

# The Prosody of the Alleged Korean Topic Marker *-nun*\*

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In this paper, I experimentally examine the prosodic properties of items with the particle *-nun*, which are so-called topic expressions in Korean. I conducted a series of three judgment and production experiments. Through these experiments, I determined whether the following two widely accepted assumptions can be held at the same time: (i) the assumption that treats any *-nun* marked constituents as a sub-category of the topic comprising a component of information structure; and (ii) the assumption that, in Korean, the existence of *-nun* combined with a prosodic accent is sufficient to make a felicitous utterance in any type of contrastive topic-inducing context. In the course of experimentation I investigated the realization of *-nun* both in its prosodic form and in its linear placement within a sentence. The results suggest that *-nun* should be separated from the sole function of marking an information structure component 'Topic.' The conclusion of these experiments urges us to reconsider the well-studied particle *-nun*.

**Keywords:** Korean particle *-nun*, contrastive topic, prosodic experiment, syntactic position of a topic

## 1. Introduction

### 1.1. Korean Particle *-nun*

The Korean particle, *-nun*, and its Japanese counterpart, *-wa*, have been long acknowledged as representing theme (Kuno 1973, among many others), and there is rich literature on this topic. Since it is generally assumed that Japanese *-wa* and Korean *-nun* exhibit identical patterns, I will use the analy-

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sis of unaccented *-wa* as a starting point to discuss *-nun*. The following example illustrates the function of “thematic *-wa*”, a term that comes from Kuno (1973), which I call “unaccented *-wa*”. Below are examples of two different types of *-wa* in Japanese. (1) is an example of *-wa* with the ‘aboutness’ reading and (2) is another type of *-wa*, which is called “contrastive *-wa*” and appears with an accent (Kuno 1973).

- (1) *wa* for the theme of a sentence: ‘Speaking of ..., talking about ...’  
*John wa gakusei desu.*  
 John-*wa* student is  
 “Speaking of John, he is a student.”
- (2) *wa* for contrasts: ‘X ..., but ..., as for X ...’  
*John ga pai wa tabeta ga (keeki wa tabenakatta)*  
 John GA pie WA ate but cake WA ate-NEG  
 ‘John ate (the) pie, but he didn’t eat (the) cake.’

Like *-wa*, the *-nun* marking that accompanies prosodic prominence is called contrastive *-nun*. In order to be neutral, respect to the theoretical issue, I will call this “accented *-nun*,” which means that the whole *-nun* marked phrase is under the effect of prosodic prominence. However, systematic research on phonetic aspects of this topic have never been conducted the significant and long running controversies regarding this topic in Korean linguistics. Therefore, whether the so-called contrastive *-nun* (which I call accented *-nun*) has prosodic characteristics of focus or its own prosodic property is not clear. This will be studied through a series of experiments.

Compared to the unaccented *-nun*, which is a topic marker according to general consensus, the meaning and function of the accented *-nun* has been the center of controversy. The meanings of *-nun* and *-wa* with an accent were studied in detail in C Lee (1999, 2000, 2003) in Korean, and in Hara (2004, 2006), Heycock (1993, 2007), and Tomioka (2006, 2008) in Japanese, among many others. The examples in (3) illustrate the appearance of the accented *-nun* in a discourse.

- (3) Q: What about her? Did she arrive yet? Did she go on the stage?  
 A: [O-KI-NUN]                    hay-ss-e  
       COME-Nmz-*nun*    do-Pst-Dec  
       ‘She [<sub>B-acc</sub> ARRIVED].’

C Lee 2003

The answer in (3) means that she arrived but events other than her arrival have not happened, i.e., she arrived but she did not go on the stage. According to C Lee’s analysis, this sentence obtains the above meaning since the ac

cented *-nun* in Korean functions to generate scales in the sense described by Horn (1972) and places the marked reference or event in the lowest level of the scale. What is crucial in this analysis is that all of the upper items or events arranged in the special scale generated by *-nun* have negative implicature. In C Lee’s analysis, therefore, the function of *-nun* with an accent is to generate a scalar implicature (e.g., (at least) she came, but she did not do any of the other things). Therefore, in C Lee’s analysis, the function of a “contrastive topic” is to generate scalar implicature. However, analysis of the meaning of a contrastive topic in English, for which research was initiated and has become widely known since Bolinger (1968) and Jackendoff (1972), seems to differ from what has been found in Korean contrastive topic research. At this point, let me briefly introduce the contrastive topic in English.

### 1.2. Contrastive Topic in English

Prosodic accents have been found to express some semantic/pragmatic meanings in English. Those prosodic accents exhibit different patterns, one of which, a falling pitch accent, is known to indicate focus and the other, a rising pitch accent, is known to indicate the contrastive topic. Consider the following examples.

#### (4) Focus

Q: Who ate the beans?

A: [FRED] ate the beans.

H\* L- L%

#### (5) Contrastive Topic

[Context] There are several people having a party with several kinds of food.

a. A: Who ate what? What about Fred? What did he eat?

B: [FRED ]IntP [ ate the [BEANS] ]IntP  
L\*+H L- H% H\* L - L%

b. A: Who ate what? What about the beans? Who ate them?

B: [FRED ]IntP [ ate the [BEANS] ]IntP  
H\*L-L% L\*+HL-H% Jackendoff 1972

Example (5) is from Jackendoff (1972), except for the labeling of the tonal category of each pitch-accented word. There are two pitch-accented words in (5a) and (5b), “Fred” and “beans,” both of which receive nuclear pitch accents (NPA) in their own intermediate phrase (IP). According to a study by Beckman and Pierrehumbert (1986), focus correlates with a specific type

of pitch accent contour, H\*. However, the NPA-bearing constituent we are interested in here has a different type of pitch accent, L\*+H. Bolinger (1968) named the rising accent (L\*+H), “B-accent” and the falling accent (H\*(L-)), “A-accent.”<sup>1</sup> The A- and B-accent have been used as conventional terms for these accents since then. A constituent with a falling accent (H\*) is identified as marking new information, thus “focus,” by Pierrehumbert and Hirschberg (1990), and a constituent with a B-accent is called the “contrastive topic” (Jackendoff 1972, Roberts 1996, Büring 1997). The widely adopted recent analysis of the contrastive topic is from Büring (1997). According to both Jackendoff (1972) and Büring (1997), constituents with a rising accent have a pair-list reading. For example, the meaning of the answer in (5a) roughly corresponds to the following: “Fred ate the beans and the other people ate other kinds of food at the party.” It seems difficult to account for the meaning found in an English contrastive topic based on the analysis of C Lee (2000) or Hara (2006). Of course, a solution that instantly arises for this problem is to explain the difference with respect to the language parameter. In Korean, the contrastive topic corresponds to an item that generates scalar implicature and in English the contrastive topic has a pair-list reading. However, the more fundamental problem of what the contrastive topic is still remains unresolved. I prefer to view the question in terms of whether the respective indicators of the contrastive topic in each language, such as morphology *-nun* or a rising pitch contour, are the sole element generating the propositional meaning thought to be derived from the contrastive topic. That is, I raise the question whether what we have thought to be a contrastive topic expression in Korean and English corresponds directly to the alleged contrastive topic meaning (the scalar implicature reading in Korean and the pair-list reading in English). The answer to this question would be the fundamental answer to the controversy between Korean and English contrastive topics.

In this paper, I will examine the potential factors that are generally known to be related to focus or topic: the target item’s position within a sentence, a morphological marker, and the prosodic pattern. These factors will be examined in more detail with respect to whether they are interrelated in generating meaning in contrastive topic-inducing contexts. Before going directly into the examination of *-nun* in contrastive topic-inducing contexts, I want to examine the prosodic pattern of a *-nun* marked constituent in focus-inducing contexts and compare the corresponding prosodic patterns with those in contrastive topic environments.

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<sup>1</sup> H\*+L in 1986 was the same as H\*, and +L only triggers a down-step in the following H\*. Currently, in ToBI (Tone and Break Indices), H\*+L does not exist and is denoted by H\* instead. In ToBI and in Beckman and Pierrehumbert (1986), focus, especially contrastive focus (Section 2.1.2.2), is marked by L+H\*.

