

A foot-based analysis of tone and length alternations in North Kyengsang Korean verbs

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Purpose: The Kyengsang dialects of Korean are well-known for their tone or ‘pitch accent’ systems (Ito and Kenstowicz 2017). Typologically, there is no consensus on the role of accent, tone, and metrical structure in the prosodic system of these dialects. The goal of this study is to show how tone and length alternations in verbal forms of North Kyengsang Korean can be analyzed by means of foot structure. I will also pay attention to diachronic aspects and discuss how the Kyengsang Korean accent shift (Ramsey 1978) can be analyzed as a shift from an iambic to a trochaic system (Poppe 2017).

Relevant data:

(1) *Tone and length alternations in North Kyengsang Korean verbs* (adapted from Chung 1991)

- a. Non-Final H: no tone alternations
 - i. mánnā-ket-ta
 - ii. mánnā-t-ta ‘meet-FUT-IND/meet-PAST-IND’
- b. Final H: tone alternations depending on suffix shape
 - i. mək-két-ta
 - ii. mək-ət-ta ‘eat-FUT-IND /eat-PAST-IND’
- c. Double H (consonant-final): no tone alternations
 - i. súm-két-ta
 - ii. súm-ət-ta ‘hide-FUT-IND/hide-PAST-IND’
- d. Double H (vowel-final): tone alternations depending on suffix shape
 - i. chú-két-ta
 - ii. chú-ət-ta ‘dance-FUT-IND’/dance-PAST-IND’
- e. Double H / Long Vowel: tone and length alternations depending on suffix shape
 - i. ú:l-két-ta
 - ii. úl-ət-ta ‘cry-FUT-IND’/cry-PAST-IND’
- f. Double H / Long Vowel: no tone alternations
 - i. cá:k-két-ta
 - ii. cá:k-át-ta ‘be few-FUT-IND’/‘be few-PAST-IND’

Analysis: The analysis is based on the idea that lexical H tone is associated to the head of a trochaic foot. The patterns in (1) can be accounted for if we assign right brackets (which indicate the right edge of a foot) and left brackets (which indicate the start of a foot) in underlying and surface forms as in (2). In the general case, only the right edge of a foot needs to be lexically specified. This gives lexical representations similar to those in the ‘tonal boundary’ analysis of Hwangbo (2001), with the important difference that the brackets stand for foot boundaries that need to be matched with a left bracket (cf. Kenstowicz 1993) to form a trochaic foot.

(2) *Foot-based analysis of tone and length alternations in North Kyengsang Korean*

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|-------|----------------|---|-------------------|-----|--------------|---|-----------------|
| a. i. | man(na)-ket-ta | → | (mán.na)-ket.-ta | ii. | mánnā-ə)t-ta | → | (mán.na-t.)-ta |
| b. i. | mək-ket-ta | → | mək-(két.-ta) | ii. | mek-ə)t-ta | → | (mók-ət.)-ta |
| c. i. | su)m-ket-ta | → | (súm.)-(két.-ta) | ii. | su)m-ə)t-ta | → | (sú.)(m-ət.-ta) |
| d. i. | chu)-ket-ta | → | (chú.)-(két.-ta) | ii. | chu)-ə)t-ta | → | (chú.-ət.)-ta |
| e. i. | u:l-ket-ta | → | (ú:l)-(két.-ta) | ii. | u:l-ə)t-ta | → | (ú.l-ət.)-ta |
| f. i. | ca:k-ket-ta | → | (cá:k.)-(két.-ta) | ii. | ca:k-ə)t-ta | → | (cá.)(k-át.-ta) |

The mapping of lexical representations onto word forms is handled by ‘constructions’ or schemas (Lakoff 1993), most of which relate M(orphemic) and W(ord) level representations. In the case of non-initial marking, the (leftmost) right bracket is matched with a left bracket to form a disyllabic trochaic foot at the word-level (2a/3a). The lexical right bracket of vowel-initial suffixes is only

matched with a left bracket to the left of the stem-final syllable when the stem is lexically unmarked (2b-ii/3c). Elsewhere (i.e. when a consonant-initial suffix attaches to an unmarked stem), a right-aligned foot is assigned as in (3c). The initial double-H tone pattern is captured by two consecutive feet, the first of which is monosyllabic. Such a foot is the result of initial lexical marking of the first mora (2c/d) and (3d/e) or an underlying long vowel (2e-i). The alternation in (2d) avoids an onsetless foot. The length and tone alternations in (2e) are triggered by the lexical marking of the following vowel-initial suffix; as a W-level initial long vowel may only appear in a monosyllabic foot (3f), the long vowel shortens to combine with the first syllable of the vowel-initial suffix (3b). This alternation does not take place in (2f) because of lexical marking of the initial vowel (3d). As will be shown, the analysis can be adapted to similar alternations in Middle Korean and Seoul Korean, as well as other constructions in Kyongsang Korean.

(3) *Foot structure and tone assignment schemas and examples*

a. Foot assignment in accented words:

M: [.. C₀V C₀V)..]_s ..] [m a n n a]_s ə t] t a] [m a n n a]_s k e t] t a]

W: [..(σ σ) ..]_ω [(m á n . n a t .) t a]_ω [(m á n . n a) . k e t . t a]_ω

b. Vowel-initial suffix marked as foot dependent:

M: [..]_s V) ..] [m ə k]_s ə t] t a] [u : l]_s ə t] t a]

W: [.. (C₀V.C₀ V)..]_ω [(m ə k ə t .) t a]_ω [(ú . l ə t .) t a]_ω

c. Default right-aligned foot elsewhere:

M: [..] [m ə k]_s t a] [m ə k]_s k e t] t a]

W: [.. (σ' ..)]_ω [(m ə k . t a)] [m ə k . (k é t . t a)]_ω

d. Foot structure in initially marked words:

M: [C₀V)..] [s u) m]_s ə t] t a] [c a :) k]_s ə t] t a]

W: (σ')(σ' ..) [(s ú .)(m ə t . t a)]_ω [(c á .)(k á t . t a)]_ω

e. No onsetless foot:

M: [CV]_s V) ..]

W: [(CV . V)..]

f. Possible foot forms:

W: (σ_μσ_μ) , (σ)

References:

- Chung, Y-H. 1991. The lexical tone system of North Kyongsang Korean. OSU dissertation.
- Hwangbo, Young-Shik. On the role of non-finality in pitch accent systems. *Eoneohag* 29. 31–55.
- Ito, C. and M. Kenstowicz. 2017. Pitch accent in Korean. In: *Oxford Research Encyclopedias*. Online: <https://doi.org/10.1093/acrefore/9780199384655.013.242>
- Kenstowicz, M. 1993. Evidence for metrical constituency. In: K. Hale & S. Keyser (eds.). *The view from building 20*, 257–273. Cambridge, MA: MIT Press.
- Lakoff, G. 1993. Cognitive phonology. In: J. Goldsmith (ed.), *The last phonological rule: Reflections and constraints on derivations*, 117-145. Chicago: The University of Chicago Press.
- Poppe, C. 2017. The role of foot structure in Korean accent systems. *Journal of Asian and African Studies* 94. 319–344.
- Ramsey, S.R. 1978. *Accent and morphology in Korean dialects*. Seoul: Tower Press.