

Perception of French Voiceless Alveopalatal by Japanese and Korean Listeners

This paper explores the choice of epenthetic vowel after French word-final voiceless alveopalatal by Japanese and Korean listeners. In both Japanese and Korean, French [ʃ#] is followed by epenthetic [i] when the source [ʃ] is followed by a front vowel in the source input, whereas it is followed by epenthetic [u] and [u], in Japanese and Korean, respectively, if the source [ʃ] is followed by a rounded vowel. What seemingly is a symmetry in the two languages here, though, is in fact a result of two different vowel copy patterns: copy of a preceding front vowel in Japanese and copy of preceding rounded vowel in Korean.

When presented with non-native words violating the phonotactic constraints of their native language, listeners typically perceive an “illusory” vowel, which usually is the one that is least salient in the given source environment, i.e., the “default” vowel. In many cases, the epenthetic vowel is simply the shortest vowel in the language (Dupoux et al. 1999). However, it has also been demonstrated that the quality of the epenthetic vowel may vary from the default, depending on local phonological rules (Durvasula & Kahng 2012) or the particular vowel/consonant context (Heo 2010, Dupoux et al. 2011). The current study shows how different combinations of the three sources determining the quality of an “illusory” vowel—1) default insertion, 2) local phonological rules and 3) source vowel/consonant context—result in similar choice of epenthetic vowels after French [ʃ#] in Japanese and Korean. Two perception experiments have been conducted to examine how Japanese and Korean listeners perceive French [ʃ#] focusing on their choice of an epenthetic vowel after [ʃ]. The results indicate that Japanese listeners hear [ʃ#] as [ʃu] when the source [ʃ] is preceded by a rounded vowel, and [ʃ#] as [ʃi] when it is preceded by a front vowel. Similarly, Korean listeners hear [ʃ#] as [ʃu] when the source [ʃ] is preceded by a rounded vowel, and [ʃ#] as [ʃi] when it is preceded by a front vowel. Albeit the apparent symmetry in the choice of an epenthetic vowel in two languages, French [ʃ#] undergoes very different perceptual modification processes in the two languages. In Japanese, [u] (no lip-rounding) follows the source [ʃ] with preceding rounded vowels as a result of default vowel insertion. When the source [ʃ] occurs after a front vowel in the source input, [ʃ#] is perceived as [ʃi] as a result of a vowel copy: i.e., the frontedness of a preceding vowel being copied to the epenthetic vowel. In Korean, however, what is being copied to an epenthetic vowel is the roundedness in the preceding vowel; i.e., Korean listeners hear [ʃ#] as [ʃu] when the source input contains a preceding rounded vowel. Epenthetic [i], then, occurs after [ʃ#] with a preceding front vowel due to the native phonological rule in the Korean language. In Korean, [ʃ] is an allophone of [s] occurring before [i]; therefore, the closest approximation to French final [ʃ] is the native Korean phoneme /s/, which, in order to reflect the palatal quality of the source signal, requires a conditioning palatal epenthetic vowel.

References

- Dupoux, E, Y. Hirose, K. Kakehi, C. Pallier & J. Mehler. 1999. “Epenthetic vowels in Japanese: a perceptual illusion?,” *Journal of Experimental Psychology: Human Perception and Performance* 25.1568-1578.
- Dupoux, E., E. Parlato, S. Frota, Y. Hirose, & S. Peperkamp. 2011. “Where do illusory vowels come from?,” *Journal of Memory and Language*, 64.199-210.
- Durvasula, K. & J. Kahng. 2012. “What Can Be an Illusory Vowel in Perceptual Epenthesis?,” To be presented at the 22nd Japanese/Korean Linguistics Conference in Tokyo.
- Heo, Y 2010. *Vowel Insertion as Perceptual Intrusion in Loanword Adaptation*, PhD dissertation. University of Wisconsin-Milwaukee.