

The Realization of Unaccentedness in Korean and Japanese Pitch Accent Systems

Hitomi Minamida
Cornell University

1 Introduction

1.1 *What is “accentedness”?* In lexical pitch accent languages such as Tokyo Japanese, the accent-
edness or unaccentedness of a word can be detected by looking at the interaction between the word and an
enclitic particle. Let us look at the two Tokyo Japanese words in (1). The acute accent symbol indicates
the location of pitch accent. The two words without an enclitic case particle in (1) have the same surface
melody although they are final-accented and unaccented, respectively. They get different surface melodies if
followed by a postnominal enclitic particle such as *-ga* ‘-NOM’. The final-accented word in (1a) has a pitch
fall because the pitch accent in Tokyo Japanese is realized as H*+L (Pierrehumbert & Beckman 1988). In
contrast, the unaccented word in (1b) does not have a pitch fall.

(1) *Tokyo Japanese*

- a. *Final-accented*
atamá (LHH) ‘head’ → atamá-ga (LHHL) ‘head-NOM’
- b. *Unaccented*
miyako (LHH) ‘capital city’ → miyako-ga (LHHH) ‘capital city-NOM’

(Haraguchi 1977: (1: 1c, 1d))

In this paper, I focus on the pitch accent system of Daegu/North Gyeongsang Korean (hereafter Daegu Korean), a variety of Korean with lexical pitch accent (Rah 1974, Kenstowicz & Sohn 1997, Jun et al. 2006, among others). This variety of Korean is different from Seoul Korean, which lacks lexical pitch accent (Jun 1993). Daegu Korean is rather similar to major varieties of Japanese such as Tokyo Japanese and Osaka Japanese (see e.g. Pierrehumbert & Beckman 1988) in terms of prosody.

There are two influential studies of Daegu Korean: Kenstowicz & Sohn (1997) and Jun et al. (2006). One claim made by these studies is that Daegu Korean lacks an unaccented class. Let us look at the four accent classes for Daegu Korean trisyllabic words as analyzed by Jun et al. (2006) in (2); I also added the surface melody of each class in isolation and with the enclitic case particle *-i/ka* ‘-NOM’ based on Son (2017).¹ Jun et al. assume that the pitch accent melody in Daegu Korean is H*+L as in Tokyo Japanese. One possible motivation for the claim that there are no unaccented words in Daegu Korean is the tone interaction between a final-accented word and an enclitic case particle. For example, *wenemín* ‘native speaker’ in (2c) shows a pitch fall with an enclitic case particle, parallel with final-accented words in Tokyo Japanese as we saw in (1a). If final-accented words were unaccented in the same way as Tokyo Japanese, the surface melody of *wenemín-i* ‘native speaker-NOM’ would be LLLH, which is not the case.

* I would like to thank John Whitman for weekly virtual and in-person meetings. I would also like to thank my (Daegu) Korean teachers Hankyul Kim and Seung-Eun Kim. Without their help, this project would have been impossible. Finally, I would like to express my gratitude to Michael Kenstowicz for stimulating discussion at AMP. Of course, all errors are my own.

¹ I use Yale Romanization for Korean examples (see Martin 1992) except for proper nouns.

(2) *Daegu Korean trisyllabic nouns*

- a. *Initial*
méynwuli (HLL) ‘daughter-in-law’ → méynwuli-ka (HLLL) ‘daughter-in-law-NOM’
- b. *Penult*
emwúi (LHL) ‘mother’ → emwúi-ka (LHLL) ‘mother-NOM’
- c. *Final*
wenemín (LLH) ‘native speaker’ → wenemín-i (LLHL) ‘native speaker-NOM’
- d. *Double*
óláypi (HHL) ‘older brother’ → óláypi-ka (HHLL) ‘older brother-NOM’

(Based on Jun et al. 2006: (1) and Son 2017: Tables 3 and 14)

Typologically speaking, however, the lack of an unaccented class is surprising because other lexical pitch accent varieties of Korean all have an unaccented class. For example, South Hamgyeong Korean (Ramsey 1978) and Yanbian Korean (Park 2001) have unaccented words. Looking outside Korean, lexical pitch accent varieties of Japanese such as Tokyo and Osaka Japanese also all have unaccented words (see e.g. Pierrehumbert & Beckman 1988). In addition, Kenstowicz & Sohn (1997) report that final-accented words without an enclitic case particle behave in a different way from the words from the other accent classes in phrasal contexts. Kenstowicz & Sohn also report that once final-accented words get an enclitic case particle, they show the same behavior as the words from the other accent classes. This suggests that the final-accented class in (2c) has different lexical status from the other accent classes.

1.2 My claim In this paper, I show that the final-accented class in (2c) is in fact unaccented, comparing Daegu Korean with Tokyo Japanese. Section 2 reprises the analysis of Tokyo Japanese prosody by Pierrehumbert & Beckman (1988) and summarizes Jun et al.’s (2006) analysis of Daegu Korean prosody. In Section 3, I show that final-accented words in Daegu Korean show similar phrasal prosody to unaccented words in Tokyo Japanese. Section 4 gives my proposed analysis of Daegu Korean prosody. In Section 5, I present other supporting facts, including Ramsey’s (1978) diachronic analysis of Korean and the prosody of enclitic particles and compounds. Section 6 concludes this paper.

