The realization of unaccentedness in Korean and Japanese pitch accent systems

1. Background: In lexical pitch accent languages, accentedness of a word is detectable by looking at the tone interaction with particles. In Tokyo Japanese, for example, *atamá* 'head' (final-accented) and *miyako* 'capital' (unaccented) have the same surface melody LHH in isolation, but with a particle such as *-ga* '-NOM', they have different surface melodies (*atamá-ga* → LHHL vs. *miyako-ga* → LHHH) because pitch accent assigns H*+L to accented syllables (McCawley 1968, *a.o.*). Daegu (or North Gyeongsang) Korean has been claimed to have only accented words (Kenstowicz & Sohn 1997, Jun et al. 2006, *a.o.*: KSJ) because of the tone interaction between what KSJ call "final-accented" words and particles (Table 1). As in Tokyo Japanese, pitch accent in Daegu Korean assigns H*+L to accented syllables. "Final-accented" words end in an H tone when they are in isolation (e.g. /wənəmín/ 'native speaker'). In contrast, when they are followed by a case particle (e.g. /wənəmín-i/ 'native speaker-NOM'), the case particle receives the +L tone as in *atamá-ga* 'head-NOM' in Tokyo Japanese. KSJ found that "final-accented" words in isolation behave in a different way from the other accent classes in certain phrasal contexts, but that they behave in the same way as the other accent classes whey they are followed by a case particle.

	Initial	**Penult**	**Final**	**Double**
In isolation	/mé.nu.ɾi/ HLL 'daughter-in-law'	/ə.mú.i/ LHL 'mother'	/wə.nə.mín/ LLH 'native speaker'	/ó.ɾé.pi/ HHL 'older brother'
/-i/ka/ (-NOM)	/mé.nu.ɾi.ka/ HLLL	/ə.mú.i.ka/ LHLL	/wə.nə.mí.ni/ LLHL	/ó.ɾé.pi.ka/ HHLL

Table 1: Four accent classes in Daegu Korean (Jun et al. 2006; ´: pitch accent)

2. My claim: I show that KSJ's "final-accented" words are in fact unaccented. Diachronic facts due to Ramsey (1978) also support my analysis. The data below are from KSJ, Son (2017), and two native speakers of Daegu Korean. Every syllable in the words in this paper is specified with a tone for simplicity, but I assume that the actual surface melody is underspecified for tone (see e.g. Pierrehumbert & Beckman 1988 and Jun et al. 2006 for details).

3. AP formation, not upstep: KSJ found that Word2 is downstepped in the noun (Word1) + noun (Word2) construction (possessive construction) when Word1 is not what they call "final-accented". In /əmúi mináɾi/ 'mother's parsley', for example, both words retain their pitch accent and the melody of the whole phrase is LHL LHL, but the peak F0 of /mináɾi/ 'parsley' is reduced because of the H*+L in Word1. KSJ also found that Word2 is "upstepped" when Word1 is what they call "final-accented". In /namwə́n əmúi/ 'mother from Namwon', for example, the melody of the whole phrase becomes LH HHL, not LH LHL; the first syllable of /əmúi/ 'mother' changes to H. These findings are exactly the same as what happens to Tokyo Japanese. Kubozono (1993) observes that in Tokyo Japanese, an unaccented word and the following Prosodic Word (PWd) may form one large accentual phrase (AP), which contains at most one pitch accent and has an initial boundary tone %L (Pierrehumbert & Beckman 1988); on the other hand, an accented word cannot form one large AP with the following PWd. For example, ($_{AP}$ Hiroshima-no tamágo-to) 'Hiroshima-GEN egg-and' in Tokyo Japanese consists of one AP because *Hiroshima* is unaccented; the prosody of the AP is LHHHH HHLL, not LHHHH LHLL. In contrast, ($_{AP}$ Okáyama-no) ($_{AP}$ tamágo-to) 'Okayama-GEN egg-and' consists of two APs because *Okáyama* is accented and *Okáyama* triggers downstep (Ito & Mester 2013: (11)). Jun et al. (2006) claim that the AP level is missing in Daegu Korean, but positing AP in Daegu Korean explains the facts without positing an ad hoc process of upstep; /əmúi mináɾi/ 'mother's parsley' consists of two APs ($_{AP}$ əmúi) ($_{AP}$ mináɾi) while /namwən

əmúi/ 'mother from Namwon' consists of one AP ($_{AP}$ namwən əmúi). Jun et al. (2006) claim that an %L is inserted PWd-initially, not AP-initially, but this PWd-initial %L would pose a problem for their analysis. Pierrehumbert & Beckman (1988) claim that any HL sequence at the PWd level can be a downstep trigger. Thus, in the sequence of "final" + "non-final", the "non-final" word would undergo downstep, contrary to the fact, because "final" words have a lexical H at the end and "non-final" words have a lexical %L at the beginning.

