

## Intervocalic Fricative Voicing in Monolingual and Contact Varieties of Spanish: A Quantitative Differentiation of Lenition from Contact-induced Innovation

Whereas non-contact (or monolingual) varieties of Spanish are traditionally characterized (among many, cf. [2]; [11]; [16]; [19]) as exhibiting **systematic** allophonic voicing of the alveolar voiceless fricative /s/ to [z] exclusively in the context of a following voiced consonant (i.e., *mismo* ‘same’ [míz.mo]), varieties of Catalanian Spanish and Andean Spanish, respectively in contact with Catalan and Quechua, have long received impressionistic descriptions (among many, cf. [1]; [5]; [14]; [15]; [21]; [23]; [25]; [26]) of additionally exhibiting **systematic** voicing in intervocalic contexts (i.e., *los otros* ‘the others’ [lo.zó.tros]).

Earlier impressionistic claims of **sporadic** intervocalic /s/-voicing made for several monolingual Spanish varieties (including those of Costa Rica, Mexico, Spain, Canary Islands, El Salvador, Panama [among many, cf. [7]; [8]; [17]; [20]]) have increasingly become the focus of recent empirical investigations, yielding confirmations of intervocalic voicing in the (hyper-)casual speech of monolingual Mexican Spanish (cf. [18]) and Madrid Spanish ([12]; [22]). These attestations of intervocalic voicing in casual monolingual Spanish speech styles are accounted for as products of lenition (via the coordination of glottal gestures for a VsV sequence in gestural phonology [cf. [3]]), and accordingly have been described as “natural, unremarkable phenomena” ([12]: 111), in line with the view that all intervocalic /s/-voicing, even **systematic** voicing, is simply a product of lenition (cf. [6]: 32).

In the present study, we provide an exhaustive examination of intervocalic /s/-voicing in Catalanian Spanish and Andean Spanish in order to argue that lenition is not the sole (nor necessarily even the primary) factor accounting for voicing patterns in these contact varieties. Rather, we argue that language contact, manifested quantitatively as unique usage patterns across the bilingual communities, is necessary to account for the observed patterns of variation. Spanish production data were collected from 76 Spanish-Catalan and Spanish-Quechua bilinguals respectively from Barcelona, Spain and each of Lima, Peru and Quito, Ecuador, stratified by gender, age, and language dominance. Informed by quantitative variationist methodologies (cf. [13]; [24]), experimental tasks consisted of a word-list reading (careful speech) and 20-minute informal interview (casual speech), eliciting tokens of intervocalic /s/ across select linguistic factors (syllable position, stress, morphosyntactic category). Acoustic voicing analysis was performed in Praat on approximately 8,000 productions of intervocalic /s/, operationalized as the percentage of each /s/ token’s duration with visible acoustic correlates of voicing (cf. [4]; [9]; [10]; [18]).

Results (via mixed-effects GLM, for all,  $p < .05$ ) reveal that intervocalic /s/-voicing is indeed conditioned by a combination of linguistic and sociolinguistic factors, most notably syllable position (favoring greater voicing in prevocalic word-final contexts [e.g. *las alas* ‘the wings’] over word-initial contexts [e.g. *la salas* ‘you salt it’]), stress (favoring greater voicing across unstressed VsV sequences over stressed ones), and language dominance (favoring greater voicing with greater dominance in Catalan or Quechua over Spanish). While greater voicing degrees were found in casual speech over careful speech, the near-categorical presence of fully voiced /s/ tokens for select speakers in careful speech is a novel finding, unattested for any monolingual variety of Spanish.

By comparing the frequencies of fully-voiced /s/ tokens attested in the present study with those of Madrid and Mexican Spanish (cf. [12]; [18]; [22]), we propose that Catalan/Quechua-dominant bilinguals apply a categorical voicing rule linked to the phonotactics of their dominant language, which is absent in the speech of Spanish-dominant bilinguals and Spanish monolinguals. These distinct quantitative trends, coupled with the pervasive voicing frequencies in slower, careful speech found only in the contact varieties, are argued to be inconsistent with their treatment as ‘natural (endogenous), unremarkable phenomena.’ Accordingly, we demonstrate that extralinguistic factors (e.g. language contact) operate in tandem with endogenous motivations (e.g. lenition) in multilingual communities.

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