

The interplay between lexical and postlexical tonal phenomena and the prosodic structure in Masan/Changwon Korean

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In some languages, such as Korean and Japanese, various postlexical tonal phenomena, such as downstep, upstep, and edge tones, and the interplay between these and the lexical tonal phenomena have been found. Also, these have been attributed to the prosodic structure. This paper deals with these issues with special reference to Masan/Changwon Korean (hereafter, MCK), whose postlexical tonal phenomena have not been studied well.

The lexical tonal system of MCK is shown in the table below. As shown in this table, MCK has four tonal classes: Nonfinal, Final, Initial-Double (hereafter, I-Double), and Medial-Double (hereafter, M-Double).

Table: Lexical tonal system of MCK. Acute accents stand for high pitch. Parenthesized σ 's stand for postpositional particles.

	Number of syllables		
	1	2	3
Nonfinal		$\acute{\sigma}\acute{\sigma}(\sigma)$	$\acute{\sigma}\acute{\sigma}\acute{\sigma}(\sigma)$
Final	$\acute{\sigma}(\sigma)$	$\acute{\sigma}\acute{\sigma}(\sigma)$	$\acute{\sigma}\acute{\sigma}\acute{\sigma}(\sigma)$
I-Double	$\acute{\sigma}(\sigma)$	$\acute{\sigma}\acute{\sigma}(\sigma)$	$\acute{\sigma}\acute{\sigma}\acute{\sigma}(\sigma)$
M-Double	$\sigma(\sigma)$	$\sigma\acute{\sigma}(\sigma)$	

Postlexical tonal phenomena were examined through a production experiment using focus. Each sentence consisting of an object and a verb was read by native speakers in three ways: neutral, focus on the object (“object-focused”), and focus on the verb (“verb-focused”). (Note that this language has SOV word order.) Focus was used in the experiment since, in languages such as Korean and Japanese, focus has been considered as the major factor in prosodic phrasing. That is to say, the neutral and object-focused utterances tend to wrap the object and the verb in a prosodic phrase while the verb-focused utterances put the prosodic boundary between the object and the verb, and the postlexical tonal phenomena follow this prosodic phrasing.

The results were as follows.

In the verb-focused utterances, each phonological word showed essentially the same tonal pattern as was read in the citation form. In other words, each utterance was comparable with the sequence of the citation forms. In each token, the F0 peak of the verb was higher than, or the same as, that of the object.

The neutral and object-focused utterances showed essentially similar phenomena to one another. In these utterances, three phenomena were found. The first phenomenon was a reduced peak in the verb (hereafter, reduced peak). Except for the peak height of the verb, the tonal patterns found in the citation forms were retained. Figure 1 shows this phenomenon and the counterpart in the verb-focused utterance. The

second phenomenon was a contour without an F0 valley in the first syllable of the verb (hereafter, no- valley). The location of the fall in the verb was retained. Figure 2 shows this phenomenon and the counterpart in the verb-focused utterances. The third phenomenon was the forward shift of the fall in the verb along with the no-valley (hereafter, shift + no-valley). Figure 3 shows this phenomenon and the counterpart in the verb-focused utterances.

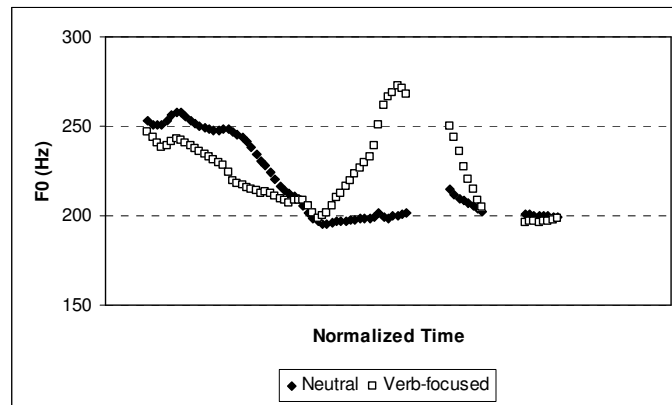


Figure 1: Reduced peak in the neutral utterance and its counterpart in the verb-focused utterance. Sentence: *Manul meknuntako hayssta*. ('I said I would eat garlic.') Only the part of “*manul meknuntako*” (lit. ‘garlic eat’) is shown.

