Exploring the prosody-syntax-focus interface in Yanbian Korean

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Introduction: Prosodic Phrasing

- Grouping of words marked by (supra)segmentals
- Different sizes of phrasing: prosodic units
- Prosodic units are hierarchically organized

Factors affecting prosodic phrasing

- Factors affecting prosodic phrasing
  - syntactic structure
  - information structure: focus
  - phonological weight (length of the phrase)
  - pragmatic and discourse information: old vs. new info
  - speech rate

Factors affecting prosodic phrasing (continued)

- AP tonal pattern is “LH LH” or “HH LH”. Two AP-medial tones (labeled +H and L+ in Korean-ToBI (Jun 2000)) are optional
- When AP-final syllable is also ip-final or IP-final syllable, a higher unit’s boundary tone overrides a lower unit’s boundary tone
- Downward AP peaks within an ip
- Pitch range expansion by raising H tones in AP (H on the 2nd syllable, labeled as +H, or H on the final syllable, Ha in K-ToBI)
- Both ways of pitch reset define an ip

Syntax-marking vs. prominence-marking

- Prosodic phrasing provides information on
  - Syntactic structure
  - Prominence relations among words
- So far more attention given on the presence/absence of prosodic phrasing, and not much on the nature of prosodic phrasing
- Do the syntax-marking vs. focus-marking prosodic phrases have the same phonological properties?
- See the Intermediate Phrase (ip) in Seoul Korean

Intonation of Seoul Korean


Intermediate Phrase (ip) in Seoul Korean

- ip can have one or more APs.
  - AP tonal pattern is “LH LH”, or “HH LH”. Two AP-medial tones (labeled +H and L+ in Korean-ToBI (Jun 2000)) are optional
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  - Downward AP peaks within an ip
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  - Both ways of pitch reset define an ip
Ex. Korean AP realizations in one ip/IP

Youngman’s family hates YoungA

Intermediate Phrase (ip) in Seoul Korean

- Two types of ip (Jun 2011)
  - ip-foc: marks focus
    - A focused word starts a new ip by pitch reset (raising +H; if no +H, by raising Ha)
    - No phrase-final lengthening on the preceding ip-final syllable
  - ip-syn: marks a syntactic group
    - The right edge of the group is marked by H- boundary;
    - L- is also possible but less frequent
    - The last syllable of ip is often slightly lengthened

Two types of ip in Seoul Korean

- ip-foc: marks focus
  - by +H
- ip-syn: marks syntactic grouping
  - by H-

Examples of ip-foc: narrow focus on ‘with UNCLE’; starts an ip by raising +H, followed by (phonetic) dephrasing

Examples of ip-syn (neutral focus): In RC+NP1+NP2, the end of RC is marked by H- boundary tone, higher than preceding AP-final Ha
Ex of ip-foc and ip-syn: Focus on embedded, complex NP object
ip break before focused word and also at the end of embedded clause

Answer to “Who does Mina like to meet the most?”

미나는 누구누구누구누구를 만나는걸 제일좋아해요

“Mina likes [meeting [Yeona’s tutor]] the most”

Prosodic phrasing in Yanbian Korean
-- in collaboration with --
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Yanbian Korean: Background (Jung 1995, Kim, Y. 2011)

- Yanbian Korean Autonomous Prefecture in Mainland China (since 1955).
  - red color area on the map (eastern Jilin Province, northern Hamgyong Province of North Korea)
  - ~2.71 million as of 2010 (~37.7% ethnic Koreans)
- Official languages: Korean (Yanbian dialect) & Mandarin
- Data collected in Yanji, the capital city of Yanbian
  - 12 speakers (3 male) in their 20s–30s


- a variety of Hamgyong dialect, a tonal (lexical pitch accent) dialect
- Tonal pattern of word:
  - monosyllabic words: H or L
  - disyllabic words: HL, LH, L(H)
  - trisyllabic words: HLL, LHL, LLH, LL(H)
  - 4 syll or longer nouns: H on word-final or penultimate syllable
- Phonological word (lexical item + case marker/postposition) is realized with one lexical H tone
  - all content words are lexically accented
  - some case marker/postpositions are also lexically accented
  - when multiple morphemes form one phonological word, only the last morpheme’s H tone survives for nouns, but for verbs, the initial morpheme’s H tone tends to survive.

