Prosody and semantics of the focus particles *always* and *only* in Korean: Theoretical implications from a perception experiment

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Synopsis: This study sheds light on the relationship between prosodic features and semantic functions of Korean focus particles (FPs) *hangsang* 'always' and *ocik* 'only', based on a perception experiment. Nambu and Lee (to appear) found different phonetic realizations for *hangsang* and *ocik* in a production experiment, which reflect their semantic distinction (Beaver and Clark 2003, 2008). Following those results, we conducted a perception experiment to examine how much listeners are conscious of those prosodic cues. The results provide evidence that listeners are sensitive to the prosodic patterns of *hangsang* and *ocik* with respect to a correlation between prosody and semantics.

Background: Previous studies have argued whether the way focus sensitive expressions associate with focused elements should be explained by pragmatics or semantics (e.g., Rooth 1992, 1996, von Fintel 1994, Lambrecht 1994, Roberts 1996). Beaver and Clark (2008) propose a hybrid theory of semantics and pragmatics, called the Quasi/Free/Conventional theory, and claim that associations of *always* and *only* with focus are formed differently and have distinct restrictions such as reduced pronouns (1). In their theory, the function of *always* is categorized as free association, constructing an association with contextually salient sets of events or situations. However, *only* has the function of conventional association, which constructs an association with a lexically-encoded dependent focus. This implies that prosodic salience of a focused element must be requisite for *only* to create an association while it is not necessary for *always*. Nambu and Lee (to appear) pursued this reasoning and conducted a production experiment. The results support Beaver and Clark's theory, showing that the focused element with *ocik* is the most prominent in contrast to *hangsang* (Figure 1).

Analysis: To examine whether listeners are conscious of the prosodic features of *hangsang* and *ocik* with respect to their semantic distinction, we conducted a rating experiment using a 5-point scale (e.g., 1: very unnatural, 5: very natural). The stimuli consist of pitch contours manually manipulated in Praat (Boersma and Weenink 1999-2010). Figure 2 shows the three different contours for the stimuli with *hangsang*, labeled as *HangsangH* for *hangsang* with a high pitch, *FocusH* for the focused element, and *DoubleH* when both the FP and the focused element have high pitches. Following the production experiment by Nambu and Lee (to appear), the manipulated pitch contours were provided in the three different contexts: (i) FPs given without context (2a), (ii) FPs preceded by a prompt question (2b), and (iii) FPs given with a discourse context to elicit the focus effect (2c). In total, 144 sound files (48 sentences * 3 contexts) served as stimuli to 7 native speakers of Korean. The results of *ocik* (Figure 3b) show that the values of *FocusH* are the highest (mean: 3.429), followed by *OcikH* (mean: 2.935) and *DoubleH* (mean: 2.798) in all of the contexts. The effect of the different contours for *ocik* is highly significant ($F[2, 12]=10.868$, $p<.0001$). In addition, the results of a two-way repeated ANOVA do not show a significant interaction effect between the contours and the contexts for *ocik* ($F[4, 24]=0.699$, $p=0.593$). This indicates that the listeners prefer the same prosodic pattern for *ocik*, which has prosodic prominence on a focused element regardless of context. The results of *hangsang* (Figure 3a), on the other hand, differ in the three contexts ($F[2, 12]=7.601$, $p<.01$). *HangsangH* is the highest when without a context (mean: 4.054). *DoubleH* is the highest with a prompt question (mean: 3.696). When it is within discourse context, *DoubleH* is the highest (mean: 3.161) but the difference is not significant enough ($F[2, 12]=0.9003$, $p=0.411$). Thus, the results of *hangsang* vary depending on the contexts, differently from *ocik*. In the case of edge-prominence languages (e.g., Korean, Bengali, French), *DoubleH* is a possible prosodic unit, given that every word can form its Accentual Phrase (Schafer and Jun 2002). There exist two plausible scenarios to explain the different results between *hangsang* and *ocik*. One is that the present study supports Beaver and Clark's (2008) claim, following the results of a production experiment (Nambu and Lee, to appear). 'Always' does not need to have the most salient prosody on a focused element to create an association, but 'only' needs a prosodic cue to create a conventional association with a focused element. Another scenario is that our examples for *hangsang* were not interpreted as we expected, but the listeners were inclined to interpret it as an 'intensifier'; since the predicate, *cohahapnita* 'like', already entails a habitual/stative meaning, the function of *hangsang* in the sentence is to emphasize that meaning. In that perspective, it is reasonable that the listeners prefer *hangsang* with stress, in addition to prosodic prominence on a focused element. This scenario is also still consistent with the production results (Figure 1). To settle this issue, it is necessary to conduct another experiment with a different predicate type, such as *eat*, to exclude the possible interpretation of *hangsang* as an 'intensifier'.

