

The same generalizations in three different accounts of North Kyungsang Korean prosodic phrasing

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No-Ju Kim. 2004. The same generalizations in three different accounts of North Kyungsang Korean prosodic phrasing. *Studies in Phonetics, Phonology and Morphology* 10.1. 111–128. Since N. Kim (1997, 2000), at least two additional papers on North Kyungsang Korean prosodic phrasing have come out by two scholars: Sohn (2001) and S. Kim (2002). Sohn (2001) deals with five generalizations proposed in N. Kim (1997). In addition, S. Kim (2002) deals with three of the generalizations proposed in N. Kim (1997, 2000). Readers can now encounter three different researchers' works on the same phenomenon in the same dialect and arriving at the same generalizations. Because of these similarities as well as a lack of explicit recognition of previous studies, it is very hard for readers to judge by whom, when, and where the generalizations have been made first. This paper shows that the generalizations are made explicitly in N. Kim (1997, 2000) first. Since, despite the similarities, Sohn (2001) and S. Kim (2002) propose accounts different from N. Kim (1997, 2000), there still remains a question of which account is more elegant. This paper shows that N. Kim's account is more adequate than Sohn (2001), which uses the three problematic constraints, Maximum Binarity, Wrap-XP, and Align-XP, and S. Kim (2002), which proposes a serial rule-based analysis. (**Kyungpook National University**).

Keywords: Prosodic Phrasing, S-phrases, P-phrases, Phrase Minimality, Phrase Maximality, Hierarchical Alignment at Phrase, Align (Ph, r; l, r)

1. Introduction

The procedure of defining prosodic phrases (P-phrases) based upon syntactic phrases (S-phrases) is called 'prosodic phrasing'. Because there is no one-to-one correspondence between S-phrases and P-phrases, defining P-phrases with reference to S-phrases is critical in phrase-level phonology. In her 1988 dissertation, G. Kim conducts pioneering research on prosodic phrasing in North Kyungsang Korean (NK Korean) and makes two proposals, one for unfocused P-phrases and the other for focused P-phrases, as will be discussed in section 2.1. Eight years after G. Kim (1988), Kenstowicz and Sohn (1996) adds one additional generalization to G. Kim's work showing that when focus is given to a word, the focused word and the word in the following P-phrase constitute a new P-phrase.

The observations made by these two studies are correct in general. However, both studies deal with S-phrases which are limited in length, i.e., they treat S-phrases which consist maximally of three words. Hence, they encounter problems in dealing with syntactic structures in which the length of the complement is longer than two words. Expanding on their work by dealing with a wide range of syntactic configurations with no limit on length and including recursion, embedding, and coordination, N. Kim (1997, 2000) makes several new generalizations that can be accounted for by a set of constraints in Optimality Theory (OT), which will be discussed in section 2.2.

After N. Kim (1997, 2000), at least two additional papers on NK Korean prosodic phrasing have come out by two scholars: Sohn (2001) and S. Kim (2002). Using the OT framework, Sohn (2001) makes five generalizations that are the same as those proposed in N. Kim (1997). In addition, S. Kim (2002) makes three generalizations but they are again the same as those proposed in N. Kim (1997, 2000).

Readers can now encounter three different researchers' works on the same phenomenon in the same dialect and arriving at the same generalizations. Because of these similarities as well as a lack of explicit recognition of previous studies, it is very hard for readers to judge by whom, when, and where the generalizations have been made first. This paper shows that the generalizations are made in N. Kim (1997, 2000) first. Since, despite the similarities, Sohn (2001) and S. Kim (2002) propose accounts different from N. Kim (1997, 2000), there still remains a question of which account is more elegant. This paper shows that N. Kim's account is more adequate than Sohn (2001), which uses the three problematic constraints, Maximum Binarity, Wrap-XP, and Align-XP, and S. Kim (2002), which proposes a serial process-based analysis.

This paper is organized as follows. Section 2 introduces the generalizations found so far for NK Korean prosodic phrasing. One generalization originates in G. Kim (1988) and the other generalizations originate in N. Kim (1997). Section 3 compares N. Kim (1997, 2000) with Sohn (2001) and S. Kim (2002). Concluding remarks are made in Section 4.