2 Previous studies

This section reviews the intonational phonology (see Ladd 1996/2008) of Tokyo Japanese by Pierrehumbert & Beckman (1988) and Daegu Korean by Jun et al. (2006).

2.1 Tokyo Japanese (Pierrehumbert & Beckman 1988) Pierrehumbert & Beckman (1988) argue that Tokyo Japanese has three prosodic phrase levels above the Prosodic Word (PWd) level as shown in Figure 1. A PWd is a content word, optionally accompanied by bound morpheme(s). The definition of Accentual Phrase (AP) will be discussed shortly. As mentioned earlier, the pitch accent melody in Tokyo Japanese is H*+L, which is linked to the accented syllable; +L is realized a bit after the pitch peak H*. In Tokyo Japanese, the accent bearing unit is the syllable, while the tone bearing unit is the mora (McCawley 1968). Only the pitch accent H*+L causes downstep, which is reset at the beginning of each Intermediate Phrase (ip). In other words, only accented words function as downstep triggers in Tokyo Japanese. The domain for focus is also this level. Utterance (U) conveys sentence-type information with a final boundary tone.

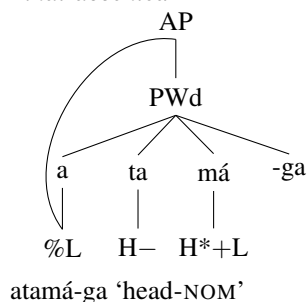
Utterance (U)	L% for declaratives and H% for interrogatives
Intermediate Phrase (ip)	Domain for downstep and focus
Accentual Phrase (AP)	%L and at most one pitch accent
Prosodic Word (PWd)	e.g. Noun + Enclitic particle(s)

Figure 1: Prosodic hierarchy of Tokyo Japanese (Pierrehumbert & Beckman 1988)

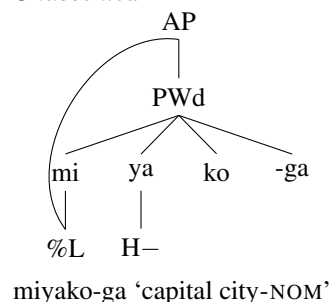
(3) illustrates the prosodic structure of the words in (1) at the AP level in Pierrehumbert & Beckman's (1988) framework. AP is defined as a prosodic unit with at most one pitch accent; the final-accented class in (3a) has a pitch accent, while the unaccented class in (3b) has no pitch accent. An AP begins with an initial %L boundary tone.² This boundary tone is secondarily linked to the first mora of the AP unless the first syllable of that AP is an accented syllable or a heavy and sonorant syllable. Tokyo Japanese also has a phrasal H– tone at the AP level, which is linked to the second mora of an AP unless the first or the second syllable is accented.

(3) *Tokyo Japanese at the AP level* (see (1))

a. *Final-accented*



b. *Unaccented*



In summary, the pitch accent melody H*+L is realized at the PWd level (= lexical), but the other tones (%L and H–) are realized at the AP level (= post-lexical) in Tokyo Japanese. The two H tones (H* and H–) are known to be different in pitch; H* has a higher F0 value than H– (Poser 1984, Pierrehumbert & Beckman 1988).

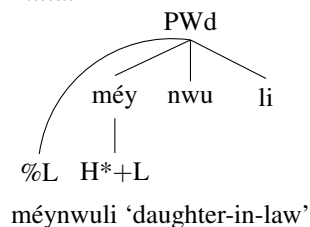
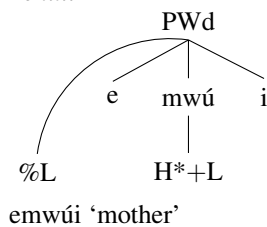
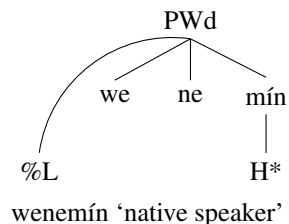
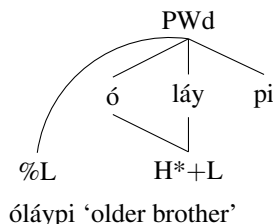
2.2 Daegu Korean (Jun et al. 2006) Jun et al. (2006) propose the prosodic hierarchy in Figure 2 for Daegu Korean. They claim that AP is not required in Daegu Korean because every PWd is accented and it is impossible to get an AP with more than one PWd; recall that one AP can have at most one pitch accent (see Section 2.1). In the prosodic hierarchy, ip is the domain for downstep and focus as in Tokyo Japanese, but ip is also the domain for upstep, an issue which will be discussed in the next section. Intonation Phrase (IP) is equivalent to U in Tokyo Japanese in Pierrehumbert & Beckman's (1988) framework.

