Articulatory Gestures of Korean and English Glides

In both Korean and English, the two glide speech-sounds \( w \) and \( j \) occur. In Korean, they exhibit gaps in forming glide-vowel (GV) sequences; among 14 logically possible GV sequences, assuming seven vowels (i, e, ḳ, i, o, u, a), five of them do not occur: *[wu, ji, wi, ji, wo]. Sohn (1987) among others, simply explains the gaps in terms of Obligatory Contour Principle (OCP: McCarthy 1986) which, as a set of violable constraints, prevents two segments having identical articulatory features from occurring next to each other. In contrast, English allows all 24 logically possible GV sequences. Again, OCP may also explain why those GVs are allowed in English; i.e., unlike in Korean, the OCP constraints in English are ranked relatively low. One of the problems of the OCP solution is that it crucially assumes that glides in different languages are identical on the level of phonetics. However, the current study questions the assumption whether or not it is in fact true. In order to find an answer to this question, a sat English and Korean production data was collected and phonetically analyzed. For each language, three native speakers’ production of 45 English words and 37 words of Korean was recorded.

The most important finding was the significant difference in the duration of constriction – see item (1) below. The pictures in (2) show that the initial constriction in English glides is considerably longer than Korean glides (Mean durations: English - 75 ms; Korean - 20 ms). What this suggests is that the constriction duration is indeed language-specific, arguing against the assumption under which OCP applies. This result also suggests that English glides are more consonantal than Korean ones. Also, it may shed light on some phonological observations reported in the literature such as the gaps in Korean mentioned above, frequent deletion and coalescence of glides in Korean, and Koreans’ difficulties in learning English glides in words such as would, wound, yeast, and year. Differences in constriction may reflect two different phonologically contrasting statuses of glide: segmental versus sub-segmental glides, or phonemic versus non-phonemic glides.

(1) The constriction and movement of English [j] in youth

| 0.08218 | 0.0005029 |
| 0.121 | 4951 Hz |
| 0 Hz | 0.716604 |

Constriction 182ms  Movement 119ms
(2) English and Korean \( w \) and \( j \)
A. English /\( j \)/

B. English /\( w \)/

C. Korean /\( j \)/

D. Korean /\( w \)/

Selected References:


