The Phonetic Status of the Word-initial lateral in Korean Borrowing Words

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INTRODUCTION

- Due to an increasing influx of loanwords from various languages, there has been a notable emergence of words beginning with the lateral.
- Research question:
  Is the word-initial lateral emerging in borrowing words phonetically the same as the intervocalic [ɾ], or the coda [l], or something else?

BACKGROUND

- Kim (1985), Hong (1990) & Chae (2002): the word-initial lateral is realized as a tap [ɾ].
- Lee,H. (1996) & Lee,S. (1997): the word-initial lateral in borrowing words is realized as either [ɾ] or [l], which is free variation.

EXPREMENT

(1) Stimuli

Borrowing words	Korean native words	
Word-initial lateral	Intervocalic lateral	Coda lateral
20	10	10
(e.g.) 리본	(e.g.) 마루	(e.g.) 길목

(2) Subjects

- Three native Korean female speakers of 20's

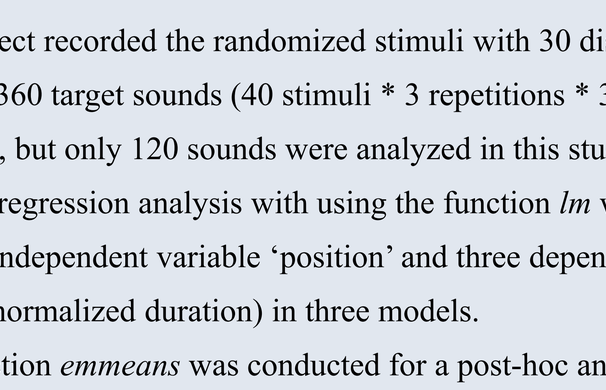
(3) Procedure

- The subject recorded the randomized stimuli with 30 distractors 3 times.
- In total, 360 target sounds (40 stimuli * 3 repetitions * 3 subjects) were recorded, but only 120 sounds were analyzed in this study.
- A linear regression analysis with using the function *lm* was executed in R with an independent variable 'position' and three dependent variables (F1, F2, and normalized duration) in three models.
- The function *emmeans* was conducted for a post-hoc analysis.

RESULT

(1) F1

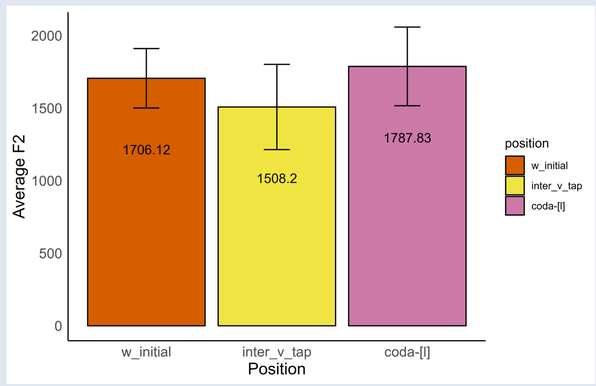
"Position" is a significant predictor for F1 values in such a way that the word-initial lateral will be significantly lower than the intervocalic lateral (β=62.83, SE=14.63, p<0.001) and that F1 of the word-initial lateral is not significantly different from that of the coda lateral (β =-13.20, SE=14.6, p=0.369). According to the result of the pairwise comparisons, there was also a significant difference in F1 between intervocalic and coda laterals (p=0.0134).



[Figure 1] Average F1 values by position

(2) F2

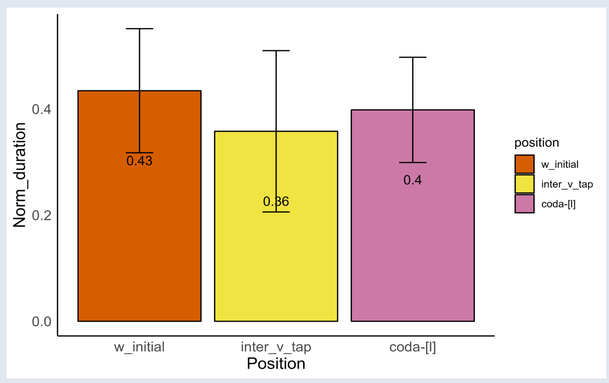
"Position" is a significant predictor for F2 values in such a way that the intervocalic lateral will be significantly lower than the coda lateral (β=-279.63, SE=63.65, p<0.0001) and that F2 of the word-initial lateral is not significantly different from that of the coda lateral (β =-81.72, SE=55.12, p=0.141). According to the result of the pairwise comparisons, there was also a significant difference in F2 between word-initial and intervocalic laterals (p=0.0014).



[Figure 2] Average F2 values by position

(3) Normalized duration

"Position" is a significant predictor for normalized duration in such a way that the word-initial lateral is predicted to be significantly longer than the intervocalic lateral (β =-0.038, SE=0.017, p=0.0281)). The pairwise comparison showed that there was no significant difference between the word-initial and the coda laterals and between the intervocalic and the coda laterals (p=0.388, & p=0.413).



[Figure 3] Average normalized durations by position

DISCUSSION & CONCLUSION

<Table 1. word-initial lateral vs. intervocalic & coda laterals>

	Word-initial vs. intervocalic	Word-initial vs. coda
F1	*	x
F2	*	x
Duration	*	x

- The results demonstrate that the word-initial lateral has statistically similar to the coda lateral rather than the intervocalic lateral in all three acoustic features.
- **The F1 of the word-initial and coda laterals is lower than that of the intervocalic lateral,** which might be attributed to a coarticulatory process going on in intervocalic position. The tongue tip constriction might not be sufficiently sustained due to the neighboring vowels while it is not the case for the word-initial and coda laterals. This undershoot subsequently resulted in **a shorter duration in intervocalic position.**
- In conclusion, the word-initial lateral emerging in borrowing words is phonetically, more specifically acoustically, clear-[l] rather than [ɾ].
- **Korean lateral phonemic and phonetic status**