voicing oscillation relative to the duration of /s/. VOT was measured in sentence-initial position while SPIR within the word and across word boundary. SPIR was determined as an intensity difference between the consonant and the following vowel. For the perception experiments, a story was recorded in both English and Spanish by two phonetically trained bilingual speakers. Then, the same story was recorded, with RVA in English and no PSV in Spanish to mirror the L1 voicing patterns of listeners. Then, voiceless stops were not aspirated in English, and in the Spanish text voiced stops were not spirantised. Participants ranked the recordings on a scale of "native-like"–"non-native-like".

The production data indicate that L1 Hungarians applied RVA in both their English and Spanish. This is a non-target like application of RVA in English. However, neither their English nor their Spanish speech contained PSV: /s/ remained predominantly voiceless. The VOT data showed variation, some participants applied the Hungarian VOT setting for initial voiceless stops, certain speakers did produce English-like aspiration or in between values. Results indicate that SPIR of intervocalic voiced stops was mostly absent in participants' Spanish speech. Perception does not closely mirror production, but production is dependent on perception. Although both the lack of aspiration and the non-target-like application of RVA in English were perceived by most participants, they were not consistently attested in their speech. The lack of PSV and SPIR in Spanish remained mostly unnoticed and as a result participants did not acquire these processes. We conclude that in laryngeal postlexical processes L1 plays the primary role, neither typological markedness nor perceptual salience seem to be decisive.