PROSODIC COMPENSATIONS FOR OMISSION OF PARTICLES IN KOREAN

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ABSTRACT

This study aims to investigate how absence of particles is compensated by prosody. The current study focuses on topic particle *-un/-nun,* subject particle *-i/-ka,* object particle *-ul/-lul,* and genitive particle *-uy* in Korean. In order to figure it out, an experiment was carried out, a sentence reading task, with thirty native speakers of Korean. The result indicates that (i) when the particle is omitted, the phrase ends with the biggest prosodic unit, IP, while it ends with a smaller unit, AP, when the particle exists; (ii) absence of particles leads to high pitch as a final tune, whereas the final tunes vary when a sentence has a particle; and (iii) subjects tend to lengthen the last syllable before the absent particle.

Nevertheless, not all particles compensate for the missing particle due to the exception of the genitive particle. The exception is accounted for by the frequency of particle omission. Since native speakers of Korean are used to dropping the genitive particle [8], there is little compensation for the absence of *-uy*. Moreover, the results of other particles indicate that there are slightly different degrees of compensation depending on which particle is omitted. In other words, more compensation occurs for missing topic particles, subject particles, and object particles in order, which is inversely related to the frequency of omission. That is to say, the less frequently particles are omitted, the more compensation is required.

Keywords: particles, prosodic compensation, degree of compensation, syntax-prosody interface

1. INTRODUCTION

Since it is the distinctive use of particles that is one of the most striking aspects of the Korean language, there have been several studies which have focused on this aspect. With regard specifically to the relationship between particles and prosody, some studies [10] have suggested that prosodic patterns vary depending on the syntactic structure. Additionally, according to Song [11], alternation of particles takes different prosodic features in Korean.

Nevertheless, correlations between prosody and omission of particles have been disregarded, even though particles are commonly dropped in casual speech in Korean [1, 7] (among others).

The purpose of this study is to investigate the ways in which absence of particles is made up for by prosody, including prosodic grouping, intonation contours, and lengthening. More specifically, the top three ranked particles *-uy, -ul/-lul, -i/ka* and *-un/nun* from S. Lee [8] are examined. This approach is based on syntax-prosody interface [9] where prosodic patterns are related to syntactic structures.

2. METHOD

2.1. Participants

An experiment was conducted with thirty native speakers of Korean. The participants consisted of 15 male and 15 female native speakers of Seoul Korean, and they attend graduate school at University of Hawai'i at Manoa.

2.2. Procedures and material

Subjects and interviewer read six dialogues twice, switching roles in the second reading in LAE lab at the University of Hawai'i at Manoa. There are three sets of two dialogues. Within a set, the two dialogues have the same contents, but the first dialogue leaves out half of the particles and the second drops the other half of the particles. Subjects were instructed the contents and situation of each dialogue before reading so that they could produce natural utterances for spontaneous data. They were allowed to start over in the reading as much as they wanted.

The examples in (1) demonstrate a sentence with particles and the same sentences when the particles are dropped. The only difference between (1a) and (1b) is the presence and absence of a subject particle *-ka* after a noun. The following two sentences were involved in different sets of dialogues:

(1) a. swukcey-**ka**   manh-ayo?
       homework-**NOM**   many-POL
       'Do you have a lot of homework?'

    b. swukcey- **Ø**   manh-ayo?
      Homework- **Ø**   many-POL
      'Do you have a lot of homework?'

All subjects were audio-recorded for the purpose of transcription and analysis. For labeling intonation, this study followed Jun's [3] convention of K_ToBI (Korean Tones and Break Indices) as shown below.

Intonational structure of Seoul Korean [3]
IP: Intonation Phrase   AP: Accentual Phrase
w: phonological word   σ: syllable
%: Intonation phrase boundary tone
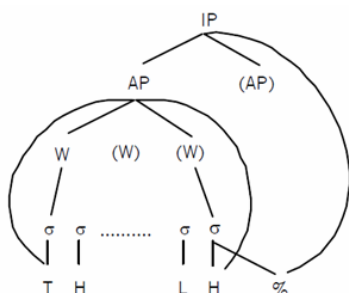
2.3. Particles and syntactic structures

As described earlier, according to Seong, et al. [11], prosodic patterns vary depending on syntactic factors, such as position of particles in a sentence, the sentence constituents, and the length of the sentence.

Therefore, the following criteria were used for data appropriate for analysis: (i) independent sentences only; (ii) particles in a sentence initial position, i.e., within the first two words; and (iii) a maximum of five words in a sentence. Also, since focus leads to dephrasing in Korean [6], one more criterion was added: (iv) no focus in example sentences. Out of 4380 sentences of the reading task, 720 sentences that fulfill these conditions were chosen and analyzed (24 sentences for each of thirty).