(1) Reduced Pronoun in English (Beaver and Clark 2003)
Context: You had many discussions with Sandy, but what I want to know is the extent to which you talked about Fred. Of all the times you talked with Sandy, how often was Fred the person you talked about?
Answer: 'I always/#only discussed'im with Sandy.'

(2) a. FPs given without context
Nanun **hangsang**/**ocik** mantwulul cohahapnita. 'I always/only like dumplings.'

b. FPs preceded by a prompt question
Q: Hangsang/ocik mwues.ul cohahaseyyo? A: Nanun **hangsang**/**ocik** mantwulul cohahapnita.
'What do you always/only like? I always/only like dumplings.'

c. FPs given with a discourse context
Cenun elyessul ttaypwuthe han kaci cohahanun umsiki isssupnita. Pika okena myengcel naley hokun ceyka aphul ttay celul wihayse nwunimkkeyse sonswu picecwusin umsiki isssupnita. kulayse cenun talun.umsik.ul coh.ahaci anhsupnita. Nanun **hangsang**/**ocik** mantwulul cohahapnita.
'There is something I have liked since I was young. When it rained, when it was a holiday, or when I was sick, my elder sister used to make food for me. For this reason, I don't like other foods. I always/only like dumplings.'

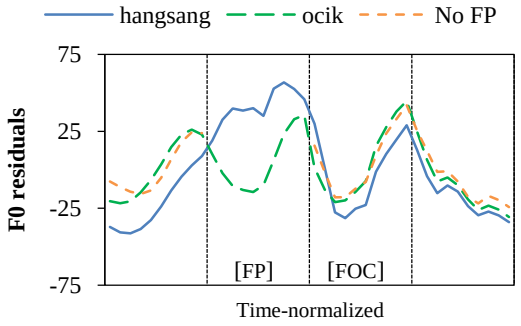

Figure 1: Time-normalized F0 curve of 36 repetitions of the sentence, *Nanun {hangsang, ocik, No FP} mantwulul cohahapnita* ('I {always/only/No FP} like dumplings.') by six speakers. Each word is bordered by a vertical line. (Nambu and Lee, to appear)

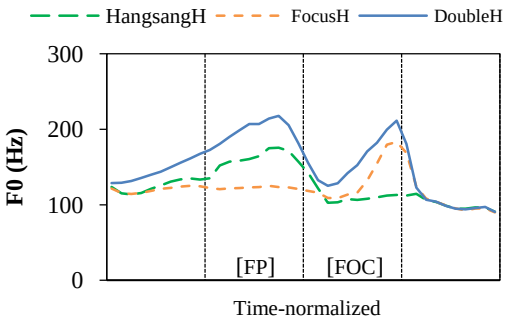

Figure 2: Manipulated F0 curves of the sentence, *Nanun {hangsang, ocik} mantwulul cohahapnita* ('I {always/only} like dumplings.'). Each word is bordered by a vertical line.

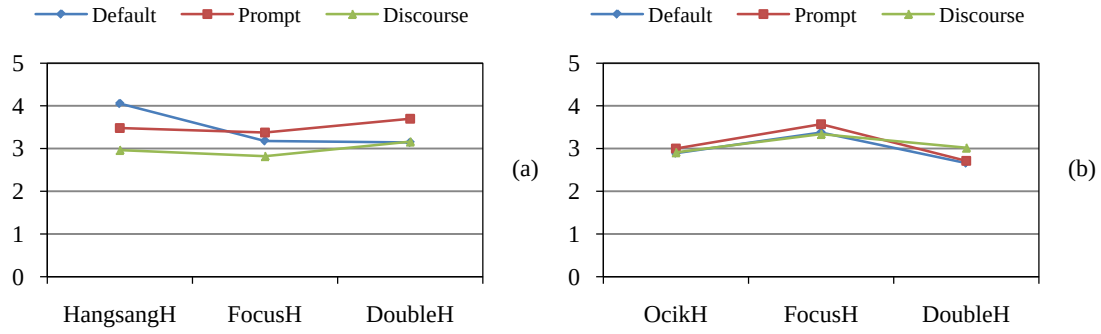

Figure 3: (a) indicates the results of *always*; (b) denotes the results of *only*.

Selected References

Beaver, D. and B. Clark. (2008) *Sense and Sensitivity: How focus determines meaning*. Oxford: Wiley-Blackwell. / von Fintel, K. (1994) *Restriction on Quantifier Domains*. PhD dissertation, University of Massachusetts at Amherst. / Lambrecht, K. (1994) *Information Structure and Sentence Form: Topic, Focus, and the Mental Representations of Discourse Referents*. Cambridge: Cambridge University Press. / Nambu, S. and Y.-c. Lee. (to appear) Phonetic realization of focus particles always and only in Korean: Theoretical implications of association with focus. *Proceedings of Western Conference on Linguistics*. / Rooth, M. (1992) A theory of focus interpretation. *Natural Language Semantics 1*:75-116.