Intonation Phrase (IP)	Equivalent to U in Tokyo Japanese
Intermediate Phrase (ip)	Domain for downstep, upstep, and focus
Prosodic Word (PWd)	%L and one pitch accent

Figure 2: Prosodic hierarchy of Daegu Korean (Jun et al. 2006)

(4) presents the prosodic structure of each accent class in (2) at the PWd level. The pitch accent melody in Daegu Korean is H*+L, but Jun et al. posit the rule that the trailing +L tone gets deleted when pitch accent is realized on the final syllable of a PWd as in (4c). Kenstowicz & Sohn (1997) make a similar proposal about the treatment of pitch accent in final-accented words in isolation. In the double-accented class, pitch accent is assigned to both the first and second syllables as in (4d). Daegu Korean is different from Tokyo Japanese in two respects, according to this treatment. First, each PWd, not AP, starts with an initial %L boundary tone. Second, no H– exists in Daegu Korean.

² More accurately, Pierrehumbert & Beckman (1988) claim that this L boundary tone is the AP-final boundary tone of the preceding AP, which can be secondarily linked to the first mora of the following AP. I treat this L boundary tone as an AP-initial boundary tone for simplicity.

(4) *Daegu Korean at the PWd level (adapted from Jun et al. 2006: (6))*a. *Initial*b. *Penult*c. *Final*d. *Double*

In summary, on Jun et al.'s (2006) approach, all the tones that appear in Daegu Korean (H^*+L and $\%L$) are lexical in Daegu Korean because they are realized at the PWd level. It is interesting to note that Jun et al. report that the H^* in non-final-accented words is higher than the H^* in final-accented words without an enclitic particle in F0 although they are both H^* in their analysis.

3 Large AP formation

In this section, I look at the phrasal prosody of Daegu Korean. I compare non-final-accented words in Daegu Korean as analyzed by Kenstowicz & Sohn (1997) and Jun et al. (2006) with accented words in Tokyo Japanese. I also compare final-accented words in Daegu Korean as analyzed in the two studies with unaccented words in Tokyo Japanese. The comparison shows us that final-accented words without an enclitic particle in Daegu Korean act like unaccented words in Tokyo Japanese.

3.1 Daegu Korean Kenstowicz & Sohn (1997) and Jun et al. (2006) examined the prosody of possessive (Noun + Noun) and OV (Noun + Verb) constructions in Daegu Korean. They found that Word2 is downstepped when Word1 is non-final. (5) is an example from Kenstowicz & Sohn (1997). Figure 3 is the corresponding schematized pitch track that I made based on the data in Kenstowicz & Sohn's pitch track. The dotted line in the pitch track indicates a word boundary. When Word1 is not final-accented, the peak F0 of Word2 undergoes downstep. Following Pierrehumbert & Beckman (1988), both Kenstowicz & Sohn and Jun et al. argue that this is because Word1 has a downstep trigger H^*+L as in Tokyo Japanese.

(5) *Word1 = Non-final, Word2 = Non-final → Downstep*

(Nwúna tangnákwi) íss-ta.
 sister donkey be-DECL
 '(There) is sister's donkey.'

(Kenstowicz & Sohn 1997: (4b))

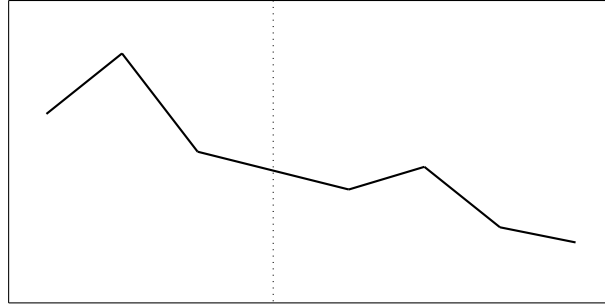


Figure 3: Downstep in Daegu Korean (see Kenstowicz & Sohn 1997: (4b))

Kenstowicz & Sohn (1997) and Jun et al. (2006) also found that Word2 is upstepped when Word1 is final-accented. (6) gives an example from Kenstowicz & Sohn (1997). Figure 4 is my own schematized pitch track of (6) based on Kenstowicz & Sohn's pitch track. In the combination of final-accented Word1 and non-final-accented Word2, the peak F0 of Word2 is higher than the peak F0 of Word1. This is what is called upstep in Kenstowicz & Sohn (1997) and Jun et al. (2006). In addition, an H-plateau is observable between the two PWds. The fact that final-accented words in isolation cannot trigger downstep made Kenstowicz & Sohn and Jun et al. posit an +L deletion rule for final-accented words without an enclitic case particle (see (4c)) because the bitonal H*+L is required for downstep. The +L deletion rule seems ad hoc, but a more serious problem is that Kenstowicz & Sohn and Jun et al. do not explain why the same rule does not apply to disyllabic double-accented words without an enclitic particle. Recall that Jun et al. propose that the trailing +L tone is deleted when the final syllable of a PWd is accented (see Section 2.2). The final syllable of a disyllabic double-accented word is also accented, but disyllabic double-accented words do trigger downstep, as Kenstowicz & Sohn and Jun et al. both report.