Having the knowledge of different types of pitch accents (B-accent for contrastive topic and A-accent for focus) in English as a background, let us consider the Korean cases. In the conventional framework, although we know that both focus and the accented *-nun* are prosodically prominent, it has not been actually demonstrated whether the prosodic prominence in focus and that in the accented *-nun* are the same. Although C Lee (2003) mentioned that the Korean contrastive topic also has a specific rising accent, which he thought to be the counterpart of the English B-accent, he showed only one pitch track of a phrase without comparison with other types of examples. Since even the prosodic property itself of *-nun* marked items are not well researched, we need to first identify the prosodic appearances of *-nun* marked items in given accent situations. I will use focus-inducing contexts for this examination.

## 2. Experiment

### 2.1. Experimental Design

The contrastive topic has borne controversies regarding the traditional notion of a topic and focus that are thought to be disjoint. For example, in Krifka (2007), the contrastive topic is analyzed as “focus within topic”, i.e., the combination of focus and topic. This conflict is well acknowledged and the suggested solutions have mostly found the reasons for the conflict from the fact that a single notion covers more than a single concept. Focus is generally recognized as the cause of this confusion. Researchers divide focus into two types: contrastive focus and new informational focus. Under this approach, although the informational focus (new info) cannot be combined with topic, the combination of contrastive focus and topic is not prohibited. This suggestion seems welcoming in elucidating the confusing status of the contrastive topic.

The three experiments in this study were designed to explain the following two points: (i) the prosodic properties of *-nun* marked items — whether any prosodic factor affects the formation of the contrastive topic meaning; and (ii) the syntactic properties of *-nun* marked items — whether any syntactic factor affects the formation of the contrastive topic meaning. Explicating these properties will help us to understand the compositional properties of the contrastive topic. For the first point, we will examine whether the *-nun* marked items in contrastive topic-inducing contexts exhibit any special prosodic characterization distinguished from those in focus-inducing contexts. For the second point, we will compare the status of *-nun* marked items in different positions within a sentence.

These experiments were designed to assess a subject's usage of target sentences in as natural a way as possible. For this purpose, the MATLAB program was used to run the experiments, making it possible to collect subjects' self-controlled responses. These experiments differ from most of the existing focus experiments targeting Korean in that past experiments did not collect subjects' judgments as part of the experimental process. In those experiments, the script was prepared with obvious focus examples such as question-answer pairs or corrective cases, and answers were marked in bold or underlined, prompting the subjects to pronounce them with accents. In the current experiments, an additional process was added to the paradigm. Subjects were asked for felicity judgments first, and if the target sentence was felicitous, they were asked to read it.

The target sentences were simple transitive sentences with three or four words (the number of words depended on the type of experiment). The procedure is detailed below.

(6) Procedure

- i. **Pre-reading:** One day before the actual experiment, subjects were asked to read the context and questions so that they were familiar with the context in advance.
- ii. **Computer Display:** The computer screen displayed only a context and a question (not an answer), and only when a subject understood the context and the question completely, was he/she allowed to click 'Enter.'
- iii. **Judgment:** A new screen with one of the answers appeared and the subject judged the acceptability of the sentence on a scale of 0-3. The meaning of the scale was as follows:
  - 0: I would not speak in this way.
  - 1: I would not speak in this way, but the sentence does not sound terribly bad.
  - 2: I would be hesitant to speak in this way, but the sentence is usable.
  - 3: This is how I would speak in the given situation.
- iv. **Production:** If the subject chose either 2 or 3, he/she was required to produce the answer sentence two times as he/she would normally speak it in the situation.

The experiment was conducted in the recording lab at Pusan National University (PNU) in Pusan, Korea during the summer of 2008. Twelve native

Korean speakers (specifically, South Kyoungsang speakers<sup>2</sup>, seven females and five males) participated in these experiments. The speakers were in their early twenties, and all were students of PNU. None of the subjects had any previous knowledge of linguistic theory or the theoretical background of the experiment. Among them, the results from nine subjects<sup>3</sup> for three experiments were analyzed using PitchWorks speech analysis software (Scion R & D). The experiments are explained individually in the following sections.

## 2.2. Experiment One: *-nun* Marked Items in Focus-Inducing Context I

The notion of topic indicates the status of an item as being what has been mentioned before (or what is thought to be known by the interlocutors at the point) or the item that the utterance is about. That is, the concepts that denote topic are generally summarized as (i) informational status as old info and (ii) ‘aboutness’ meaning.

Considering the first usage of the notion of topic, topic is usually thought to be incompatible with focus. If we assume that *-nun* marks the first usage of topic, the appearance of *-nun* in a focus position would be surprising. This implies that an answer to a wh-question with *-nun* may be rejected in judgment tests because of the presence of *-nun* itself. As such, this was the basis of the first experiment.

We examined whether *-nun* is compatible with informational focus. Following the experiment, we analyzed the judgment results. Once there were productions of *-nun* marked items that passed the judgment tests in a focus-generating context, we compared the prosody of *-nun* marked constituents to case-marked constituents in the context of a wh-question and answer pairs. Using this procedure, we were able to determine whether the prosodic property of *-nun* marked constituents were identical to focus and whether the answers were judged to be felicitous.

### 2.2.1. Design

The script given to the subjects was designed as follows. Our target item was an accusative Noun Phrase (NP) corresponding to a wh-phrase in an answer to a wh-question. An answer consisted of four constituents: a subject,

<sup>2</sup> It is well known that Pusan dialect has a different prosodic system from Standard Korean. Pusan Korean has a lexical pitch accent system like Japanese while Standard Korean does not. However, this difference does not make a big difference in its realization of pragmatic factors such as Focus at a sentence level. At a syllable level, which syllable pitch is raised when it is accented can be predicted in Pusan Korean (J Kim 2008). However, this difference between prosodic systems in two dialects does not matter much in the discussion in this paper. Therefore, I will not concern about it here. Refer to J Kim (2008) for discussion concerning Focus realization in South Kyoungsang Korean.

<sup>3</sup> Three subjects were excluded for the following reasons: (i) lack of utterance consistency; (ii) unnatural reading (like reading a book); (iii) did not follow the directions (only read one time).

an object, an adverb and a verb. Generally, object arguments tend to form one accentual phrase (AP) with the subsequent predicate, although phrasing depends in part on the speaker, the number of syllables, and the semantic closeness between an object and a verb. In order to prevent an object from forming an AP with a predicate as a default, I placed an adjunct between them. Below is an example from the script given to the subjects.

(7) Example Dialog

Q: *tayk-uy ai-ka mwue-lul melli ponay-ss-eyo?*  
 Your child-Nom what-Acc far send away-Pst-Dec?  
 ‘What did your child send away to a far place?’

A: a. *wuli ai-ka [MENGMENGI-LUL] melli ponay-ss-eyo.*  
 My child-Nom PUPPY-ACC far send away-Pst-Dec

A: b. *wuli ai-ka [MENGMENGI-NUN] melli ponay-ss-eyo.*  
 My child-Nom PUPPY-NUN far send away-Pst-Dec  
 ‘My child sent [<sub>F</sub> A PUPPY] far away.’

In constructing the examples, two additional factors were considered. First, the tonal patterns of the words were chosen to be consistent across all target sentences since South Kyoungsang Korean is a pitch accent language. Every target word starts with a low tone and ends with a low tone. Secondly, every target word consisted of syllables with sonorant sounds to ensure a clear pitch track.

Seven people participated in this experiment. Since each person had eight sets of conversations, 56 total judgments for each type of answer were recorded. That is, we had 56 judgments each for the A-a type answer and for the A-b type answer. Also, since the subjects were asked to produce a sentence twice if the sentence was felicitous, the estimated total number of utterances was 112 if every sentence was felicitous ( $56 \times 2 = 112$ ). The A-a type answer was a canonical answer for a wh-question. Whether the speakers accepted the A-b type answer and what type of a prosodic pattern they exhibited when they answered is discussed in the next section.