3. RESULTS

3.1. Prosodic Grouping

For prosodic phrasing, every two sets of phrases were compared and labeled either AP or IP. When a phrase drops a topic particle, every phrase takes IP with pause or lengthening, while the phrase ends with AP when it includes the topic particle. Also, 84% and 75% of subject particles and object particles are demarcated by IP respectively, which shows that absence of particles causes bigger

juncture after a phrase. This result is the same as my hypothesis predicted.

Yet, genitive particles appear to have different patterns, as only 30% of the data place IP as a prosodic unit. Rather, they have smaller junctures, which illustrated by AP. Figure 1 shows the result of prosodic grouping.

Figure 1: Prosodic grouping depending on absence (A) and presence of particles (B).

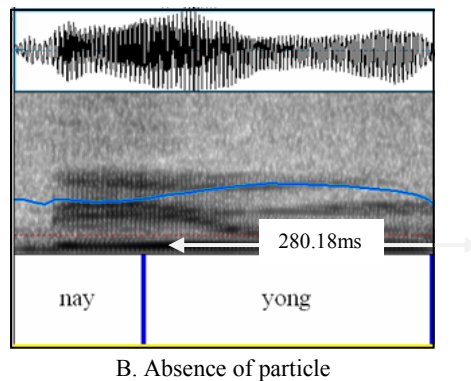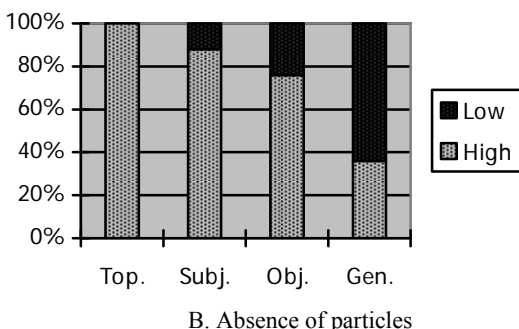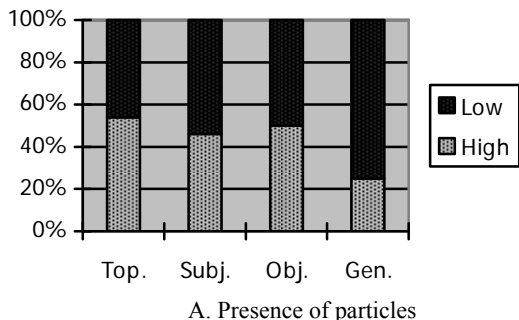A. Presence of particles

B. Absence of particles
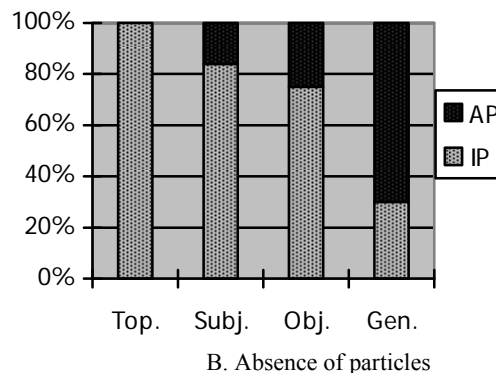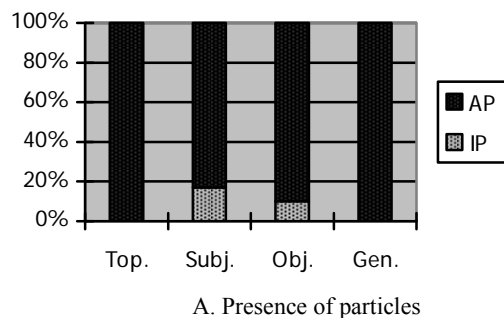
3.2. Final tunes

In terms of final tunes, according to Jun [3, 4, 5, 6], the final f0 pitch of AP varies between Ha and La, and IP takes one of nine boundary tones, L%, HL%, LHL%, HLHL%, H%, LH%, HLH%, LHLH%, and LHLHL%. However, as the present study aims to compare final tunes only, the emphasis was on H (high) or L (low) regardless of whether it was Ha or H%.

Subjects showed patterns similar to the results of prosodic grouping when particles do not exist. They had 100% of H tune for topic particles, 88% of subject particles, and 76% for object particles respectively. However, the final tune of genitive particles tends to go down to L for the absence, showing that only 36% of them are realized by H. The result of the final tune is illustrated below.
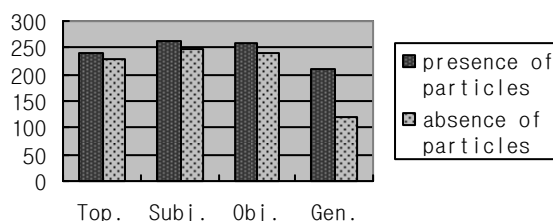
Figure 2: Final tunes depending on presence (A) and absence of particles (B).