(6) *Word1 = Final, Word2 = Non-final* → *Upstep*

(Namwúl mek-nún-ta).
vegetable eat-NONPAST-DECL

‘(pro) eats the vegetable.’

(Kenstowicz & Sohn 1997: (6b))

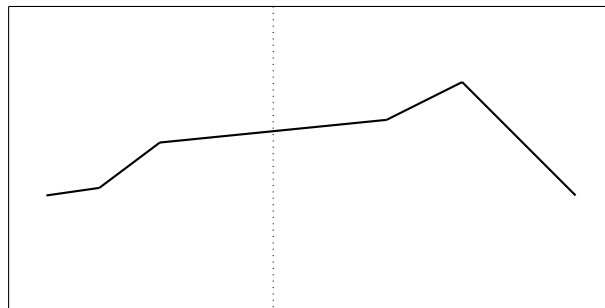


Figure 4: Upstep in Daegu Korean (see Kenstowicz & Sohn 1997: (6b))

Kenstowicz & Sohn (1997) observe that final-accented words become able to cause downstep once an enclitic case particle is attached to them. (7) is an example from their paper. Word1 is final-accented, but the whole PWd is not final-accented thanks to the enclitic case particle *-ul* ‘-ACC’. As a result, the pitch accent melody H*+L is now fully realized. Unlike in (6), Word1 *namwúl* ‘vegetable’ triggers downstep in (7) because it now has a downstep trigger H*+L.

(7) *Final + Enclitic case particle* → *Downstep*

(Namwúl-ul mek-nún-ta-ko) malháy-ss-ta.
vegetable-ACC eat-NONPAST-DECL-C say-PAST-DECL

‘(pro) said that (pro) eats the vegetable.’

(Kenstowicz & Sohn 1997: (8a))

3.2 Tokyo Japanese The findings by Kenstowicz & Sohn (1997) and Jun et al. (2006) are exactly what is observed in Tokyo Japanese. For example, Kubozono's (1993) experimental data showed that an unaccented PWd can form one large AP with the following PWd when there is no large syntactic boundary between the two PWds. This is not possible with an accented PWd. Let us look at the two schematized pitch tracks below, which are based on Vance's (2008) Figures 7-16 and 7-17.

Figure 5 is a schematized pitch track of an initial-accented disyllabic (or bimoraic) PWd, followed by a medial-accented trisyllabic (or trimoraic) PWd in Tokyo Japanese. The two PWds are never combined into a large AP when Word1 is accented. Word2 is downstepped due to the pitch accent H^*+L in Word1. In this figure, each PWd forms a separate AP because each AP has an initial %L boundary tone and at most one pitch accent in Tokyo Japanese (see Section 2.1). On my analysis, this pitch track corresponds to Figure 3 in Daegu Korean (Non-final + Non-final) because both PWds are obviously accented and a downstep effect can be observed in Word2 in the Daegu Korean example.

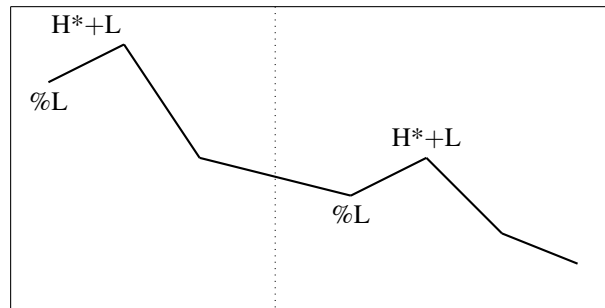


Figure 5: (_{AP} Accented) + (_{AP} Accented) in Tokyo Japanese (see also Vance 2008: Figure 7-17)

Figure 6 is a schematized pitch track of the combination of an unaccented disyllabic (or bimoraic) PWd and a medial-accented trisyllabic (or trimoraic) PWd in Tokyo Japanese, following Vance's (2008) schematized pitch track Figure 7-16. In this figure, the two PWds are concatenated into one AP because there is only one AP-initial %L boundary tone and there is only one pitch accent. There are two similarities between the Unaccented + Accented combination in Tokyo Japanese and the Final + Non-final combination in Daegu Korean, which we saw in Figure 4. First, there is an H-plateau connecting the two PWds. Second, the peak F0 of Word2 is higher than the peak F0 of Word1. Kenstowicz & Sohn (1997) and Jun et al. (2006) call this phenomenon upstep, but in Tokyo Japanese, this pitch difference can simply be attributed to the difference of tone types; the H^* in Word2 is just higher than the $H-$ in F0 (see Section 2.1).