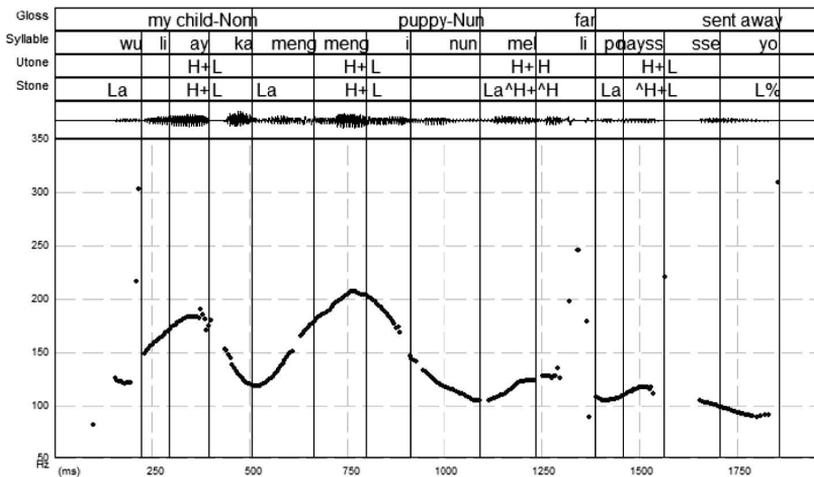
### 2.2.2. Results and Discussion

The judgment test results between a case-marked object (A-a type answers) and a *-nun* marked object (A-b type answers) turned out to be different. For the *-nun* marked answers, 34 out of 56 (60.7%) cases were judged to be infelicitous and thus, not recorded.<sup>4</sup> It is difficult to draw a conclusion based on

<sup>4</sup> The judgment results and recordings of seven of the nine speakers who participated in the experiment were analyzed. Each person provided his or her judgment for utterances in eight different sets, and 56 judgments were collected per person.

this result. Since approximately 40% of the *-nun* containing utterances were accepted as answers to *wh*-questions, *-nun* cannot be completely excluded from the focus position. The result of this experiment apparently supports the treatment of *-nun* as an indication of the ‘aboutness’ topic rather than ‘old information’. However, the results of the second experiment bring this interpretation into question. This matter will be discussed further in the next section.

The remaining 22 cases were judged to be felicitous and were thus recorded as 44 utterances since each subject repeated a sentence twice in production. Among the 44 recorded utterances, 29 (65.9%) utterances exhibited a pitch-raising effect in the argument part of the object (*mengmengi* ‘puppy’ in the above example). Interestingly, seven utterances (15.9%) exhibited a pitch-raising effect on the *-nun* marker, either only on *-nun* or on both the argument and *-nun*. The seven cases exhibiting pitch-raising on *-nun* may correspond to what has been claimed to be the B-accent in Korean by C Lee (2003). First, let us compare the pitch track of *-nun* marked sentences to conventional case-marked sentences.



**Figure 1.** An example pitch track of an object with *-nun* (speaker: M2) with pitch raising on the argument.<sup>5</sup>

<sup>5</sup> In the S-tone tier, ^H means down-stepped H.

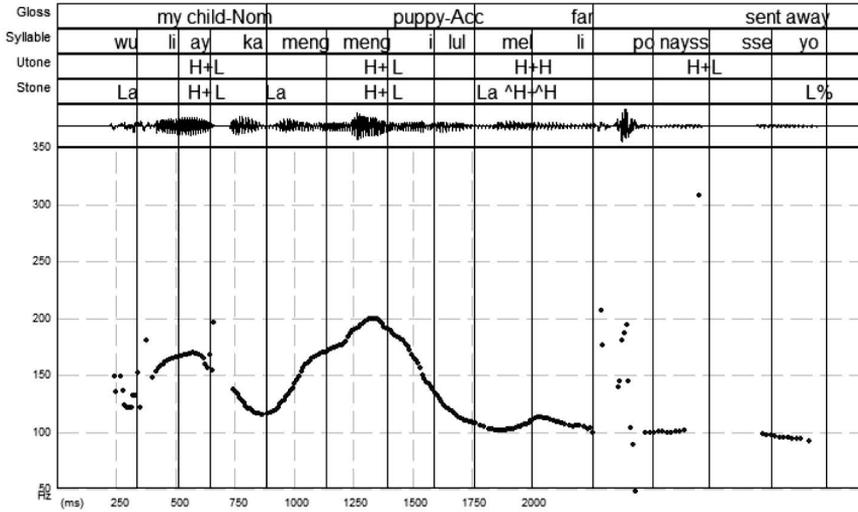


Figure 2. An example pitch track of an object with *-lul* (speaker: M2) with pitch raising on the argument.

Figures 1 and 2 are examples of pitch tracks of the sentence (7) produced by speaker M2. In the figures, there are four tiers. The first tier is divided by an accentual phrase, which corresponds to a word in Korean and provides glosses for Korean words. The second tier is divided by a Korean syllable, to which the tones in the third and fourth tiers are aligned. Underlying tones (U-tone) and surface tones (S-tone) are provided in the third and fourth tiers, respectively. Underlying tones in the third tier are lexically assigned pitch accents. Surface tones in the fourth tiers include both the pitch accent tones realized in the surface after prosodic processes such as prosodic phrasing and the boundary tones, which are post-lexically aligned to prosodic boundaries. The same format will be consistently used in other pitch tracks in this paper.

In the above pitch tracks, the speaker started with his normal pitch 160-180 Hz. Because of phonetic downtrend, we would expect the second accentual phrase (AP), *mengmengi* “puppy” to be lower than the subject phrase. If the second AP forms a new intermediate phrase (IP), which is possible in a neutral situation, it would not need to follow the phonetic downtrend. Instead, the second AP would be either equal or slightly higher in value than that of the previous AP. When an AP is focused, however, its peak is much higher than that of the preceding AP, suggesting that the second AP is focused. In both figures, the pitch peak occurs on the second syllable of the second AP and the magnitude of the pitch raise is similar. The post-focal effect that appears in the following phrases also looks similar; the IP bound-

ary is absent and the pitch of the subsequent phrases is suppressed.

Figure 3 is a pitch track of an answer sentence (8) where the focused object is followed by *-nun*. However, the pitch track in figure 3 exhibits a somewhat different pattern from that in Figure 2. It is identical to Figure 2 in that the pitch raising effect appears on the object argument, but differs from it in that the effect appears on the particle *-nun* as well as on the argument ‘Mina’.

- (8) *milwunamwu-ka Mina-nun melli-se panki-ess-eyo*  
 Poplar tree-Nom Mina-Nun far-from welcome-Pst-Dec  
 ‘The poplar tree has welcomed Mina from afar.’

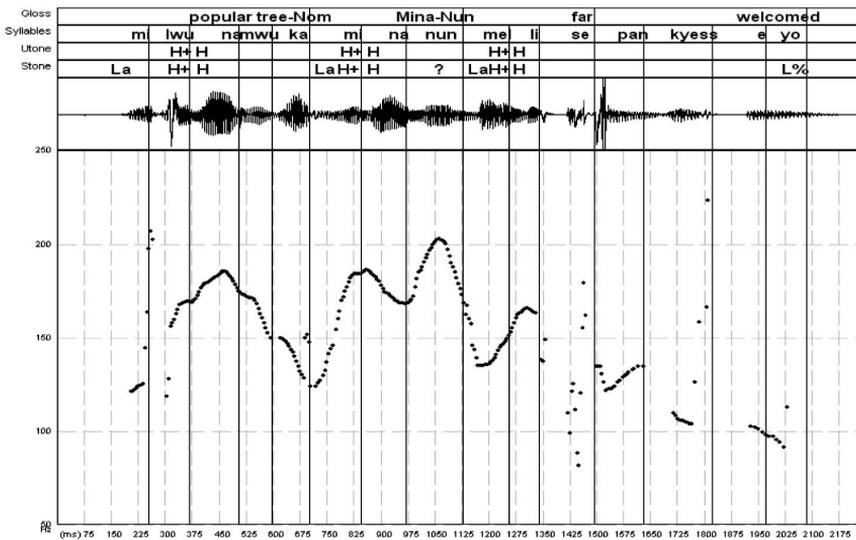


Figure 3. The occurrence of pitch raising on a particle *-nun* (speaker: M2).

In the above pitch track, the argument “Mina” has focus effect since it has a higher pitch than the preceding phrase. Interestingly, *-nun* attached to “Mina” looks as if it is accented, having an even higher pitch than the argument. There are two candidate explanations accounting for the appearance of the high pitch on *-nun*: (i) it forms its own independent AP and the high pitch is the pitch accent of a newly formed AP, i.e., the pitch raising effect targets the pitch accent of *-nun*; and (ii) the high pitch is a pragmatic boundary tone. In her Japanese-Korean Conference presentation, S-A Jun (2009) reported that she had found a similar pitch raising phenomenon on the particle in complex NP focus data. When a complex NP is the domain of focus,

the pitch on the particle *-ka* or *-lul* was raised.<sup>6</sup> S-A Jun (personal communication) suggests this as an edge marking tone ('H-') of an intermediate phrase, and especially in this case, as marking the end of the focus domain.