2. The generalizations made for NK Korean prosodic phrasing

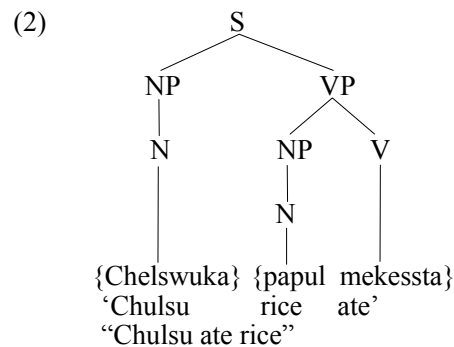
2.1 The generalizations made by G. Kim (1988) and Kenstowicz & Sohn (1996)

In her 1988 dissertation, G. Kim proposes an algorithm for demarcating the Tone Deletion Rule Domain in (1) for the S-phrases where focus is not given to any word. Because in this context the term 'Tone Deletion

Rule (TDR) Domain' means a P-phrase, she is actually proposing an algorithm for prosodic phrasing in NK Korean.¹

- (1) Tone Deletion Rule (TDR) Domain (G. Kim 1988: 172)
 - a. In [...YP X]_{XP}, where X is the head of XP and YP is a complement, the sequence of {YP X} forms a domain for the TDR's.
 - b. Any P-word unaffected by (a) forms its own TDR domain.

In terms of the algorithm in (1), the syntactic structure (S-structure) in (2) is organized into two P-phrases: by the process in (1a), the verb and its preceding complement are grouped into one P-phrase, while by the process in (1b), the subject NP itself forms another P-phrase. In this paper, the left and right P-phrase boundaries are marked by curly brackets '{' and '}', respectively. Martin's Yale Romanization (Martin 1954: 1-2) is adopted in romanizing the data.

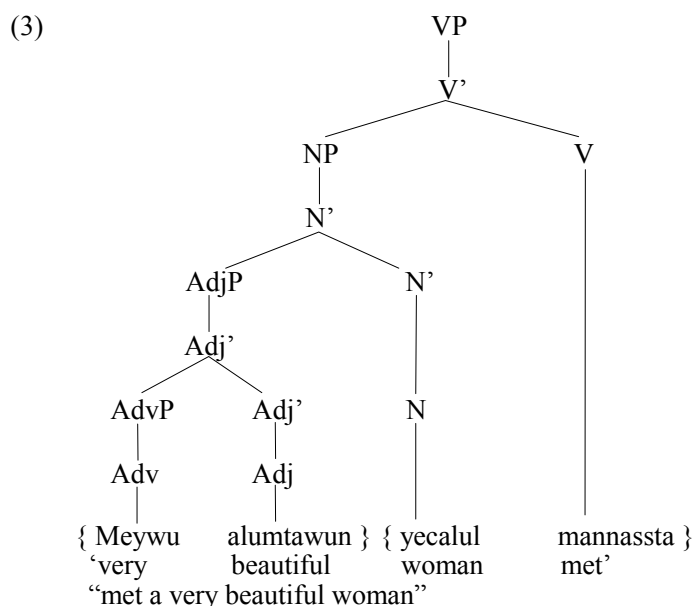


The above generalization made by G. Kim (1988) is confirmed by Kenstowicz & Sohn (1996), where they argue that 'the phrasing domain is delimited by the left edge of XP.'

However, as pointed out in N. Kim (1997: 247-8), the generalization in (1) encounters three problems. Among them, only the first problem is repeated here due to lack of space. G. Kim (1988) and Kenstowicz & Sohn (1966) deal with S-phrases which are limited in length, i.e., both studies treat S-phrases which consist maximally of three words. Hence, they meet problems when an additional modifier is added to YP in the S-structure of [YP X]_{XP}. For instance, they would incorrectly phrase the S-

¹ G. Kim (1988) uses the term 'rule' for the processes in (1). Because (1) consists of two separate processes, I use the term 'algorithm', which means 'a set of instructions that are followed in a fixed order', as defined in *Longman Dictionary of Contemporary English*.

phrase in (3) into one P-phrase. However, the S-phrase in (3) is organized into two binary P-phrases, as indicated in (3), and this phrasing is also confirmed by the two later studies, Sohn (2001) and S. Kim (2002).



