

Compound tensification as a source of phonetic variation in word-medial stops in Korean

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When two nouns form a compound, a plain obstruent at the onset of the second noun becomes tense, a process referred to as compound tensification (CT). The occurrence of CT is not fully predictable and may happen based on factors like etymology and frequency. Previous research used dictionaries, surveys, or experiments to explore the predictability of CT (e.g., [1]), assuming the standard view which predicts that derived tense stops will show longer durations than their non-derived plain counterparts. This study examines the phonetic nature of derived consonants by comparing closure duration of word-medial plain stops in compounds to their counterparts in monomorphemic nouns and compounds through a systematic production experiment. The experiment involved 48 words balanced for stop type (plain or tense), morphological context (monomorphemic or compound), and preceding phonological context (non-high vowel, obstruent, or sonorant), with each condition containing two items. Words were controlled for length and the context following the target stop. 32 L1 speakers of Seoul Korean (20 female, 13 male) read sentences containing these words in random order across four experiment blocks. Results show that closure durations of plain stops in compounds vary based on the preceding context. When preceded by a vowel (1(a)) or obstruent (1(b)), plain stops in compounds behaved like those in monomorphemic nouns. This similarity after an obstruent could be due to post-obstruent tensification [2]. However, plain stops after sonorants were significantly longer in compounds than in monomorphemic nouns (1(c)). This result suggests that CT was influenced by the preceding context, being least likely after a vowel and most likely after a sonorant. Additionally, stops in compounds were generally shorter than in monomorphemic nouns, indicating the effect of morphological context. The consistent reduction in duration within compounds suggests that morphological structure influences the phonetic patterns of these stops, which warrants further study.

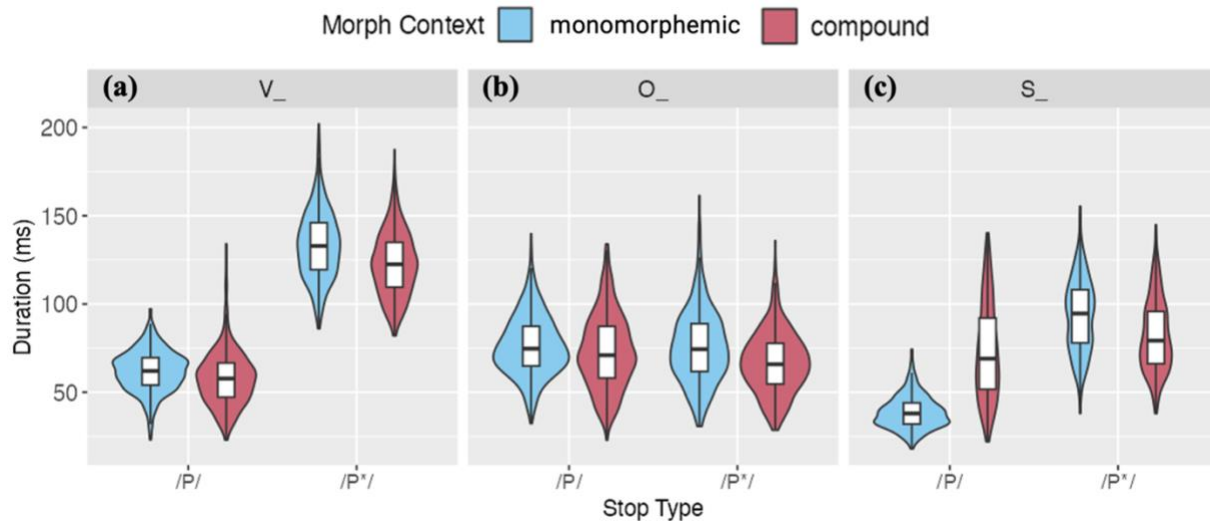


Figure 1. Durations of underlying tense (/P*/) and plain (/P/) stops preceded by (a) vowel, (b) obstruent, and (c) sonorant.

References

- [1] Jeon, H.-S. (2023). Exploring variability in compound tensification in Seoul Korean. *Language and Speech*, 66(1), 214-245. <https://doi.org/10.1177/00238309221095479> [2] Kim, S., Mitterer, H., & Cho, T. (2018). A time course of prosodic modulation in phonological inferencing: The case of Korean post-obstruent tensing. *PLoS ONE*, 13(8). <https://doi.org/10.1371/journal.pone.0202912>