As shown in the comparison of the two pitch tracks, the prosodic patterns turned out to be identical regardless of the morphological marker on the target (*-nun* or *-lul*). The production result confirms the following facts. The informational status of a constituent is decided by a given context, and it is indicated by the appearance of a prosodic accent. The morphological marking, *-nun*, does not completely prevent the constituent from being a target of focus. However, the judgment result of around 60% acceptance shows that this failure should be seriously considered in accepting the *-nun* marked sentences as felicitous answers to wh-questions. At this point, there is no consistent answer for either the production result or the judgment result. This necessitates the explication of the function of the marker, *-nun*, in a discourse combined with an accent.

In this experiment, we examined whether *-nun* restricts the informational status of its host to being the topic, and the result indicates that it does not, but definitely makes the sentence less preferred compared to the case-marked constituents. As for the production result, once the answer with *-nun* is allowed to be focused, regardless of the marking, it obtains an accent and exhibits the prosodic effect of focus. It turns out that *-nun* does not show a different prosodic pattern from *-lul*. In addition, what has been thought to be B-accent in Korean for the contrastive topic (C Lee 2003) is not always observed. It has been suggested that the high tone on *-nun* may mark the edge of the constituent, which has also been found for a case marker in non-contrastive topic examples (S-A Jun 2009).

In the next experiment, we further examined the notion of topic and its realization.

## 2.3. Experiment Two: *-Nun* Marked Items in Focus-Inducing Context II

### 2.3.1. Hypothesis and Design

In the first experiment, we examined the usage of *-nun* as the first notion of topic having the old informational status. The result seems to support the argument that *-nun* correlates with the second notion of topic, 'aboutness' meaning, as already argued in by many (Kuno 1973, among many others). However, in HW Choi (1997), the 'aboutness' meaning of topic is argued to

<sup>6</sup> Sun-Ah Jun (personal communication) suggests that this tone may be a boundary tone or a phrase accent. Since it carries some degree of prominence, the phrase accent might be more likely. This is not the same type of accent (prosodic prominence effect) given to focus since she notes that she found the same boundary marking high pitch on a particle when the sentence was produced in a neutral/non-focus condition. In that case, it was surely not for emphasis, but for marking a syntactic constituent.

be represented by syntactic positioning. The item that the sentence is about is moved to the initial position in the sentence derived by a topic feature residing in a node around Complementizer Phrase (CP). That is, the notion “topic” is used in two respects, and furthermore, two representational meanings compete for one of the usages, “aboutness” meaning. This has caused much confusion in topic study and accordingly, this confusion has motivated the second experiment in this study.

While in the first experiment, it was the case marker (*-(l)ul* vs. *-nun*) that was varied, syntactic positioning was varied in this experiment. That is, the answers with *in situ -nun* marked constituents and those with scrambled *-nun* marked constituents are compared in an identical context. The experiment was conducted following the same procedure used for the first experiment, and one of the conversation pairs from the script given to the subjects is shown below.

(9) *In situ -nun* marked object argument

Q: *malpel-i nwukwu-lul mani mwul-ess-no?*  
Bee-Nom who-Acc a lot bite-Pst-whQ  
‘Who did the bees sting a lot?’

A: *malpel-i [MINA-NUN] mani mwul-ess-eyo*  
bee -Nom Mina-Nun a lot sting-Pst-Dec.  
‘The bees stung Mina a lot.’

(10) Scrambled *-nun* marked object argument

Q: *malpel-i nwukwu-lul mani mwul-ess-no?*  
Bee-Nom who-Acc a lot sting-Pst-whQ  
‘Who did the bees sting a lot?’

A: *[MINA-NUN] malpel-i mani mwul-ess-eyo*  
Mina-Nun bee -Nom a lot sting-Pst-Dec.  
‘The bees stung Mina a lot.’

The question and answer pairs provided here are very similar to those in the first experiment. Remembering the results of the first experiment, in the *in situ* positions, the *-nun* marked answers were disfavored compared to the case-marked items. If the item is scrambled, how would the native speakers’ judgments appear?

### 2.3.2. Results and Discussion

The judgment test result revealed that not every *-nun* marked item had an identical status (or meaning). The status of a *-nun* marked item appeared to vary depending on its position within a sentence. When the target items were

*in situ*, 41.7% of subjects responded positively that they would answer with *-nun*. In contrast, in the same context, only 4.2% of subjects gave positive responses regarding the usage of scrambled *-nun*. The results of the judgment tests are summarized in Table 1.

**Table 1.** Judgment results of Experiment 2.

	Unusable (Scale 0 and 1)	Usable (Scale 2 and 3)
(9): <i>in situ</i> accented <i>-nun</i>	58.3%	41.7%
(10): scrambled accented <i>-nun</i>	95.8%	4.2%

The results in Table 1 clearly show that there is a distinction between accented *-nun* marked items depending on whether they are *in situ* or moved to the left-periphery. That is, *-nun* marked constituents are disfavored in focus position, but when they are moved to the left-periphery, the felicity is seriously exacerbated.

Let us consider what would be a good explanation for this distinction. The results of the first and second experiments do not allow for clear conclusions, but suggest that the following two hypotheses are possible: (i) the morphological marker *-nun* and the syntactic positioning affect the felicity or usability of a sentence in a given context; and (ii) (at least) one of the two factors (*-nun* and syntactic positioning) has a different function other than expressing ‘aboutness’ meaning.

In the third experiment, we examined target items similar to those in the previous experiments, but in different contexts (i.e., in the contexts used to generate contrastive topics). Specifically, we assessed the syntactic variation given to the target items.

#### 2.4. Experiment Three: *-Nun* Marked Items in a Contrastive Topic-Inducing Context

##### 2.4.1. Hypothesis

The previous experiments demonstrated how an accent derived by a focus-inducing context is realized in case-marked constituents and in *-nun* marked constituents. In the third experiment we examined the hypothesis raised from the previous experiment that not all accented *-nun* marked items have the same status; accented *-nun* marked items in sentence-initial positions are distinguished from those that are *in situ*. That is, what we have consistently called contrastive topics may not have the same meaning or may have different pragmatic statuses. We compared scrambled, accented *-nun* marked items and *in situ* accented *-nun* marked items to examine this hypothesis. I

compared the production data from *-nun* marked items obtained from focus-generating contexts with those from contrastive topic-generating contexts. Through this, I examined the interaction of a morphological factor with a syntactic factor in the generation of contrastive topic meaning.

#### 2.4.2. Design

The procedure for this experiment was identical to that used in the first and second experiments except for the content of the scripts. Two types of contexts were examined. One derived so-called “pair-list” answers. An example context is given below.

- (12) [WH-context] Minu, Sora and Yeona went to watch Broadway musicals. Since I was also interested in the musicals, *Mamma Mia*, *Wicked*, and *Hairspray*, I asked our mutual friend.

Q: *kulayse, nwuka mwue-lul pow-ass-no?*  
 so who what-Acc watch-pst-whQ?  
 ‘So, who watched what?’  
*Mamma Mia-nun? Wicked-nun? Hairspray-nun?*  
*Mamma Mia-nun? Wicked-nun? Hairspray-nun?*  
 ‘How about *Mamma Mia*? *Wicked*? *Hairspray*?’

In (12), the question contains double wh-phrases. If there was only the first question, the answer would have contained a double focus. However, the main question is followed by sub-questions referring to each musical. Under the assumption that the contrastive topic corresponds to a sub-issue of a main issue, the type of context illustrated in (12) was used as a contrastive topic-inducing context in this experiment. In this context, a constituent in the answer corresponding to the one asked in the sub-question, i.e., the phrase corresponding to the “depended on” part is deemed to be contrastive topic.

Another type of context that was used to derive the contrastive topic contains a yes/no-question as follows:

- (13) A: Do you get along with your parents?

B: *TITI-to-wa umaku itte-imasu.*

father-with-top well go-be

‘I get along with [B-acc Father].’

Tomioka 2008

- (14) Q: What about her? Did she arrive yet? Did she go on the stage?

A: [*O-KI-NUN*] *hay-ss-e*

come-Nmz -nun do-Pst-Dec

‘She [B-acc ARRIVED].’

C Lee 2003

This type of context containing a y/n-question was composed as follows in the experiment:

- (15) [Y/N-context] Minu, Sora and Yeona went to watch Broadway musicals on Christmas Eve. Since I have heard that it is extremely hard to get a ticket without booking far in advance and I knew that they hadn't, I asked their friend.