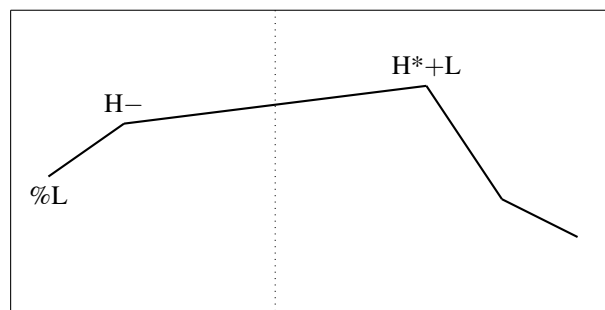


Figure 6: (_{AP} Unaccented + Accented) in Tokyo Japanese (see also Vance 2008: Figure 7-16)

4 My proposal

Given the fact that final-accented words in Daegu Korean as described by Kenstowicz & Sohn (1997) and Jun et al. (2006) behave like unaccented words in Tokyo Japanese, I argue that final-accented words in Daegu Korean are in fact unaccented. Figure 7 shows the prosodic hierarchy of Daegu Korean in my analysis. This prosodic hierarchy is almost identical to the prosodic hierarchy of Tokyo Japanese by Pierrehumbert & Beckman (1988) (see Figure 1). I have added the AP level because as we saw in Section 3, Daegu Korean appears to have a large AP formation process essentially identical to Tokyo Japanese. As in Tokyo Japanese, each AP starts with an initial %L boundary tone and can bear at most one pitch accent.

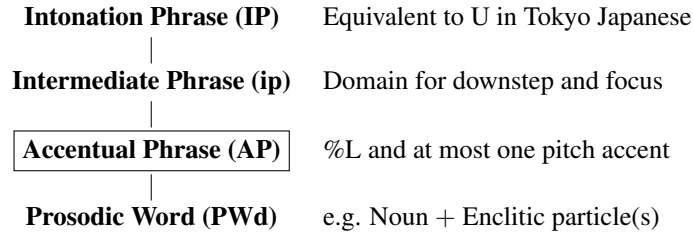
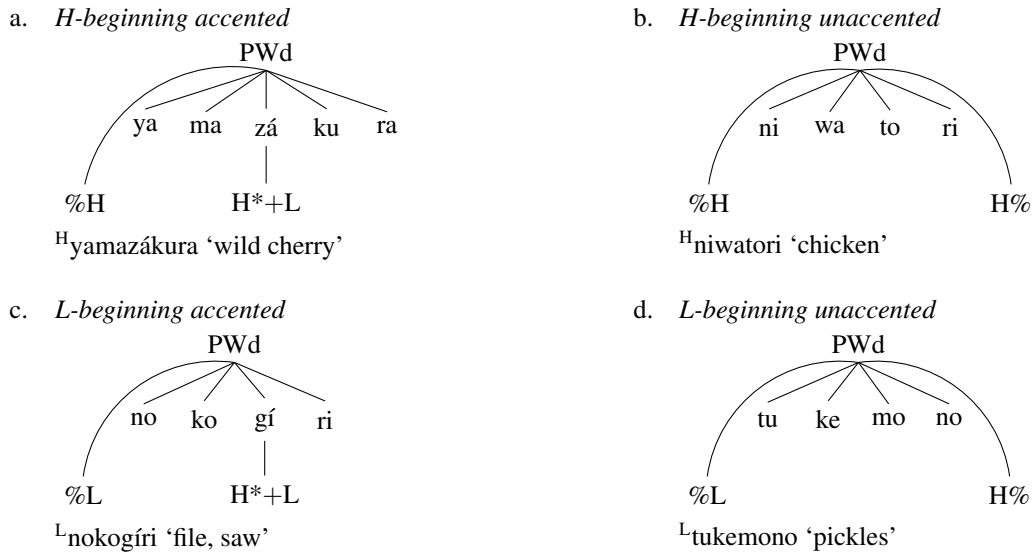


Figure 7: Prosodic hierarchy of Daegu Korean (my proposal; cf. Figure 2)

I also propose that unaccented PWds in Daegu Korean have a PWd-final H% boundary tone because an H tone appears at the end of each unaccented PWd in Daegu Korean. Cross-linguistically, unaccented PWds can have PWd-final boundary tones such as in Pierrehumbert & Beckman's (1988) analysis of unaccented PWds in Osaka Japanese. Osaka Japanese words are either accented or unaccented, but may be either H-beginning or L-beginning unlike in Tokyo-type varieties (see e.g. McCawley 1968, Haraguchi 1977, Kori 1987). Thus, Osaka Japanese has four accent classes: $2 \text{ (accented/unaccented)} \times 2 \text{ (H-beginning/L-beginning)} = 4$.

(8) presents the prosodic structure of each accent class of Osaka Japanese by Pierrehumbert & Beckman (1988). They propose that H-beginningness and L-beginningness are marked by a PWd-initial %H boundary tone and %L boundary tone, respectively. In (8), I marked H-beginningness and L-beginningness with a superscript ^H and ^L, respectively. In accented PWds such as (8a) and (8c), pitch accent H*+L is linked to the accented mora. Note that the accent bearing unit and the tone bearing unit are both the mora in Osaka Japanese (Kori 1987). Unaccented PWds such as (8b) and (8d) end in a PWd-final H% boundary tone. In Pierrehumbert & Beckman's treatment, Osaka Japanese has no post-lexical (AP-level) tones.