A. Presence of particles

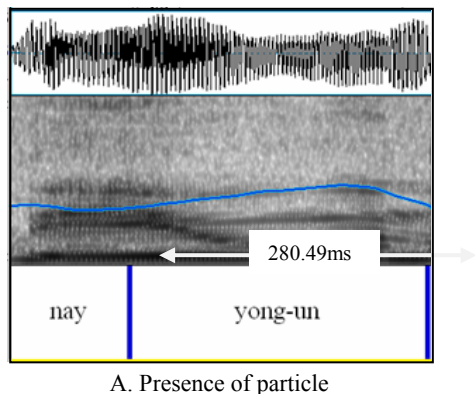

B. Absence of particles

3.3. Lengthening

In order to figure out the degree of lengthening, durations of last syllables in PRAAT were compared. More specifically, the lengths of the last two syllables including a particle were measured when the particle is present, and only the last syllable was considered when the particle was dropped. Interestingly, the result shows that the total duration of the two phrases is almost the same for topic, subject and object particles, which means there are compensations of lengthening for the omission of the particle.

For instance, in Figure 3, the duration of 'yong-un' in the first sentence is 280.49ms and 'yong' in the second sentence is 280.18ms.

Figure 3: Prosodic realization of two sentences.

A. Presence of particle

B. Absence of particle

When comparing durations of phrases with and without topic, subject, and object particles, the mean duration of each set demonstrates no significant difference, indicating that the participants extended the last syllables to fill in the positions of missing components. However, no lengthening was observed when genitive particles were dropped, which means that, in the result of lengthening, compensation does not occur for genitive particles.

The result for each particle is shown below.

Figure 4: Durations of final syllables depending on presence and absence of particles.
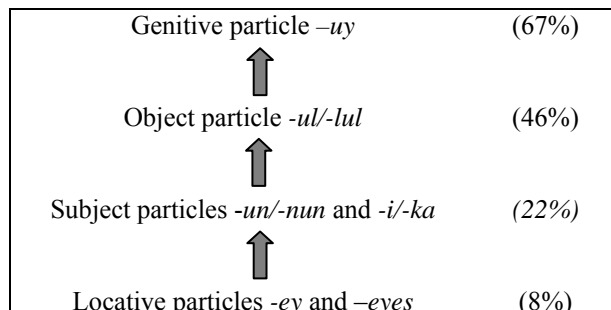

4. DISCUSSION

The result indicates that (i) when the particle is omitted, the phrase ends with the biggest prosodic unit, IP, which is illustrated by break-index 3, and it ends with a small unit, AP, when the particle exists; (ii) the absence of particles leads to high pitch as a final tunes, whereas the final tunes vary when a sentence has a particle; and (iii) subjects tend to lengthen the last syllable before the absent particle when the particle is dropped.

Nonetheless, not all particles will compensate for the missing particle due to the exception of the genitive particle. The exception is accounted for by the frequency of particle omission. Below is the frequency demonstrated by S. Lee [8].

In Figure 5, there were insertions of *-un/-nun* and *-i/-ka* in the same category of subject particle. However, the two particles generally have a

distinctive function and meaning in a sentence as a topic and subject respectively. Therefore, subject particles have been divided into two groups in this study: topic particle and subject particle.

Figure 5: Frequencies of omission of particles [8].

Genitive particle –*uy*	(67%)
⬆	
Object particle -*ul/-lul*	(46%)
⬆	
Subject particles -*un/-nun* and -*i/-ka*	*(22%)*
⬆	
Locative particles -*ey* and –*eyes*	(8%)

As seen above, the findings suggest that, in Korean, among subject, object, and genitive particles, genitive particles are the most frequently dropped. Thus, since native speakers of Korean are used to dropping the genitive particle, there is little compensation for the absence of –*uy*. Moreover, the results of other particles indicate that there are slightly different degrees of compensation depending on which particle is omitted. In other words, Figure 5 suggests that more compensation occurs for missing topic particles, subject particles, and object particles in order, which is inversely related to the frequency of omission. That is to say, the less frequently particles are omitted, the more compensation is required.

Figure 6 shows the inverse correlation between them. The direction of arrows refers to increasing frequencies.

Figure 6: The relationship between the frequency of omission and compensation.

Frequencies of omission		Frequencies of compensations	
Genitive particles Object particles Topic/Subject particles	⬆	Genitive particles Object particles Topic/Subject particles	⬇

5. CONCLUSION

In summary, this study shed light on how prosodic patterns vary depending on presence and absence of particles in two ways. First, Korean native speakers make up for omission of particles by creating a bigger juncture followed by a word, raising the final tune, and lengthening the last syllable. Second, there is an inverse relationship between compensation and frequency of omission

as they have a different degree of compensation according to the frequency of omission.

6. REFERENCES

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