Q: *kulayse, kayneytul-I mywucikal poa-ss-na?*  
 so they-Nom musical watch-Pst-y/nQ?  
 'So, did they watch a musical?'

Two answer variations were tested with two types of target sentences and two types of filter sentences. One variation was a morphological marker, that is, whether the target had a case marker or *-nun* marker, and the other was a linear word order, that is, whether the target was scrambled over a subject to the initial part of the sentence. The canonical word order of a sentence with a transitive predicate in Korean is subject + object + verb. Since Korean is a free word order language, except for the verb, the position of which is fixed as sentence-final, we can scramble and change the order of the subject and object. Even though it is controversial, scrambling in Korean is thought not to have a specific semantic effect. The following sentences are one of the answer sets to the questions in (12) and (15).

- (16) [Answers] Four Types of Answers

Two Variations:

- i. Object Marker: Accusative Case Marker (CM) vs. *-nun* (NUN)
- ii. Word Order: Canonical S+O+V vs. Scrambled O+S+V

- (a)  $S_{CM} O_{NUN} V$ : *Minwu-ka Mamma Mia-nun poa-ss-e.*  
 Minu-Nom M-M-nun watch-pst-ind
- (b)  $O_{NUN} S_{CM} V$ : *Mamma Mia-nun Minwu-ka poa-ss-e.*
- (c)  $S_{CM} O_{CM} V$ : *Minwu-ka Mamma Mia-lul poa-ss-e.*
- (d)  $O_{CM} S_{CM} V$ : *Mamma Mia-lul Minwu-ka poa-ss-e.*

These two types of contexts form a single set, and a total of five different sets were provided to the subjects. As exemplified in (16), four types of answers were given for wh-questions and y/n-questions. Therefore, a single set examined eight answers (four answers × two types of questions). Among these answers, only the *-nun* marked answers (16a) and (16b) were our target of examination, and the case-marked answers, (16c) and (16d), formed a filter set.

2.4.3. Results and Discussion

Table 2 presents the results of subjects' judgments of the answers. The number of responses for (16a) and (16b) is noted depending on the scale in (6).<sup>7</sup> The initial letters before the hyphen in the type of an answer, "wh-" and "y/n-," indicate the context where the answer is placed. The letters following the hyphen, "-IN" (*in situ* with -nun) and "-SN" (scrambled with -nun), indicate the property of an answer; the word order is conventional or scrambled (*in situ* versus scrambled) with a -nun marker instead of an accusative case marker (N = -nun). That is, "WH-IN" means an *in situ* answer with -nun in the context of a wh-question. "YN-SN" means a scrambled answer with -nun in the context of a y/n-question. For the convenience of the reader, a brief example of the data script is provided below the table for each type of an answer.

**Table 2.** Number of responses for each scale in Experiment 3.

	0 (Terrible: Unusable)	1 (Bad: Un- usable)	2 (Okay: Usable)	3 (Perfect: Usable)	Unusable (= 0+1: Not Produced)	Usable (= 2+3: Produced)
Wh-IN	9	18	11	7	27 (60%)	18 (40%)
Wh-SN	0	8	22	15	8 (17.7%)	37 (82.3%)
Y/N-IN	1	6	20	18	7 (15.5%)	38 (84.5%)
Y/N-SN	0	4	16	25	4 (8.8%)	41 (91.2%)

Wh-IN	Q: Who watched what?	A: Minu-ka Mamma Mia-nun poa-ss-e.
Wh-SN	Q: Who watched what?	A: Mamma Mia-nun Minu-ka poa-ss-e.
YN-IN	Q: Did they watch the musicals?	A: Minu-ka Mamma Mia-nun poa-ss-e.
YN-SN	Q: Did they watch the musicals?	A: Mamma Mia-nun Minu-ka poa-ss-e.

Based on the scale (6), 0 or 1 means that the given answer cannot be felicitously used and 2 or 3 means that it can be used. Naturalness and preference decides where an answer will fall between 0 and 1 or between 2 and 3. Analysis of the judgment test results revealed that the scrambled answers with -nun were appropriate in both the wh-question and the y/n-question

<sup>7</sup> For the convenience of the readers, I repeat the scale here:

- (6) iii. Judgment: A new screen with one of the answers appeared and the subject judged the acceptability of the sentence on a scale of 0-3. The meaning of the scale is as follows.
  - 0: I would not speak in this way
  - 1: I would not speak in this way, but the sentence is not terribly bad.
  - 2: I would be hesitant to speak in this way but the sentence is usable.
  - 3: This is the way that I speak in this situation.
- iv. Production: If the subject chose either 2 or 3, he/she was required to produce the answer sentence two times as he/she would normally say it in the situation.

contexts; in most cases, they turned out to be usable. Conversely, the *in situ* answers (the IN-type) were not always appropriate. Twenty-seven out of forty-five (60%) selections judged that the *in situ* answer with *-nun*, “S+ O<sub>NUN+V</sub>,” was not felicitous in the wh-question contexts. However, this type of answer was compatible with the y/n-question contexts. Thirty-eight (20+18) out of forty-five cases (84.5%) of *in situ* and forty-one (16+25) out of forty-five cases (91.2%) of scrambled answers with *-nun* were reported to be acceptable in the y/n-question contexts.

A couple of questions arise from these results. First, why does word order matter, i.e., why does scrambling a marked object to the initial position improve the felicity in a wh-question context? Second, why does this felicity difference appear only in the wh-question contexts but not in the yes/no-question contexts? These questions need further investigation.

As a next step, we investigated the production data. Speakers exhibited systematic patterns in their production. Table 3 shows the results with respect to how the patterns appeared in each type of answer.

**Table 3.** Pattern of accent appearances in Experiment 3.

Number of Accents	Appearance of Accent	Post-Focus Effect	Wh-IN	Wh-SN	Yn-IN	Yn-IN
Two Accents (Focus Peaks)	Two Peaks Equal		4	10	4	2
	First Peak Higher		10	36	8	0
	Second Peak Higher		6	11	7	0
<b>Total of Two Accents</b>			<b>20 (55.56%)</b>	<b>57 (77.03%)</b>	<b>19 (25%)</b>	<b>2 (2.44%)</b>
One Accent (Focus Peak)	Accent on First AP	No Post Focus Effect	0	0	0	13
		Post Focus Effect	15	17	0	65
	Accent on Second AP		1	0	52	2
<b>Total of One Accent</b>			<b>16 (44.44%)</b>	<b>17 (22.97%)</b>	<b>52 (68.42%)</b>	<b>80 (97.56%)</b>
<b>No Accent</b>	<b>Neutral Intonation</b>		<b>0</b>	<b>0</b>	<b>5 (6.58%)</b>	<b>0</b>
<b>Total</b>			<b>36 (100%)</b>	<b>74 (100%)</b>	<b>76 (100%)</b>	<b>82 (100%)</b>

The accent pattern appeared largely in three types: (i) two accent peaks of focus; (ii) one peak of focus; and (iii) neutral intonation pattern, which lacked any accent peak of focus. When there were two accent peaks, the pattern was divided depending on which AP among the two had a higher pitch value. In cases where there was only one accent peak, especially when the accent peak was on the first AP, it could potentially be interpreted in two ways: the first phrase was focused or the sentence was merely neutral. Whether or not the first prosodic raising was attributed to focus was decided based on whether it exhibited the post-focus effect, which suppresses the pitch value of the subsequent constituents. If the prosodic raising did not exhibit any post-focus effect but simply had a normal phonetic downtrend, the sentence did not contain any focus (S-A Jun 1993, among many others).

I do not provide the reasons and explanations for all of the categorized patterns in Table 3. I only consider the first two factors with respect to how many accent peaks appeared and where the accent peak was placed. I do not consider the other factors shown in the third column in Table 3 that indicate which peak had a higher value if there were two accent peaks and whether the post-focus effect appeared if there was only one accent peak. Considering the first two factors, I provide figures illustrating a representative type of accent pattern that appeared most frequently in each type of answer and try to explain how it should be interpreted.

Figure 4 illustrates pitch tracks for the scrambled answers with *-nun* in wh-question contexts. In these pitch tracks, the object with *-nun* is scrambled to a position before the subject.