(8) *Osaka Japanese at the PWd level* (Pierrehumbert & Beckman 1988: Figure 8.9)

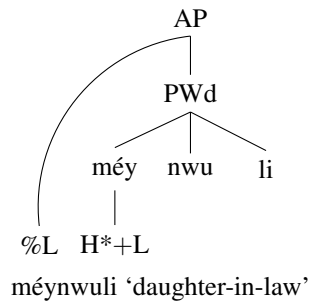


Pierrehumbert & Beckman (1988) assume that a downstep trigger is a lexical (PWd-level) HL sequence. This is why only the pitch accent H^*+L is a downstep trigger in Tokyo Japanese. Based on Kori's (1987) data, Pierrehumbert & Beckman posit that any HL sequence can cause downstep in Osaka Japanese because there are no post-lexical tones in this variety. For example, even the sequence of two L-beginning unaccented words (e.g. $\%LH\% + \%LH\%$) can trigger downstep because there is a lexical HL sequence in the middle.

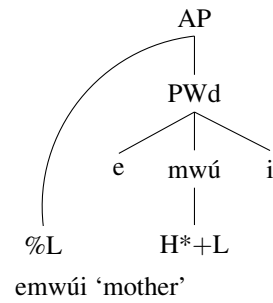
(9) shows my analysis of the prosodic structure of each accent class at the AP level in Daegu Korean. As mentioned, I posit an AP-initial $\%L$ boundary tone as in Tokyo Japanese and a PWd-final $H\%$ boundary tone for the unaccented class as in Osaka Japanese. In Daegu Korean, this PWd-final $H\%$ boundary tone can never be a downstep trigger because this tone is never followed by a lexical L tone.

(9) *Daegu Korean* (my analysis; cf. (4))

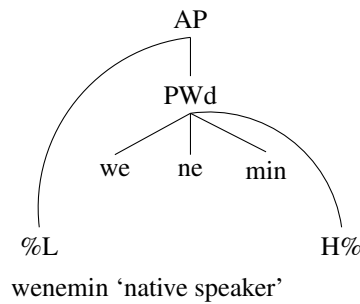
a. *Initial*



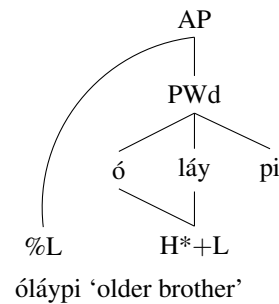
b. *Penult*



c. *Unaccented*



d. *Double*

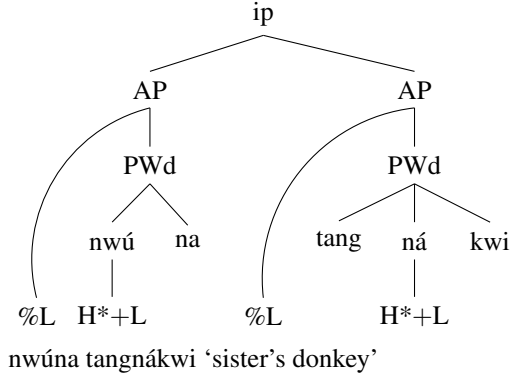


My analysis has two advantages over Kenstowicz & Sohn (1997) and Jun et al. (2006). First, Kenstowicz & Sohn and Jun et al. posit an $+L$ deletion rule for “final-accented” words in isolation because they cannot trigger downstep. Despite the fact that disyllabic double-accented words in isolation have an accented final syllable like “final-accented” words, they do trigger downstep, as observed by the two previous studies. The two previous studies cannot explain the difference, but my analysis can; the difference comes from accentedness and unaccentedness. Second, Kenstowicz & Sohn and Jun et al. posit an upstep rule in the combination of a “final-accented” word without an enclitic particle and a “non-final-accented” word, but my analysis does not require such a rule because the pitch difference can be explained just by the difference in the two types of H tones (H^* and $H\%$).

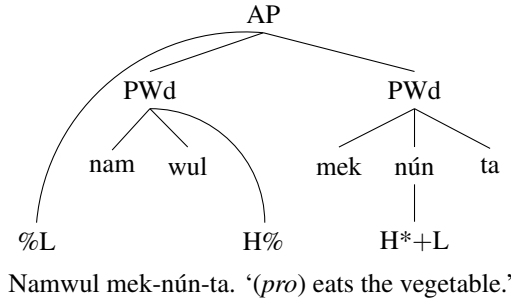
(10) illustrates the phrasal prosody of (5) (Accented + Accented) and of (6) (Unaccented + Accented) in Daegu Korean. (10a) consists of two APs because Word1 is accented. Word2 undergoes downstep in the ip, which is the domain for downstep, due to the pitch accent in Word1. In contrast, (10b) consists of one AP because Word1 is unaccented.