To remedy the above problem and the other two problems pointed out in N. Kim (1997: 247-8), where he proposes a set of constraints which conspires to select a binary P-phrase as the optimal one. Detailed discussion is provided in Section 3.1.2.

Considering a focused P-phrase used in isolation, G. Kim (1988: 190-2) proposes another rule in (4):

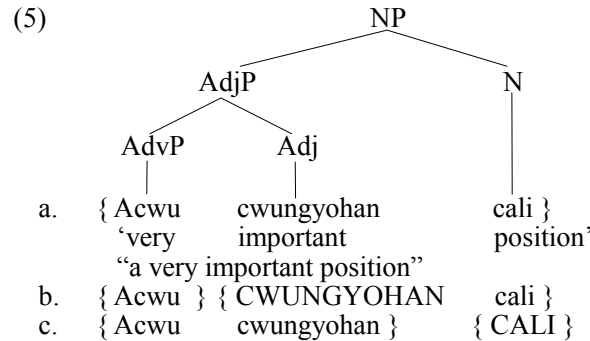
- (4) A focused P-word begins a new P-phrase and combines with the following P-word(s) in XP.

With the algorithm in (1) and the rule in (4), G. Kim correctly explains the P-phrases in (5). The phrasing in (5a), where the AP and the following N are grouped into one P-phrase, is made when focus is not given to any word in terms of the rule in (1a). However, the phrasing in (5b) is made when focus is given to the second word *cwungyohan* 'important': the second P-phrase is constructed according to the rule in (4) while the first one follows the rule in (1b). Note that to get this effect,

the rule in (1b) should be revised slightly as:²

(1b') Any P-word unaffected by [(1a) and (4)] forms its own TDR domain.

The phrasing in (5c) is constructed when focus is given to the third word *cali* 'position': the second P-phrase is built according to the rule in (4) while the first one is made by the rule in (1b').



G. Kim's (1988) prediction is correct only when one P-phrase is used by itself: G. Kim does not examine the effect of focus on phrasing when more than one P-phrase is used together. If focus is given to a phrase-final word, the focused word and the words in the following P-phrase form a new P-phrase (N. Kim 1997: 223-40). As already shown in (3) above (repeated in the following page in (3'a)), the four-word S-phrase is divided into two P-phrases if focus is not given to any word. However, focus is given to the first P-phrase-final word *aluntawun* 'beautiful', then the focused word and the two words in the second P-phrase form a new focused P-phrase, as shown in (3'b). This generalization is missed in G. Kim (1988).

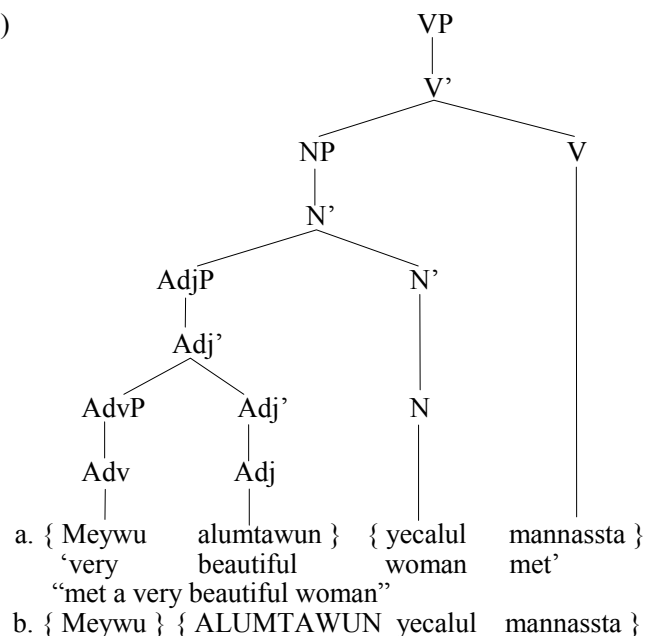
On the other hand, considering a sequence of one-word P-phrases, Kenstowicz & Sohn (1996) argue that when focus is given to a word, the focused word and the word in the following P-phrase constitute a new P-phrase. This generalization is viable only for a sequence of unary branching P-phrases. Considering a sequence of multi-word P-phrases, it is shown in N. Kim (1997) that if focus is given to a non-final word, then the words in the following P-phrase are not influenced. As shown in (6b), if focus is given to the first word of the first P-phrase *meywu* 'very', the

² G. Kim (1988) takes no notice of this point. However, to make her system work, (1b) needs to be revised as (1b') and (1b') should be ordered after (1a) and (4).

two words in the second P-phrase are not affected, i.e., the prosodic phrasing of the focused P-phrase in (6b) is the same as that of the unfocused P-phrase in (6a). The words in the following P-phrase are affected only when focus is given to a phrase-final word, as shown in (3'b) in the following page.