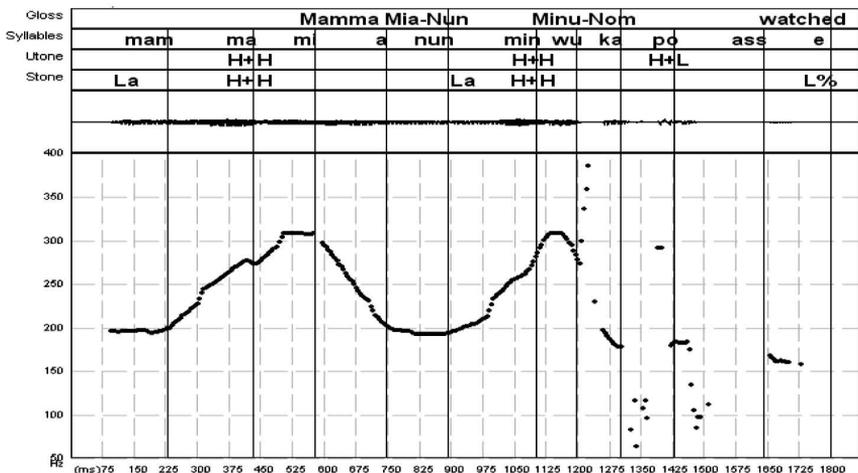


Figure 4. The pitch track of WH-SN (wh-question, scrambled with *-nun*) of the “Mamma Mia” example (speaker: F2).

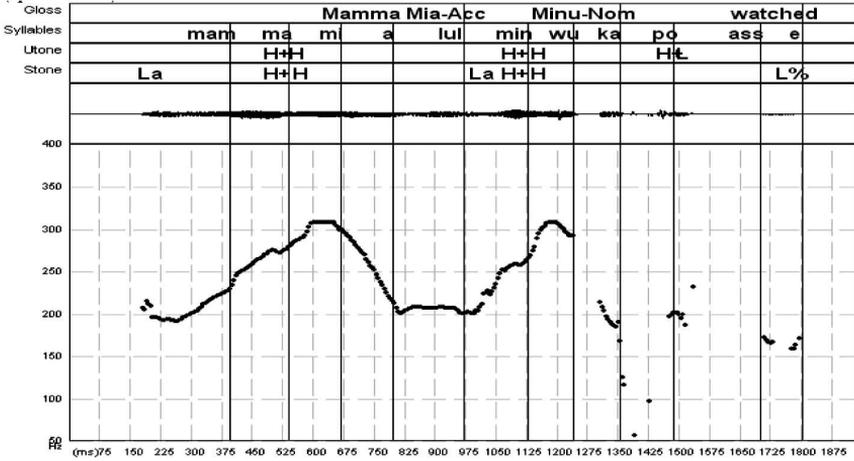
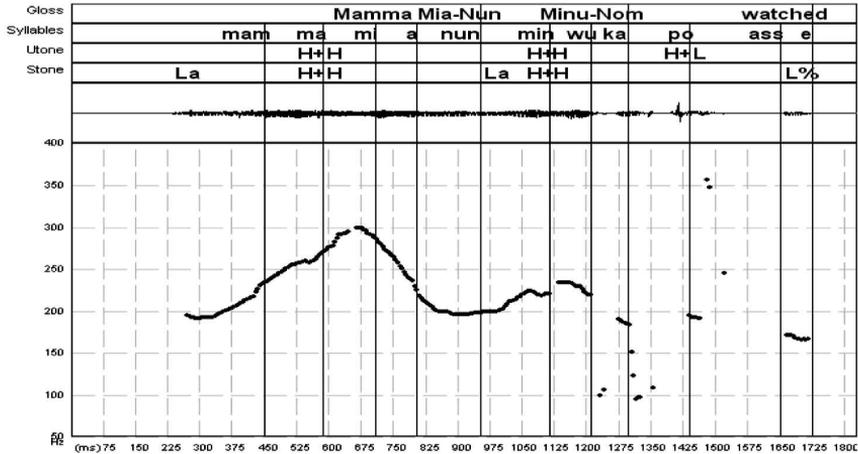


Figure 5. The pitch track of WH-SC (wh-question, scrambled with a case marker) of “Mamma Mia” (speaker: F2).

Scrutinizing pitch tracks, the prosodic value of “Mamma Mia-nun” in Figure 4 appears the same as that of “Mamma Mia-lul” in Figure 5. That is, there is only one kind of prosodic accent in Korean, which indicates focus.

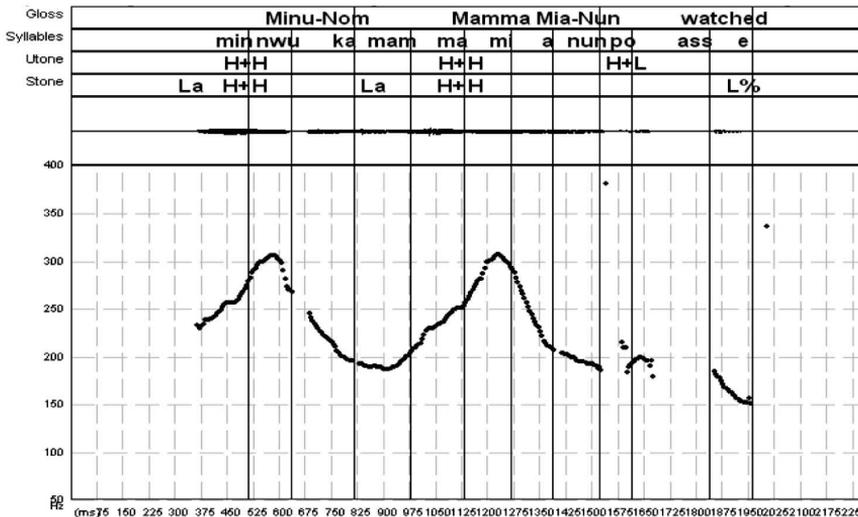
Turning our attention to the *in situ* answer with *-nun* (IN-type) to wh-questions, the judgment tests revealed that the percentage of “usable” was lower than that of “unusable” (40% vs. 60%). The tendency for disapproval of *in situ* word order is not explained by any of the current suggestions of the contrastive topic in Korean (or Japanese) since under those paradigms, any accented *-nun* marked items are contrastive topics, irrespective of the location within a sentence. What prohibits the *in situ* version of *-nun* from being a felicitous answer to wh-questions in a contrastive topic-inducing context? The judgment result suggests that scrambling of a *-nun* marked phrase over a subject is not optional, but is required in this type of context. The production result also did not exhibit any systematic pattern. Even though the type with two accent peaks appeared more often (55.56%) than the type with a single accent peak (44.44%); it cannot be considered a representative intonation pattern for this answer.

Y/n-question contexts derive different prosodic patterns in their answers from those of wh-question contexts. Figure 6 shows how the prosodic pattern appeared in the scrambled *-nun* marked answer.



**Figure 6.** The pitch track of YN-SN (y/n-question, scrambled with *-nun*) of “Mamma Mia” (speaker: F2).

Only the scrambled *-nun* marked object was prosodically prominent, which is the accent of focus, and the pitch of the subject was suppressed due to the post focal effect. This pattern contrasts with the *wh*-question context, which had two prosodic peaks both on the subject and on the object.



**Figure 7.** The pitch track of YN-IN (y/n-question, *in situ* with *-nun*) of “Mamma Mia” (speaker: F2).

Unlike *wh*-question contexts, *y/n*-question contexts allowed the *in situ* answers (IN-type), and the accent pattern appeared as shown in Figure 7. The accented *-nun* marked item was in the middle of the sentence, and this did not affect the prosody of the preceding subject. Unlike *wh*-question contexts, this *y/n*-question context did not seem to have the same requirement for the *-nun* marked item in its answers. Let us consider what the comparison between these two contexts tells us.

The difference that appeared in the answers in each context was not on the *-nun* marked item itself, but on the prosody of the neighboring constituent and on the position of the target item in a sentence. First, in terms of the different prosody of a neighboring constituent, in *wh*-question contexts, the felicitous responses had accents both on the subject and the object, while in *y/n*-question contexts, the felicitous responses had an accent only on the *-nun* marked object. The difference in the number of accents, two in *wh*-question contexts and one in *y/n*-questions, was understood considering that the additional accent was assigned to the answer to each *wh*-phrase but not to a presumed contrastive topic. Since the *y/n*-question in the script did not have any focus-triggering phrase, it did not result in any accent in the answer except for on the presumed contrastive topic.