4. Focus: KSJ observe that "final-accented" words cannot be prosodically focused. When /əmúi/ in /əmúi mináɾi/ ("non-final" + "non-final") 'mother's parsley' is semantically focused, it is also prosodically focused; the peak F0 of /əmúi/ 'mother' is raised. In contrast, when /namwón/ in /namwón əmúi/ ("final" + "non-final") 'mother from Namwon' is semantically focused, /əmúi/ 'mother' undergoes "upstep" and receives the prosodic peak. This is exactly what is found in Tokyo Japanese (Pierrehumbert & Beckman 1988, *a.o.*). When the first accented word in the sequence of [accented + accented] is semantically focused, the peak F0 value of that word is boosted. When the unaccented word in the sequence of [unaccented + accented] is semantically focused, it forms an AP with the following accented word and the peak appears in the accented word due to the lack of pitch accent in the unaccented word (see also Kim & Jun 2009 for South Gyeongsang Korean).

5. Gyeongsang accent shift: Middle Korean (15–16th century) was a lexical pitch accent language. Ramsey (1978) showed that the location of pitch accent in Middle Korean is shifted one syllable to the left in modern Gyeongsang Korean, which includes Daegu Korean. For example, final-accented words in Middle Korean are now penultimate-accented in Gyeongsang Korean (e.g. /minaɾí/ (LLH) → /mináɾi/ (LHL) 'parsley'). We predict the absence of final-accented words in Daegu Korean.

6. Particles: The tone interaction between KSJ's "final-accented" words and particles and the fact that "final-accented" words with a case particle behave like accented words can be explained by Ramsey's (1978) claim that monosyllabic case particles in modern Gyeongsang Korean are all "preaccented"; they were accented in Middle Korean. Following McCawley's (1968) analysis of Tokyo Japanese, I analyze preaccentuation as pitch accent assignment to the preceding syllable and assume that when there is more than one pitch accent in one PWd (N + particle), only the first one survives. I also assume that unaccented words have a PWd-final H% boundary tone when there is no pitch accent (e.g. /wənəmin/ (LLH) 'native speaker') as in Osaka Japanese (see Pierrehumbert & Beckman 1988). My analysis can explain the data from Son (2017) in (1–3). The noun in (a) is /úɾi/ 'cage' (initial), while the noun in (b) is /uɾi/ 'we' (unaccented = KSJ's "final"). The particles in (1), (2), and (3) are /-ˊka/ '-NOM' (preaccented), /-k'átʃi/ 'until' (initial), and /-pota/ 'than' (unaccented), respectively. In (1a) and (2a), the pitch accent on the noun survives because it is the first one. In (1b) and (2b), on the other hand, the pitch accent on the particle survives because the noun is unaccented. In (3a), the only one pitch accent on the noun appears on the surface. In (3b), the PWd-final syllable is realized with an H tone because the whole PWd is unaccented.

(1) a. /úɾi/ + /-ˊka/ → /úɾi-ka/ (HLL) b. /uɾi/ + /-ˊka/ → /uɾí-ka/ (LHL)

(2) a. /úɾi/ + /-k'átʃi/ → /úɾi-k'atʃi/ (HLLL) b. /uɾi/ + /-k'átʃi/ → /uɾi-k'átʃi/ (LLHL)

(3) a. /úɾi/ + /-pota/ → /úɾi-pota/ (HLLL) b. /uɾi/ + /-pota/ → /uɾi-pota/ (LLLH)

7. Conclusion: "Final-accented" words in Daegu Korean are in fact unaccented words. Phrasal prosody helps us identify the accentedness or unaccentedness of a word.

References: Ito & Mester 2013. *Lingua.* Jun et al. 2006. *JEAL.* Kenstowicz & Sohn 1997. Focus... Kim & Jun 2009. Prosodic structure... Kubozono 1993. The organization... McCawley 1968. The phonological... Pierrehumbert & Beckman 1988. Japanese... Ramsey 1978. Accent and... Son 2017. *Kankokugo...*