- (6) a. { Meywu alumtawun } { yecalul mannassta }
 'very beautiful woman met'
 "met a very beautiful woman"
 b. { MEYWU alumtawun } { yecalul mannassta }

(3')



In addition, if a focused-word is P-phrase-final, the focused-word and all the words in the following P-phrase form a single P-phrase, again as shown in (3b') above. However, Kenstowicz & Sohn (1996) would incorrectly predict that only one word in the following P-phrase were incorporated into the focused p-phrase, as shown in (7) below.

- (7) * { Meywu } { ALUMTAWUN yecalul } { mannassta }
 'very beautiful woman met'
 "met a very beautiful woman"

To remedy the problems with G. Kim (1988) and Kenstowicz & Sohn (1996), a new analysis of focused P-phrases is made in N. Kim (1997). For the generalizations found in focused P-phrases, refer to footnote 3 of this paper.

2.2 The generalizations made by N. Kim (1997, 2000)

Dealing with a wide range of syntactic configurations with no limit on length, N. Kim (1997: 158-249) makes several new generalizations for NK Korean prosodic phrasing. For prosodic phrasing of focused P-phrases, G. Kim's one generalization is confirmed and three new generalizations are added. These generalizations are significant to understanding the whole picture of NK Korean prosodic phrasing. However, they are placed in a footnote because they are irrelevant to the current discussion.³

On the other hand, for prosodic phrasing of 'focus-less' S-phrases, the generalizations in (8) are made.

- (8) a. A P-phrase can have maximally three words (N. Kim 1997: 161).
- b. If other syntactic conditions are satisfied, the most preferred P-phrase consists of two words (N. Kim 1997: 162).
- c. If other syntactic conditions are satisfied, the next preferred P-phrase consists of three words (N. Kim 1997: 162).
- d. A unary branching P-phrase is the least preferred one. (N. Kim 1997: 162).
- e. If other syntactic conditions are satisfied, a five-word syntactic phrase such as ($w_1 w_2 w_3 w_4 w_5$) is divided into three and two $\{w_1 w_2 w_3\} \{w_4 w_5\}$ rather than two and three $\{w_1 w_2\} \{w_3 w_4 w_5\}$ (N. Kim 1997: 218).
- f. If two words are grouped into the same P-phrase, the preceding word must be c-commanded by the following word (N. Kim 1997: 182).

³ The following are generalizations found for focused P-phrases in NK Korean. The generalization (a) is made in G. Kim (1988) first, and the next three are made in N. Kim (1997):

- a. A focused-word always occurs as the leftmost word in a P-phrase (first made by G. Kim 1988 and later confirmed by Kenstowicz & Sohn (1996) and N. Kim (1997)).
- b. A focused-word is always followed by a 'non-prominent' word except when the focused-word occurs utterance-finally (N. Kim 1997: 230).
- c. When a focused-word is P-phrase-final in the corresponding unfocused sentence, the focused-word and the words in the following P-phrase form a single P-phrase (N. Kim 1997: 238).
- d. If the following P-phrase consists of three words, then the resulting focused P-phrase ends up as a four-word P-phrase (N. Kim 1997: 238).