However, the semantic/pragmatic difference between question types does not tell us anything about the different requirement of scrambling of the accented *-nun* marked item. One possible explanation might be that in the *wh*-question type contexts, a contrastive topic answer is required while in *y/n*-question type contexts, a contrastive topic answer is optional. However, for this explanation to be true, the scrambling of *-nun* should be presupposed to be an obligatory process for the contrastive topic. For this presupposition to be accepted as a generalization, the way in which the *-nun* marking is used without scrambling should be determined.

### 3. Summary and Discussion

#### 3.1. Summary of Experiments

The three experiments described in this paper are all correlated. In fact, the first and second experiments can be considered preliminary to the results of the third experiment. The first two experiments demonstrated that the prosodic properties that appear in the so-called Korean contrastive topic are not unique to the contrastive topic but are shared among all pragmatic functions that require the existence of alternatives in the interpretation process. This finding was confirmed by identifying the identical pitch contours in constituents in different markings and in different contexts. The other inference re-

sulting from these first two experiments is that syntactic positioning may affect the eligibility of a constituent to be an updating part of an answer to a wh-question. When the updating information is moved to a sentence-initial position, the felicity of the sentence becomes exacerbated.

The third experiment examined the problems raised in the first two experiments more synthetically and explicitly. Depending on syntactic positioning variation, the felicity of an utterance as an answer to a question differs only in a wh-question context and not in a y/n-question context, as summarized in the Table 4.

**Table 4.** Felicity of a marked item in two given contexts.

Context \ Answer	(i) Scrambled (ii) Accent	(i) <i>In situ</i> (ii) Accent
	(iii) <i>-nun</i>	(iii) <i>-nun</i>
Y/N-Question Context	○	○
Wh-Question Context	○	×

The problem is that according to the conventional tradition, the pragmatic category of the marked target item does not hold a different status in either context. The conventional treatment of the contrastive topic in Korean cannot explain this experimental result. What draws our interest here is that there clearly was a distinction between the scrambled items and *in situ* items in some contexts. Why the distinction appears only in a wh-question context is another problem to be answered. However, the clear result of the third experiment (Table 1 in Section 2.4.3) that distinguishes these two factors is that the status of scrambled and *in situ -nun* marked items are not always the same. Asking what kind of contextual factors are interrelated with this distinction is the same as asking why only the wh-question context makes this kind of distinction.

### 3.2. Discussion

The results here motivate us to explain what exactly the function of *-nun* is, which requires an extensive discussion in itself. Considering the substantial amount of discussion and its significance in linguistic research, I will leave this for future research directly carried over from this paper. However, in order to provide a potential answer to the raised question, I will briefly introduce a suggestion that regards the particle, *-nun*, as an operator to generate ‘contrast’ meaning in association with a subsequent focus. In this system, the relative order between a *-nun* marked constituent and accented constituent (focus) is essential, which I call “constraint on contrast trigger.”

## 3.2.1. Contraster, Contrast Trigger, and R

Previous studies on accented *-nun* marked constituents have treated them as a sub-type of topic, which is one of the components constituting information structure, and have been interested in how this “special” type of topic generates a special pragmatic meaning distinguished from the canonical topic (i.e., unaccented *-nun* marked constituents). C Lee (2000) suggested the contrastive topic induces scalar implicature while Hara (2006) thought of it as uncertainty implicature derived from the lack of an epistemic condition of speakers. However, these analyses cannot explain the judgment results from Experiment 3, which suggested that the felicity of a sentence as a proper answer in a given context is decided depending on the *-nun* marked item’s positioning. Based on these results, I suggest that *-nun* does not merely mark a topical status, but it generates implicit propositions for the “Mamma Mia” sentence with a scrambled word order as shown below.

- (17) [WH-context] Minu, Sora and Yeona went to watch Broadway musicals. Since I was also interested in the musicals, Mamma Mia, Wicked, and Hairspray, I asked our mutual friend.

Q: *kulayse, nwuka mwue-lul pow-ass-no?*  
 so who what-Acc watch-pst-whQ?  
 ‘So, who watched what?’

A: MAMMA MIA-NUN MINWU-KA poa-ss-e.  
 [MAMMA MIA-NUN] [MINU-Nom] watch-Pst-ind  
 ‘[<sub>B-acc</sub> MAMMA MIA], [<sub>A-acc</sub> MINU] watched it (for other musicals, this was not the case)’

- a. ‘As for Mamma Mia, Minu watched it.’  
**popular(m,mm)** - *At-issue meaning of (17A)*
- b. ‘There is a musical other than Mamma Mia, which someone other than Minu has watched.’  
 $\exists x \exists y$  [watched (x,y) & x ≠ m, y ≠ mm]  
 -*Existential Presupposition of (17A)*
- c. ‘No musical other than Mamma Mia has Minu alone watched.’  
 $\forall x$  [popular (m,x) → x = mm] -*Exhaustive Implicature of (17A)*

I suggest that the lexico-semantic function of *-nun* is to generate the existential presupposition (17b), which is absent in a normal sentence where “Mamma Mia” is marked by an accusative case marker *-lul* instead of *-nun*.<sup>8</sup>

<sup>8</sup> Whether the generation of exhaustive implicature (17c) is attributed to the existence of a pro-

The meaning of this presupposition is closely associated with the ‘contrast’ meaning that *-nun* generates. The existence of (17b) presupposes the existence of at least one alternative (either Wicked or Hairspray in (17)), which shares an open predicate ( $\lambda x.\lambda y. y$  watched  $x$ ’ in (17)) with the *-nun* marked constituent (Mamma Mia in (17)), and this open predicate is completed, being occupied by an alternative that has a different value ( $y \neq \text{Minu}$  in (17)) from the predicate of the *-nun* marked constituent. That is, the predicate that contains a variable (i.e., focus marked by a prosodic accent) forms a property of the *-nun* marked constituent and sets it up in a contrastive relation to its alternative. I describe it as a process in which the contrastive relation is realized using linguistic markings, a morphological *-nun* and a prosodic accent, and sets up a contrast structure in a sentence.

Previous research has already stated that the accented *-nun* has ‘contrastive’ meaning (Kuno 1972, C Lee 1999, Hara 2006, among many others). It is not new to simply identify the fact that the accented *-nun* has “contrastive” meaning. What is new in this argument is that the generation of ‘contrastive’ meaning cannot be attributed solely to the lexical meaning of the particle itself, and this finding differs from those in the previous research. I do not argue that the particle *-nun* itself has the ‘contrastive’ meaning, but rather it generates an implicit proposition that presupposes the existence of an alternative and the property of its alternative is restricted to have a different predicate value from the *-nun* marked item. In this system, the association between the accented *-nun* constituent and another prosodically accented item is essential. As such, I refer to them as “contraster” and “contrast trigger,” respectively. In the above conversation (17), “Mamma Mia” in the answer (17a) is a “contraster” and “Minu” is a “contrast trigger.” They are linguistically represented as follows.

- (18) a. Contraster: *-nun* marked, accented item  
 b. Contrast trigger: accented, not *-nun* marked  
 c. R: the syntactic complement of contraster minus contrast trigger

The constitution of the contraster, contrast trigger, and R reflects how the *-nun* marked item obtains its ‘contrastive’ interpretation. The contraster and its alternatives are the references (i.e., items) that contain the contrastive property. The unaccented constituents under the scope of *-nun*, i.e., the predicate following *-nun*, are called R, which applies to the contraster and its alternative(s) similarly. Lastly, the other accented constituent placed after the *-nun* phrase is called a contrast trigger. The contraster, contrast trigger, and R

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sodic accent (i.e., focus effect) or the existence of *-nun* can be a controversial issue. I am going to leave the discussion regarding the generation of this exhaustive implicature for future research.

are exhibited in the “Mamma Mia” example as follows. “Mamma Mia” and “Wicked and Hairspray” exhibit a contrastive relation; all three of them stand in a relation, R, of “being watched” by someone in a group of “Minu, Sora and Yeona,” but in the case of “Mamma Mia,” the watcher is “Minu,” while in the case of “Wicked” or “Hairspray,” the watcher is not “Minu” alone. The watcher can be “Sora,” “Yeona,” or all other possible combinations of these three people but never “Minu” alone. Since the contrast trigger comprises a part of the predicate of the contrastee, the contrastee is decided depending on the item that occupies the contrast trigger variable. Therefore, without the variable for the contrast trigger, the establishment of a contrastive relation between the contrastee, “Mamma Mia,” and its alternative, “Wicked” or “Hairspray,” is not possible. This explains why the accented *-nun* items should be followed by another focus. Furthermore, this reasoning also successfully explains the results of Experiment 3; why the *in situ* answer cannot be a proper answer to the provided wh-question that requires a pair-list reading. In the *in situ* answer, the contrastee, “Mamma Mia,” does not precede the contrast trigger, “Minu,” and thus, it cannot form an appropriate scope for pair-list reading between a group of musicals and a group of people. This explains the appearance of two prosodic peaks in the wh-question contexts and also successfully accounts for why the reversed order in which *-nun* does not precede the focused constituent does not yield a felicitous answer.