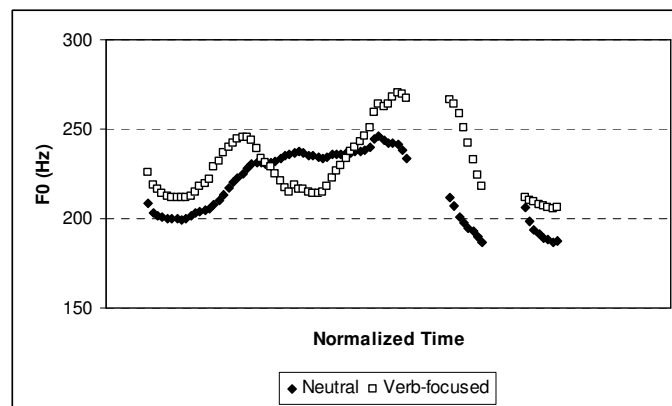


Figure 2: No-valley in the neutral utterance and its counterpart in the verb-focused utterance. Sentence: *Namul meknuntako hayssta*. ('I said I would eat vegetable side dishes.') Only the part of “*namul meknuntako*” (lit. ‘vegetable side dishes eat’) is shown.

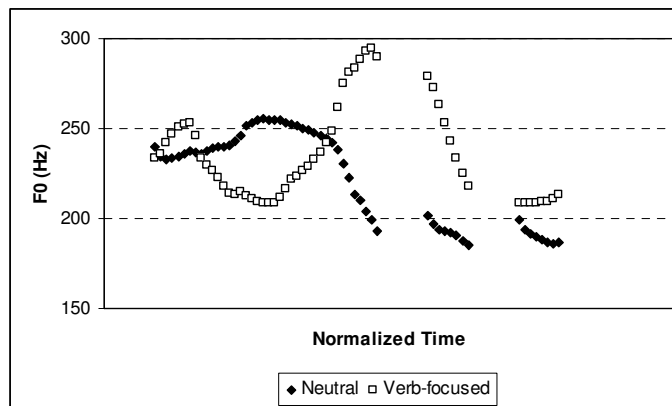


Figure 3: Shift + No-valley in the neutral utterance and its counterpart in the verb-focused utterance. Sentence: *Mul meknuntako hayssta*. ('I said I would drink water.') Only the part of “*mul meknuntako*” (lit. ‘water drink’) is shown.

The occurrence of these three phenomena in the neutral and object-focused utterances is summarized as follows.

- When the object was Nonfinal or I-Double, the reduced peak occurred.
 - Exception: when the object was monosyllabic I-Double, the whole sentence was often pronounced as a “HHL...” pattern. This involved the shift of the fall in the verb (no-valley + shift), when the original location of the peak in the verb was not the first syllable.
- When the object was Final or M-Double, either the reduced peak or the no-valley took place.
 - When the object consisted of more than two syllables, the reduced peak was more frequent.
 - Comparing the neutral and the object-focused utterances, the neutral utterances had more occurrence of the reduced peak than the object-focused utterances did.

To interpret these results, the following model is proposed.

- Lexical pitch accent: there are three types of the lexical pitch accent: H^*+L , H^*+H+L , and $L^*+H+H+L$.
 - Nonfinal has the H^*+L on any one non-final syllable.
 - Final has the H^*+L on the final syllable.
 - I-Double has the H^*+H+L , where H^* is associated with the first syllable.
 - M-Double has the $L^*+H+H+L$, where L^* is associated with the first syllable.
- +L deletion: The +L of the H^*+L and the $L^*+H+H+L$ is deleted when it is not associated with any syllables. (E.g. in *namul* (‘vegetable side dishes’, Final), the +L is deleted unless the word is followed by postpositional particles.)
- Prosodic structure: MCK has a “prosodic phrase” level between the utterance level and the phonological word level in the prosodic hierarchy.
- Tonal characteristics of the prosodic phrase: in the prosodic phrase, the first syllable is associated with a %L and the second syllable is associated with a H- unless these syllables are occupied by the lexical pitch accent. Also, within the prosodic phrase, the +L triggers the downstep.
- Prosodic phrasing: a focused word initiates the prosodic phrase. Post-focus words involve either of the following two patterns. (i) They are wrapped in the prosodic phrase that starts with the focused word. (ii) They form their own prosodic phrases, where the pitch range is compressed.

Under this model, the reduced peak found in the results are divided into two phenomena, the downstep triggered by the +L and the pitch range compression. The downstep and the no-valley are attributed to the phenomena in the same domain, the prosodic phrase. The shift + no-valley is attributed to the association of the H^*+H+L over the word boundary.