(10) *AP formation in Daegu Korean*

- a.
- Accented + Accented*
-
- Two APs*
- (see (5))

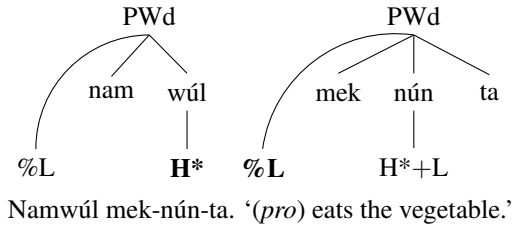


- b.
- Unaccented + Accented*
-
- Single AP*
- (see (6))



Recall that Jun et al. (2006) claim that Daegu Korean has an %L boundary tone PWd-initially, not AP-initially. This PWd-initial %L boundary tone would pose a serious problem, if we accept Pierrehumbert & Beckman's (1988) generalization that it is a lexical HL sequence that causes downstep. Let us compare my analysis of (6) in (10b) and Jun et al.'s analysis in (11). In (11), the H* tone in Word1 is lexical because it is part of a pitch accent. The H* tone is directly followed by a PWd-initial %L boundary tone, which is also lexical. On this approach, we predict that this HL sequence triggers downstep and that the pitch peak of Word2 is downstepped, contrary to fact.

- (11)
- "Final" + "Non-final" → Downstep???*
- (cf. (10b))



5 Other supporting facts

In this section, I show that the diachronic analysis proposed by Ramsey (1978) supports my claim that Daegu Korean lacks a final-accented class, but has an unaccented class. I also show that the prosody of enclitic particles and compound can be accounted for easily with my analysis.

5.1 The Gyeongsang Accent Shift (Ramsey 1978) Ramsey (1978) compared Middle Korean (15-16th century Seoul Korean), which was a lexical pitch accent language, and modern Gyeongsang Korean, which includes Daegu Korean. He showed that the location of pitch accent in Middle Korean is shifted one syllable to the left in modern Gyeongsang Korean. This predicts that there are no final-accented words in Daegu Korean. It also means that initial-accented words in Middle Korean are in fact “preaccented” in Daegu Korean in the sense of McCawley (1968). Following Kenstowicz et al. (2008), I assume that “preaccented” words are realized as double-accented words in Daegu Korean.

5.2 Enclitic particles Although Kenstowicz & Sohn (1997) and Jun et al. (2006) do not look at the prosody of postnominal enclitic particles in Daegu Korean in detail, some previous studies such as Rah (1974) and Son (2017) do examine the prosody of enclitic particles. As we saw in Section 3.1, unaccented words become accented with an enclitic case particle. Ramsey (1978) suggests that monosyllabic enclitic case particles in modern Gyeongsang Korean are all preaccented because they used to be accented in Middle Korean and underwent the Gyeongsang Accent Shift. Following McCawley’s (1968) analysis of preaccented enclitic particles in Tokyo Japanese, I analyze preaccentuation as pitch accent assignment to the preceding syllable. This happens to only non-PWd-initial morphemes such as enclitic case particles.³ PWd-initial double-accented morphemes are realized as double-accented morphemes.

My analysis can explain the Daegu Korean data from Son (2017) with only one rule: when there is more than one pitch accent in one PWd, only the first one survives as in Tokyo Japanese (McCawley 1968). (12) gives examples of the initial-accented noun *úli* ‘cage’ with various enclitic particles. In these examples, the pitch accent on the noun always appears on the surface because it is the first pitch accent in the PWd.

(12) *Accented noun + Enclitic particle(s)*

- a. + *Preaccented enclitic particle*
úli ‘cage’ + -‘ka’ -NOM → *úli-ka* ‘cage-NOM’
- b. + *Initial-accented enclitic particle*
úli ‘cage’ + -kkáci ‘until’ → *úli-kkaci* ‘until the cage’
- c. + *Initial-accented enclitic particle + Preaccented enclitic particle*
úli ‘cage’ + -kkáci ‘until’ + -‘nun’ -TOP → *úli-kkaci-nun* ‘until the cage-TOP’
- d. + *Unaccented enclitic particle*
úli ‘cage’ + -pota ‘than’ → *úli-pota* ‘than the cage’
- e. + *Unaccented enclitic particle + Preaccented enclitic particle*
úli ‘cage’ + -pota ‘than’ + -‘nun’ -TOP → *úli-pota-nun* ‘than the cage-TOP’

(Data from Son 2017: Table 15)

The data in (13) are more interesting. The noun *uli* ‘we’ is unaccented in my analysis. In (13a), the final syllable of the noun receives a pitch accent because of the preaccent of the enclitic particle, which makes the noun appear to be final-accented. (13b) is straightforward. The enclitic particle is initial-accented and it appears on the surface because it is the only pitch accent in the PWd. In (13c), there are two accented enclitic particles, but only the first pitch accent survives. The whole PWd in (13d) is unaccented because both the noun and the enclitic particle are unaccented. Finally, we have the case in (13e) where there are two enclitic particles, but only the second one is accented. Since the second enclitic particle is preaccented, the preceding syllable gets accented. The comparison between (12) and (13) tells us that the noun *uli* ‘we’ is unaccented because the location of pitch accent is unstable with enclitic particle(s).