Intonation of Yanbian Korean

- Each word can form one Accentual Phrase (AP) in careful speech but an AP often has more than one word.
- An AP can have one lexical H (H*) or an AP-final H boundary tone (Ha) or both, but cannot have two lexical H’s
  - H* tends to be higher than Ha
  - Ha is sometimes realized as mid H
- AP formation when a noun is a syntactic head
  - In casual speech, prenominal modifiers (e.g., adjective, possessive N, relative clause) can form one AP with the following head noun
  - In these cases, only the head noun’s lexical H survives
  => rightmost H dominant

Intonation of Yanbian Korean

IP: Intonational Phrase
ip: Intermediate phrase
AP: Accentual Phrase
w: phonological word
s: syllable
s*: lexically marked
H*: lexical pitch accent
\( s^* \): lexically unmarked (for I-foc)
Ha: AP-final boundary tone
T-: H- or L-ip boundary tone
\( \% \): IP-final boundary tone

In Yanbian Korean, the capital city of Yanbian

- 12 speakers (3 male) in their 20s–30s
Neutral focus: each word can form one AP, marked by one lexical H (H*).

Ex. 1: prosodic phrasing ((/[AP]/[AP])/[AP]) / ([AP]/[AP]) / ([AP])/[AP]

"A child who is dancing envies an adult who is singing"

Ex. 2: S O V – all new; H* (lexical H) and Ha (AP-final H boundary)

Youngmin hates Changmin’s family.

Ex. 3: “PossN + N” forming one AP by deleting Possessive N’s lexical H

Young-hates Youngman vs. Young-hates Youngman’s sister.

Ex. 4: “Adj. & Noun” in separate APs vs. in one AP

"The child-top/fierce daughter-in-law-

Ex. 5: “Relative clause + complex NP” in one AP

"(My) colleague’s wife who is hospitalized is my brother’s friend.”

Ex. 6: “Relative clause modifies NP1 of complex NP head

"I heard the sister of the actress who is on stage is my friend’s girlfriend."

(when it means: ‘the actress, not the sister, is on stage’)

Apologies for the noise in the audio.

Spk F4
Focus intonation in Yanbian Korean

- Three ways to mark narrow focus by prosody
  - Focused word shows pitch range expansion by its lexH or Ha and post-focus word(s) lose their H
    - focal word starts a new phrase; leftmost H dominant
      1. using lexical H of the focused word is the most common
      2. using Ha of the focused word is 2nd most common
  - No pitch range expansion: the least common.
    - put stress on the initial syllable of the focused word without realizing lexical H or Ha. This happens most often when focusing a modifier immediately preceding a head noun. In this case, the lexical H of the head noun is realized.

Ex.7. “Relative clause modifies NP2 of complex NP head

“I heard the actress’s sister who is on stage is my friend’s girlfriend.”

(on stage) actress’s sister nom my friend’s girlfriend (he) heard.

Ex.8. Topic NP + [n][V] + [IO] + DO + V

>> phrasing: (Topic) (DO) (n)V (IO) (V)

“I heard Youman gave a diamond to Myungee who likes a ring.”

Youngman-NOM a ring ACC like Myunghee-DAT diamond ACC give (he) heard.

Ex.9. Topic NP + DO + [n][V]IO] + V

>> phrasing: (Topic) (DO) (n)V (IO) (V)

“I heard Youngman gave a ring to Myungee who he likes.”

Youngman-TOP a ring ACC (he) likes Myunghee-to give (he) heard.

Ex.10. focus on Adj.: raise Adj.’s lex H and delete post-focus H’s.

“The daughter-in-law (the active child)”  

neutral focus on Adj.

Ex.11. focus by raising Ha

“(My colleague’s wife who is hospitalized is my brother’s friend.”

neutral focus on Adj.

(by Ha)
Ex. 12. focus by emphasizing a focused word’s initial syllable

focus on wd3

focus on wd4, Head N

AP formation including a Verb

- AP formation when a verb is a syntactic head
  - In casual speech, preverbal items form one AP in two ways
  - Object Noun and Verb tend to form one AP.
    - In that case, only the object noun’s lexical H survives \(\Rightarrow\) the leftmost H dominant
  - Adverb + Verb \(\Rightarrow\) the directionality of the dominance depends on the type of adverb (e.g., degree adverb or time adverb).
- Given that focused AP is leftmost H dominant, the AP formation of ‘Object + Verb’ suggests that the preverbal object is focused in Yanbian Korean, supporting the literature on syntactic typology (e.g., Greenberg 1966, Daxso 1974, 1982, Kim 1988, Choi 1996)

Ex. 13. Object N + Verb in one AP: neutral vs. focus on Obj.

“The child sent Koala to the daughter-in-law.”

