

Acoustic evidence of /s/-retraction in the Northern Veneto dialect: a case-study

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1. The purpose of this contribution is to acoustically describe the socio-phonetic correlates of articulatory retraction involving the alveolar fricative /s/ as uttered by native speakers of Northern Veneto dialects (i.e. vernaculars; henceforth NVen) (for a classification of Veneto dialects, see e.g. [1]). Literature commonly defines /s/-retraction as a cross-linguistic phenomenon by which the alveolar fricative /s/ undergoes a retraction in its place of articulation, hence resulting as perceptually similar to the postalveolar fricative [ʃ] ([2, 3, 4, 5]). At acoustic level, evidence of such articulatory retraction lies in the spectral properties of the frication noise, with retracted-/s/ showing more energy in the low frequency regions than expected for a non-retracted /s/, resulting in lower values of Center of Gravity ([6, 7]). Conditions triggering /s/-retraction have been identified in specific prosodic contexts ([8, 9]), as well as in dialectal and social factors ([10]); moreover, [11] have recently investigated this phenomenon within the broader perspective of sound change occurring in some varieties of English.

2. Across Italy, evidence of this phenomenon is encountered in some dialectal and regional varieties (e.g., [12]); so far, however, motivations behind /s/-retraction have been explored in a single study on Cagliari Sardinian ([13]), essentially at sociolinguistic and stylistic level. Concerning Veneto varieties, the perceptual similarity between [s] and [ʃ] has been so far identified solely through auditory descriptions in [14] for Veneto Regional Italian (VRI), and acoustically explored in [15]. It is in fact acknowledged that while /s/ is produced in Standard Italian (SI) as a dental fricative ([16]) (or as a lamino-alveolar fricative in [17]), in VRI it is uttered as apical-alveolar, namely with a more back place of articulation than in SI, and as a non-laminal sound (it is labelled “*scibilante*” in [14]). However, to our knowledge, no specific acoustic analyses have been so far carried out to detect evidence of /s/-retraction among Veneto dialectal sub-systems. In light of these observations, our pilot study tries to fill the lack of experimental studies on this phenomenon. It is also worth noting that we are proposing for the first time an acoustic description of NVen native dialectal features, which from this perspective have so far been largely understudied (for an acoustic study on Veneto dialect as heritage language see [19]).

3. To empirically assess whether /s/-retraction takes place in NVen, we analyzed elicited spoken utterances of two male and two female adult NVen native speakers from the areas of Feltre and Cadore. We performed a narrow phonetic transcription through PRAAT ([20]), following the method already adopted in [15] and in [19]. Consistently with previous works on /s/-retraction ([6, 7]) which proved the effectiveness of spectral moment analyses for these purposes, we acoustically measured duration and four spectral moments (M1=Center of Gravity, M2=Standard Deviation, M3=Skewness, M4=Kurtosis) ([8, 9]) to classify the dialectal productions of target fricatives and to evaluate their acoustic nature. We retained approximately 500 tokens in VCV and CCV contexts; we compared the frication noise of [s] with the frication noise of the fricative release of the affricate [tʃ]. This choice is motivated by the absence of [ʃ] in the phonological inventory of all Veneto dialects ([1]), while it is present in the phonological system of the variety of Italian as spoken in the Veneto region.

4. Statistical analyses were subsequently run on acoustic data by fitting Linear Mixed Models with M1, M2, M3, M4 as dependent variables, and gender, target consonant, dialectal sub-variety (Feltrino vs Cadorino) as predictors. Post-hoc Tukey tests show that the sibilant fricatives [s] and the fricative release of [tʃ] do not differ in any spectral moment. Overall, preliminary data suggest an acoustic convergence of /s/ towards the fricative release of [tʃ] both in the spectral moments that index place of articulation (M1 and M3) and in those that index degree of laminality (M2 and M4). We are currently comparing the data of NVen with new data of another Veneto dialect, Central Veneto, to assess the extension of the phenomenon. For both dialects, we will further check for possible effects induced by the prosodic context, i.e whether /s/-retraction is affected by the stress

status of the syllable in which it occurs.

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