

# Upstep, downstep, and phonological weight in Daegu Korean: A preliminary report

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## Abstract

It has been argued that phonological weight, particularly the number of syllables in words, affects prosody at the phonological level in Korean. For example, Jun (1993) reported that phonological weight affects prosodic phrasing in the Seoul dialect. However, Jun's report is not conclusive since judgements on prosodic phrasing in the Seoul dialect can be subjective. As Utsugi (2005, 2007a) claimed, phonetically similar prosodic patterns can be obtained from different patterns of prosodic phrasing in the Seoul dialect.

However, clearer evidence of the phonological weight factor is found in another dialect. Utsugi (2007b) reported that, in the Masan/Changwon dialect, the phonological weight affects pitch contours at the sentential level, yielding clearly different contours. This presentation shows similar effects found in the Daegu dialect, based on our preliminary study.

It is known that the Daegu dialect has two interesting tonal phenomena. First, this dialect, like other dialects in Gyeongsang Province, employs a lexical use of pitch. For example, *nwun-i* (eye-NOM) and *nwun-i* (snow-NOM) can be tonally distinguished. Based on this phenomenon, words are classified into three lexical tonal classes in this dialect.

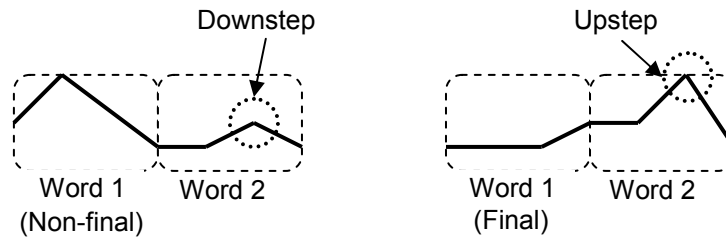
- Non-final: Any one syllable in a word has high pitch.
- Final: The final syllable in a word has high pitch.
- Double: The two initial syllables in a word have high pitch.

The second interesting phenomenon occurs at the sentential level. A word of the Non-final or Double class makes the pitch peaks of the following words lower (called 'downstep', Figure 1: left), whereas a word of the Final class makes the pitch peaks higher (called 'upstep', Figure 1: right) (Kenstowicz and Sohn 1997, Jun et al. 2006).

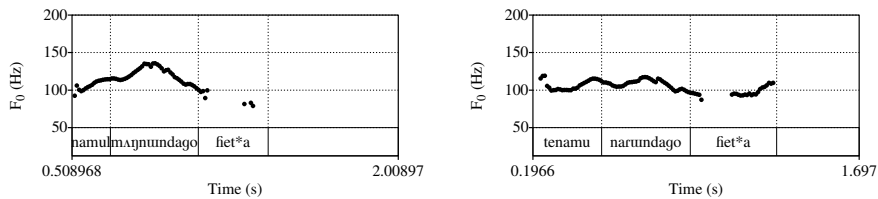
In our preliminary study, we examined whether the upstep/downstep effect is influenced by phonological weight. Recordings of two native speakers of the Daegu dialect were made. Speech materials were sentences consisting of an object and a verb. Nouns used for objects varied with respect to the number of syllables (from two to five) and the tonal class (Non-final and Final).

The results were as follows. When the object was two-syllable Final, upstep occurred (Figure 2: left). On the other hand, all the other cases did not show upstep. The most remarkable point in these results is that longer words do not trigger upstep even if they are Final words (Figure 2: right). This suggests that prosody is clearly influenced by phonological weight in this dialect.

From a theoretical perspective, the phenomena reported above may be attributed to the influence of phonological weight on prosodic phrasing as argued in Utsugi (2007b) for the Masan/Changwon dialect. That is, a prosodic phrase boundary is inserted between words when the first word is long, while it is not inserted when the first word is short.



**Figure 1:** Schematic pitch contours for downstep and upstep.



**Figure 2:** F0 contours of utterances, where the object is two-syllable Final (left) and three-syllable Final (right). Upstep occurred in the left panel while it did not in the right panel.

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