Revisiting recoverability effects in Japanese high vowel devoicing: An acoustic analysis of the Corpus of Spontaneous Japanese

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Tokyo Japanese is well-known for its devoicing process, where high vowels lose at least part of their voicing between voiceless obstruents (/tsuki/ → [tsu̥ki] 'moon'; Fujimoto 2015). There has long been a debate over what cues are available in the acoustic signal for the devoiced vowels, and how the possibility of complete vowel deletion (Whang 2018; Shaw & Kawahara 2018, 2021) affects the manifestation of these cues. In this talk, I present the results of a series of acoustic analyses of the 45-hour `core' subset of the Corpus of Spontaneous Japanese and compare them to previous laboratory studies, which are partially replicated. First, when both high vowels are phonotactically legal and frequent after the onset consonant (e.g., [ʃi, ʃu]), vowel cues are detectible in these CVs regardless of devoicing status. Second, complete vowel deletion does seem to occur as a consequence of devoicing, but in more environments than previously reported. Lastly, devoiced CVs with fricative onsets also tend to be shorter than their voiced counterparts, contrary to studies that argue for a mora-preservation effect. I propose that a recoverability-based account (Mattingly 1981; Chitoran et al. 2002) provides a unified interpretation of the seemingly contradictory results in the literature.