### 3.2.2. Verum Focus as a Contrast Trigger

Apparently, there is a case where the contrastee appears alone without a second occurring accent. The type of an answer for the y/n-question context in the above experiment appeared to correspond to this type as follows.

- (19) a. *MAMMA MIA-NUN*    *Minwu-ka boa-ss-e.*  
 [MAMMA MIA-NUN] Minu-Nom watch-Pst-Ind.  
 Minu Watched [<sub>B-accent</sub> MAMMA MIA] (but not other musicals).
- b. *Minwu-ka MAMMA MIA-NUN*    *boa-ss-e.*  
 Minu-Nom [MAMMA MIA-NUN] watch-Pst-Ind.  
 Minu Watched [<sub>B-accent</sub> MAMMA MIA] (but not other musicals).

In (19a) and (19b), which correspond to Figure 6 and Figure 7, respectively, only one prosodically meaningful pitch peak appeared. “Mamma Mia” has the prosodic peak and therefore it must be the contrastee in (19). However, the alleged contrastee “*Mamma Mia-nun*” is not followed by a prosodic accent, which should be the alleged contrast trigger. Not only is example (19) distinct in meaning from the previous cases that we have seen, but also it violates the constraint on the placement of the contrast trigger. As specified

in the previous section, the contrast trigger should be placed after the contrast.

I suggest that the apparent single occurrence of *-nun* can be unified as having the same underlying source construction as that seen in the normal contrast structure that appeared in the *wh*-question context. The location of the contrast trigger misleads us into suggesting two independent constructions.

If we carefully observe the meaning of the examples in (19), the expected contrast, “Mamma Mia,” does not lose its contrastive relation to its alternatives, “Wicked” and “Hairspray.” It is still contrastive to them in that it is watched by someone called Minu but “Wicked” or “Hairspray” is not. Here what changes is the relation *R* and the contrast trigger. *R* used to be “ $\lambda x. \lambda y. y$  watched  $x$ ” and the contrast trigger corresponds to the individual who watched the specific musical. In (19), *R* is “ $\lambda x$  (Minu watched  $x$ )” and a contrast trigger  $y$  corresponds to the positivity/negativity polarity (see “Verum Focus” in Romero & CH Han 2002). That is, the contrast trigger, the positive polarity marker, forms its alternative set,  $ALT(P) = \{\text{positive, negative}\}$ . The stipulation that a polarity item is the contrast trigger accounts for why the focus following the contrast is not found. We usually identify focus by recognizing the prosodic accent. When the accent cannot be found, the contrast trigger can be the polarity item. According to the discussion so far, what constitutes the contrast structure of the “Mamma Mia” example in the *y/n*-question context is as follows.

- (20) Contrast Structure of (19)
- a. Contraster: Mamma Mia
  - b. Contrast trigger: Polarity (positive)
  - c. *R*:  $\lambda x$  (Minu watched  $x$ )

The discussion in this section explains the prosodic pattern in the *y/n*-question context why only a single prosodic peak appears in this context contrary to the *wh*-question context, and why the syntactic positioning of the *-nun* marked constituent does not matter.

### 3.3. Conclusion

In this paper, we discussed the alleged contrastive topic in Korean based on a series of experiments. As described in the previous summary section, these experiments raised a couple of questions not addressed in the literature. The experimental results and the questions raised from them support the argument that *-nun* should be treated as a lexical item that generates an existential presupposition inducing an alternative contrastive proposition, not indicating the pragmatic category of Topic-hood. In the suggested system,

the contraster and its alternatives are evaluated regarding a property formed from a subsequent predicate. The contraster and its alternatives turn out to be contrastive since the reference of a *-nun* phrase and its alternatives have distinctive value, which is decided by another accented phrase that appears after the contraster. Here, the role of the combination of contrast trigger (plain focus) and its complement part, the relation, R, is important. They allow the contraster and its alternative to maintain the contrastive property. Accordingly, in the experiment, it appeared that the relative word order between the contraster and contrast trigger mattered and also the number of prosodic peaks differed depending on the context.

## References

- Büring, Daniel. (1997). The great scope inversion conspiracy. *Linguistics & Philosophy* 20, 175-194.
- Choi, Hye Won. (1997). Topic and focus in Korean: The information partition by phrase structure and morphology. H-M Sohn & J. Haig, eds., *Japanese/Korean Linguistics* 6. 545-561.
- Hara, Yuri. (2004). Implicature unsuspendable: Japanese contrastive *wa*. *Proceedings of Texas Linguistics Society* 8. Cascadilla Press.
- Hara, Yuri. (2006). Scope inversion in Japanese: Contrastive topics require scalar implicatures. E. Hudson et al., eds, *Japanese/Korean Linguistics* 13.
- Heycock, Caroline. (1993). Focus projection in Japanese. Merce Gonzalez, ed., *Proceedings of NELS*, 157-171.
- Heycock, Caroline. (2007). Japanese *wa*, *ga*, and information structure. Shigeru Miyagawa and Mamoru Saito. eds., *Handbook of Japanese Linguistics*. Oxford University Press.
- Jackendoff, Ray. (1972). *Semantic Interpretation in Generative Grammar*. MIT Press.
- Jun, Sun-Ah. (2009) Prosody in Sentence Processing. In P. Li (General Ed.), *Handbook of East Asian Psycholinguistics, Part III: Korean Psycholinguistics* (C Lee, G Simpson, & Y Kim, eds.). Cambridge University Press. 423-432.
- Krifka, Manfred. (2007). Basic notions of information structure. In C. Féry, G. Fanselow, & M. Krifka, eds., *The Notions of Information Structure*. Potsdam, 13-54. ([http://amor.rz.hu-berlin.de/~h2816i3x/Publications/Krifka\\_Information\\_Structure.pdf](http://amor.rz.hu-berlin.de/~h2816i3x/Publications/Krifka_Information_Structure.pdf)).
- Kuno, Susumu. (1972). Functional sentence perspective. *Linguistic Inquiry* 3.3, 269-320.
- Kuno, Susumu. (1973). *The Structure of the Japanese Language*. MIT Press.
- Lee, Chungmin. (1999). Contrastive topic: A locus of the interface evidence from Korean and English. In K. Turner, eds., *The Semantics/Pragmatics Interface from*

- Different Points of View (CRiSPI 1)*, Elsevier Science.
- Lee, Chungmin. (2000). Contrastive predicates and scales. *CLS* 36, 243-257.
- Lee, Chungmin. (2003). Contrastive (predicate) topic, intonation, and scalar meanings. In Chungmin Lee, Matt Gordon and Daniel Büring, eds., *Topic and Focus: Meaning and Intonation from a Crosslinguistic Perspective*. Kluwer.
- Pierrehumbert, Janet. (1980). *The Phonology and Phonetics of English Intonation*. Ph.D. Dissertation, MIT.
- Pierrehumbert, Janet and Hirschberg Julia. (1990). The meaning of intonational contours in the interpretation of discourse. In P.R. Cohen et al., eds., *Intentions in Communication*, 271-311. MIT Press.
- Romero, Maribel and Chung Hye Han. (2002). Verum focus in negative yes/no questions and Ladd's  $p/\neg p$  ambiguity. In Brendan Jackson, eds., *Proceedings of Semantics and Linguistic Theory XII*, 204-224, CLC Publications.
- Tomioka, Satoshi. (2000). Information structure and disambiguation in Japanese. In K. Megerdooimian and L. A. Barel, eds., *Proceedings of WCCFL 20*, 101-114. Cascadilla Press.
- Tomioka, Satoshi. (2006). Contrastive topics. Presentation given at International Conference of Information Structure (SFB 632), Universität Potsdam, June 7.
- Tomioka, Satoshi. (2008). Information structure as information-based partition. *Acta Linguistica Hungarica* 55, 309-317.

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