Main Points
• Prosodically governed allophonic variations in L1 influence the perception of L2 segments.
• Prosodic reanalysis may occur in L2 learners, following L1 prosodic structure. Such a strategy, however, is not necessarily useful.
• The research in consonant identification must consider not only constituent categories on a position by position basis, but it must also consider how listeners determine what position a consonant is in.

Introduction
• Allophonic aspects of Segments in L1 affect L2 perception.
• Perceptual Assimilation Model (PAM) predicts the discrimination of L2 contrasts based on phonetic properties of L1 sounds (Best et al., 2001). Syllabically conditioned allophones are encoded in phonetic properties.
• Speech Learning Model (SLM) predicts the difficulty of producing L2 sounds based on the similarity of L2 allophones to L1 allophones (Flege, 1987).
• Allomorphic variation is often controlled by syllable position and L2 learners often misparse syllable structures of L2 words.
• Korean learners of English often parse English words as having more syllables than do native listeners (Lim, 2003).
• An English word ending with a stop is frequently adapted to Korean with a vowel inserted after the final stop (Kang, 2003).
• Question: How does syllable parsing interact with segmental identification?

Case: Korean & English
• Korean
  Variations segmental differences from English, fewer fricatives and a three-way laryngeal contrast.
  • No laryngeal or manner contrasts (stops vs. fricatives) in final position (Coda Neutralization).
  • Allomorphic variations of lax stops: voiced in intervocalic position and voiceless at edges (Intervocalic Voicing).

• English
  • More anterior fricatives and a two-way laryngeal contrast.
  • No allophonic restrictions in final position.

Methods
• How do Koreans perceive English segments which may differ in prosodic locations in Korean?

Stimuli
• 4 Midwestern American English Speakers
• American English anterior obstruents in VC s and CVs.
• Nonsense combinations of consonants with the low vowel /a/.

Results
• Syllable counting
  • Korean participants often counted VC s as having two syllables (VCV) (Average = 42.8%). This rate varied by consonant.

• Syllable parsing X
  • Segment identification
    • Below, average accuracy for each VC segment is plotted against average accuracy in syllable counting.

Discussion
• The Rock: What is the role of neutralization in codas?
  • Only a small proportion of voiceless VC inputs are actually unambiguously parsed as VC s.
  • Voice accuracy for these is quite low.
  • This poor accuracy accounts for negative correlation between syllable accuracy and voice accuracy.
  • Misparing the VC s as VCVs seems to help, since Korean has a voice contrast in intervocalic position.

• The Hard Place: What is the role of allophonic rules?
  • Lax consonants (‘voiced’) in Korean are expected to be allophonically heavily voiced (Allomorphic shift).
  • After the alomorphic shift, an English stimulus which would have been voiceless tends to be called voiceless.

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Summary
1. Inexperienced Korean learners of English often reparse VC stimuli, placing the contrasts in a different prosodic location.
   → This may be effective strategy for getting around prosodic positions which neutralize contrasts.
   → Here, however, other mismatches between L1 & L2 create new problems with the repaired stimuli.
2. Allomorphic variations play a role in L2 perception.
   → Intervocalic voicing in Korean creates a mismatch between Korean and English voiced categories.
   → Listeners’ voicing acquisition in final position is affected by allophonic variations in L1.

References
Kang, V.-S. (2003). “Circles are higher than squares. Error rate with voiceless segments is weakly correlated with syllable parsing accuracy.”

Fig. 5. Allomorph shift due to intervocalic voicing.

Fig. 4. Correlation between syllable parsing and voicing accuracy for segments in VC.

1. Inexperienced Korean learners of English often reparse VC stimuli, placing the contrasts in a different prosodic location.
2. Allophonic variations play a role in L2 perception.
3. Intervocalic voicing in Korean creates a mismatch between Korean and English voiced categories.
4. Learners’ voicing acquisition in final position is affected by allophonic variations in L1.