The child to the daughter-in-law Koala

Summarize of Yanbian Korean prosodic phrasing

- In neutral focus condition,
  - a ‘modifier + head noun’ structure, noun’s lexical H survives \(\Rightarrow\) right-dominant in AP
  - an ‘object N + verb’ structure, object N’s lexical H survives \(\Rightarrow\) left-dominant in AP
- In narrow focus condition,
  - Regardless of syntactic structure, a focused word begins an AP and ‘leaf’ or ‘Ha’ of the focused word is realized and the following word(s) lose their H \(\Rightarrow\) left-dominant (for ‘initial stress’, post-focus words do not lose their H)
- The default prosodic phrasing of ‘object N + v’ being left-dominant suggests the preverbal object is a prominent position.

Discussion

- Common between Seoul Korean and Yanbian Korean
  - Both syntax and focus affects prosodic phrasing
  - Focus-marking prosodic phrase differs from syntax-marking prosodic phrase phonologically
  - In both varieties, focus-marking phrasing is cued by raising the H tone on the focused word even though the phonological status of the H tone is different between these two varieties
syntax-marking vs. focus-marking prosodic phrase in other languages

- The effect of syntax on prosodic phrasing seems to be similar across languages by matching boundaries of major syntactic units with the boundaries of prosodic units (e.g., Nespor & Vogel 1986/2007; Selkirk 2000, 2011; Truckenbrodt 1999)

- But, languages differ in ways to mark prominence prosodically
  - Head prominence vs. edge-prominence in prosodic typology (Jun 2005, 2014)

Types of prominence marking (Jun 2005, 2014)

- **Head-prominence language**
  - e.g., English, German, Greek, Spanish
  - word-prominence is cued by pitch accent on the 'head' (stress or lexical pitch)
  - a focused word receives nuclear pitch accent, the most prominent word ('head') in a phrase.

- **Edge-prominence language**
  - e.g., Korean, Mongolian, W. Greenlandic
  - has no lexical prosody. Word-prominence is cued by phrasal tones, marking the edge(s) of a word.
  - a focused word comes at the beginning/end of a larger phrase.

- **Head/edge-prominence language**, combination of head- and edge-prominence e.g., French, Bengali, Turkish, Georgian

Syntax vs. prominence marking in head- & edge-prom lgs

- In (Seoul) Korean-type edge-prominence languages, both syntax and prominence are marked by prosodic phrasing.

- In English-type head-prominence languages, prominence is marked by pitch accent while syntactic structure is marked by boundary tone.
  - Focus removes a phrase boundary after a focused word but in general does not create a new prosodic phrase boundary at the edge of a focused word.
  - Therefore, less interaction in prosodic phrasing due to its function (syntax vs. focus-marking)

- In head/edge-prominence languages (e.g., Bengali, Yanbian Korean)

Syntactic structure influences prosodic phrasing in English (head-prominence language)

Ex. The child with asthma // outgrew the condition // last year.
One IP (L%), three ip's (L-)

Focus in English by putting a Nuclear pitch accent on the focused word, i.e., by deleting pitch accent and prosodic boundary after focus

Ex. The child with **ASTHMA** outgrew the condition last year.
One IP, one ip

Discussion (cont)

**Head/edge-prominence language**

- ex. Bangladeshi Bengali (Khan 2008, 2014)

- syntactic grouping is marked by an ip boundary tone
- word prominence is marked by pitch accent on a stressed syllable (typically L') and AP-final boundary tone (typically Ha)
- focus is marked in three ways depending on the type of focus
  - L'+H pitch accent for corrective/wh-answer focus
  - H+Ha boundary tone for encliticized focus
  - Thus, focus affects the f0 height of pitch accent or AP-boundary tone, but a focused word does not start or end a big phrase. It could only affect phrase boundaries after focus, as in English.

- ex. Kolkata Bengali (Hayes & Lahiri 1991)

- word prominence by pitch accent L'
- focus is marked by inserting a H boundary tone after the focus domain.
Conclusion

- Prosodic phrasing is influenced by syntax and focus in Yanbian Korean, similar to Seoul Korean.
- In both Seoul and Yanbian Korean, intonational marking of prosodic phrase differs when it marks syntactic grouping vs. focus.
- In both dialects, focus is marked by phrase-initial H.
- Syntactic grouping is marked by phrase-final H boundary tone in Seoul, but in Yanbian, it is influenced by the type of syntactic head.
- Furthermore, only prominence-marking prosodic phrase shows pitch range expansion phrase-initially, followed by pitch range compression.
- This intonational difference in prosodic phrasing is expected to occur in languages where prominence is marked by edge, but not by head.
- More research needed to confirm this prediction across languages.

References

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- This intonational difference in prosodic phrasing is expected to occur in languages where prominence is marked by edge, but not by head.
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