

## The role of domain-initial denasalisation in prosodic parsing in Seoul, Busan, and Ulsan Korean

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Despite a growing body of literature on domain-initial strengthening (DIS), few studies (with the exception of Cho et al. 2007) have investigated the recurrent speculation that DIS may be exploited by listeners as a cue to prosodic boundaries and even their height in the prosodic hierarchy (Fougeron & Keating, 1997). DIS refers to the phonetic process in which consonants show a cumulative enhancement of articulatory gestures as a function of the height of the highest prosodic domain in which they are initial. For example, Cho & Keating (2001) found that /n, t, t<sup>h</sup>, t\*/ initial in higher prosodic domains are articulated with greater linguopalatal contact than in lower prosodic domains in four languages. The Korean nasal phonemes /m n/, in particular, show extreme variability in their phonetic realisation, ranging from a sonorant nasal [m n] to a voiceless non-nasal with short aspiration [p<sup>h</sup> t<sup>h</sup>] (Yoo, 2015). Due to the unusually strong acoustic correlates, Korean denasalisation provides an excellent test case to study the perceptual role played by prosody-sensitive articulatory variation of segments. It is also suggested that Korean denasalisation has rapidly advanced in the recent decades (Yoo, 2016) with Seoul as the leader of this sound change (Yoo, 2015).

This study conducts a direct investigation of whether listeners' parsing decisions can be swayed by the subphonemic variation of nasal consonants in domain-initial positions. It uses minimal pair sentences comprising the same segmental string which differ only by the highest prosodic position of the key nasal (PW-initial vs. AP-initial), leading to different syntactic and semantic interpretations. Based on Seoul Koreans' recordings of these sentences, two *conditions* were created for each pair by same-splicing and cross-splicing the critical **nV** syllable. To isolate the effect of DIS from prosodic cues, the stimuli were monotonised and the durations of **n** and **V** of the key syllables were restored to the values in the base sentences. Monotonisation was judged to be the only way of neutralising pitch between the minimal pairs for all three varieties. The experiment was in the form of forced choice questions asking which interpretation of the minimal pairs listeners heard. A total of 60 local university students from Seoul (n=21), Busan (n=17) and Ulsan (n=22) participated in the perception experiment. In a similar pilot study, listeners from Seoul (n=7) and Busan (n=5) confirmed a statistically significant effect of *condition* on the interpretation of the utterances in the expected direction for both Seoul Group,  $F(2.272,13.633) = 45.352$ ,  $p < .005$ , partial  $\eta^2 = .883$ , and Busan Group,  $F(2.693,10.772) = 57.733$ ,  $p < .005$ , partial  $\eta^2 = .935$ . The talk will present results for all three cities based on the main experiment.

### References

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