- g. Identical maximal projections cannot be organized into the same P-phrase (N. Kim 1997: 201).
- h. Phrasing in compounds is the same as that in phrases (N. Kim 1997: 346).
- i. For prosodic phrasing, phonological weight as well as syntactic properties needs to be considered (implicitly in N. Kim 1997, explicitly in N. Kim 2000)

The first five generalizations, in (8a) to (8e), reflect the roles in prosodic phrasing played by syntax-free, phonological properties. Especially, the first four generalizations conspire to enable us to make a claim that if other syntactic conditions are satisfied, a binary branching P-phrase is the most preferred, with ternary branching being the next most, and unary branching being the least. On the other hand, the two generalizations, in (8f) and (8g), reflect the roles in prosodic phrasing played by syntactic properties. The seven generalizations, in (8a) to (8g), tell us that an adequate prosodic phrasing should be done ‘by referring to phonological weight as well as syntactic properties (N. Kim 2000: 173, 176).’

3. The same generalizations in two later accounts of NK Korean prosodic phrasing

3.1 The same generalizations in Sohn (2001)

Section 3.1.1 points out that the five generalizations in Sohn (2001) are the same as those in N. Kim (1997). Section 3.1.2 compares the constraints used in N. Kim’s account with those of Sohn. The functions of Sohn’s two constraints Minimum Binarity and Maximum Binarity are exactly the same as N. Kim’s Phrase Minimality and Hierarchical Alignment at Phrase. Sohn’s three constraints Maximum Binarity, Align-XP, and Wrap-XP are problematic. As an ideal rule does one operation, so an ideal constraint should play one role. However, Sohn’s Wrap-XP plays at least three roles, which are unrelated to each other. Oppositely, one function should be taken care of by one constraint. However, in Sohn’s account, one function, i.e., parsing, is handled by two different constraints, Wrap-XP and Align-XP. Hence, her system contains redundancy inevitably.

3.1.1 Facts

In Section 3 of her paper “Eurythmy and the stacked left-branching structure (2001)”, Sohn shows that if other syntactic conditions are

satisfied, a binary P-phrase is the most preferred, a ternary P-phrase is the next preferred, and a unary P-phrase is the least preferred. In Section 4 of the same paper, she argues that a five-word syntactic phrase such as ($w_1 w_2 w_3 w_4 w_5$) is divided into three and two $\{w_1 w_2 w_3\} \{w_4 w_5\}$ rather than two and three $\{w_1 w_2\} \{w_3 w_4 w_5\}$. These generalizations are the same as those in (8a) to (8e), which are argued explicitly in N. Kim (1997).

3.1.2 Differences in the accounts

N. Kim (1997) postulates four constraints in (9) and their ranking in (10) in order to capture the generalizations in (8a-e):

- (9) a. Parse (N. Kim 1997: 167)
 Every word must be incorporated into a P-phrase.
 b. Phrase Minimality (PM) (N. Kim 1997: 168)
 A unary branching P-phrase is prohibited.
 c. Hierarchical Alignment at Phrase (HAP) (N. Kim 1997: 167)
 A word should be properly aligned with a P-phrase.
 d. Align (Ph, r; I, r) (N. Kim 1997: 218)
 Align the right edge of a P-phrase with the right edge of an intonational phrase.

- (10) Parse >> PM >> HAP >> Align (Ph, r; I, r)

The constraint Parse requires every word to be incorporated into a P-phrase. The constraint Phrase Minimality (PM) prohibits a unary branching or non-branching P-phrase. Because this constraint is ranked highly and thus a unary branching P-phrase is avoided strongly, a multi-word P-phrase (binary or ternary) is more preferred than a one word P-phrase. A multi-word P-phrase is formed only when the resulting P-phrase can satisfy the two inviolable structure-dependent constraints, C-command and OCP(XP), which reflect syntactic properties required for prosodic phrasing. The syntactic constructions as concerns this paper are all left-branching, and always satisfy C-command and OCP(XP). Hence, the roles played by these two syntax-dependent constraints are invisible and thus put in footnote 4.⁴

⁴ The following two constraints reflect syntactic properties required for prosodic phrasing. The constraint C-command states that if two words are grouped into the same P-phrase, the preceding word should be c-commanded by the following word. The constraint OCP(XP) prohibits identical maximal projections from being organized into the same P-phrase.

a. C-command (N. Kim 1997: 182, N. Kim 2000: 182)

The constraint Hierarchical Alignment at Phrase (HAP) states that a word should be properly aligned with a P-phrase. This constraint is a member of an alignment constraint family, which is originally proposed as Hierarchical Alignment in Ito et. al. (1996: 25).⁵ Due to this constraint, at least one edge of a word must be aligned with the edges of a P-phrase. Hence, a degree of branching higher than binary is disfavored. If only one word is contained in a P-phrase, as in (11a), both edges of a word are aligned with the corresponding edges of a P-phrase, and thus the form satisfies HAP. If two words occur in a P-phrase, as in (11b), one edge of each word is aligned with the edge of a P-phrase. This form also satisfies HAP. However, when more than two words occur in a P-phrase, as in (11c), the phrase-internal second word (**W**) is not properly aligned. Hence, the form in (11c) violates HAP once. If four words are organized into a P-phrase, then the P-phrase would incur two violations of HAP.