³ Kenstowicz & Sohn (1997) report that preaccentuation always occurs when Word1 is final-accented (= unaccented in my analysis) and Word2 is double-accented. In contrast, Jun et al. (2006) report that they did not find preaccentuation in the Final + Double combination. There seems to be some inter-speaker variation.

(13) *Unaccented noun + Enclitic particle(s)*

- a. + *Preaccented enclitic particle*
uli ‘we’ + -‘ka ‘-NOM’ → ulí-ka ‘we-NOM’
- b. + *Initial-accented enclitic particle*
uli ‘we’ + -kkáci ‘until’ → uli-kkáci ‘until us’
- c. + *Initial-accented enclitic particle + Preaccented enclitic particle*
uli ‘we’ + -kkáci ‘until’ + -‘nun ‘-TOP’ → uli-kkáci-nun ‘until us-TOP’
- d. + *Unaccented enclitic particle*
uli ‘we’ + -pota ‘than’ → uli-pota ‘than us’
- e. + *Unaccented enclitic particle + Preaccented enclitic particle*
uli ‘we’ + -pota ‘than’ + -‘nun ‘-TOP’ → uli-potá-nun ‘than us-TOP’

(Data from Son 2017: Table 15)

5.3 Compounds Rah (1974) found that the two rules in (14) explain the compound accentuation of Daegu Korean, which also applies to enclitic particle accentuation.⁴ Rah assumes that Daegu Korean has a final-accented class as in Kenstowicz & Sohn (1997) and Jun et al. (2006) and that the double-accented class in Kenstowicz & Sohn (1997) and Jun et al. (2006) is preaccented.⁵ Table 1 is the summary of Rah (1974) given by Son (2017). The rule in (14a) is required to account for the case where the first element is final-accented and the second element is non-preaccented.

(14) *Rules for compound accentuation in Daegu Korean*

- a. When the first element is final-accented, the accent of the second element becomes the accent of the whole compound.
- b. When there are two accents in a compound, the first accent becomes the accent of the whole compound. (Rah 1974: 20–21; English translation by the author)

Element1	Element2	Accent
Non-final (e.g. óσ)	Any (e.g. óσ)	Element1 (e.g. óσσσ)
Final (e.g. σó)	Preaccented (e.g. ‘óσ)	Element1 (e.g. σóσσ)
Final (e.g. σó)	Non-preaccented (e.g. óσ)	Element2 (e.g. σσóσ)

Table 1: Compound accentuation in Daegu Korean (adapted from Son 2017: Table 4)

If we assume that final-accented words are in fact unaccented, we need only the rule in (14b) to explain the data in Table 1. Table 2 is the reanalysis of Table 1.

Element1	Element2	Results
Accented (e.g. óσ)	Any (e.g. óσ)	óσσσ
Unaccented (e.g. σσ)	Preaccented (e.g. ‘óσ)	σóσσ
Unaccented (e.g. σσ)	Non-preaccented (e.g. óσ)	σσóσ

Table 2: Reanalysis of Table 1

⁴ Rah (1974) assumes that enclitic case particles are unaccented, contra my analysis.

⁵ More precisely, Rah (1974) analyzes the double-accented class in Kenstowicz & Sohn (1997) and Jun et al. (2006) as preaccented underlyingly when the first syllable is long and as unaccented underlyingly when the first syllable is short because she posits a rule that underlying preaccent makes the first syllable long. Note that Rah takes into account the vowel length contrast on the first syllable unlike Kenstowicz & Sohn (1997) and Jun et al. (2006). Unaccented words eventually become preaccented after the vowel lengthening rule applies to underlying preaccented words because unaccented words have the HHL surface melody. For the sake of simplicity, I treat underlying unaccented words in Rah (1974) as preaccented.

6 Conclusion

In this paper, I showed that the final-accented class in Daegu Korean proposed by Kenstowicz & Sohn (1997) and Jun et al. (2006) is in fact unaccented by showing the similarities between “final-accented” words in Daegu Korean and unaccented words in Tokyo Japanese when they appear in phrases. My analysis is also supported by diachronic facts as analyzed by Ramsey (1978). My analysis has a number of advantages over these previous studies. First, the +L deletion rule and the upstep rule by Kenstowicz & Sohn (1997) and Jun et al. (2006) are no longer required. Second, my analysis can explain the prosody of enclitic particles and compounds in a simpler way than Rah (1974). There is one implication in my study. In most previous studies on pitch accent varieties of Korean and Japanese, only the tone interaction between words and enclitic particles was examined to determine the accentedness or unaccentedness of the words. In this paper, I looked at phrasal prosody to show the existence of an unaccented class in Daegu Korean. This demonstrates that phrasal prosody should also be considered to help identify the accentedness or unaccentedness of words.

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