- (11) a. P-phrase
 |
 {W}
 b. P-phrase
 / \
 {W W}
 c. P-phrase
 / | \
 {W **W** W}

The constraint Align (Ph, r; I, r) requires the right edge of a P-phrase to be aligned with the right edge of an Intonational Phrase. The Intonational Phrase is the higher unit in the prosodic hierarchy which consists of one or more P-phrases (Selkirk 1986 and Nespor & Vogel 1986). Align (Ph, r; I, r) is gradient, and thus if the right edge of any P-phrase is farther away from the right edge of an intonational phrase, it will incur more violations of this constraint.

With the four constraints in (9) and their ranking in (10), the generalizations in (8a-e) are captured. If only one word exists in an S-phrase, a unary branching P-phrase is forced to be formed since the constraint Parse is undominated. If two words exist in an S-phrase and other syntactic conditions are satisfied, a binary P-phrase will be organized in order to satisfy all four constraints. If three words exist in an S-phrase and other syntactic conditions are satisfied, one ternary P-phrase will be formed rather than two P-phrases of either one-two or two-one word(s) since Phrase Minimality (PM) is ranked higher than Hierarchical

If α and β form a single P-phrase, β must c-command α .

b. OCP(XP) (N. Kim 1997: 201, N. Kim 2000: 190)

Identical maximal projections should not be organized into the same P-phrase.

⁵ The constraint Hierarchical Alignment states that ‘every prosodic constituent is aligned with some (properly) containing constituent’ (Ito et. al. 1996: 25). This can be defined differently according to the level of constituents in prosodic hierarchy, and Hierarchical Alignment at Phrase regulates alignment of prosodic words with a P-phrase.

Alignment at Phrase (HAP). If four words exist in an S-phrase and other syntactic conditions are satisfied, two binary P-phrases will be organized in order to satisfy all four constraints. If five words exist in an S-phrase and other syntactic conditions are satisfied, the five words will be divided into three and two $\{w_1 w_2 w_3\} \{w_4 w_5\}$ rather than two and three $^*\{w_1 w_2\} \{w_3 w_4 w_5\}$. Note that both phrasings will be evaluated as equally harmonious in terms of the first three constraints, Parse, PM, and HAP. However, the first P-phrase in both phrasings incurs violations of the fourth constraint Align (Ph, r; I, r). As noted above, this constraint is gradient, and the first phrasing $\{w_1 w_2 w_3\} \{w_4 w_5\}$ induces two violations of Align (Ph, r; I, r), whereas the second phrasing $^*\{w_1 w_2\} \{w_3 w_4 w_5\}$ violates it three times and hence fails to be selected. A full elaboration of this account can be found in N. Kim (1997: 210-220).

Let me now compare N. Kim (1997) to Sohn (2001). In order to capture the generalizations in (8a) to (8e), Sohn (2001: 509-12) uses the four constraints in (12) and their ranking in (13).

- (12) a. Align-XP (Sohn 2001: 509)
Align the L[eft]/R[ight] edges of XP with the L/R edges of a phonological phrase.
- b. Minimum Binarity (Sohn 2001: 511)
Avoid a phonological phrase consisting of less than two phonological words.
- c. Maximum Binarity (Sohn 2001: 511)
Avoid a phonological phrase consisting of more than two phonological words.
- d. Wrap-XP (Sohn 2001: 509)
A lexical head and its argument should be organized into a single P-phrase.
- (13) Align-XP >> Minimum Binarity >> Maximum Binarity >> Wrap-XP

It is obvious that the functions of Sohn's second and third constraints, Minimum Binarity and Maximum Binarity, are exactly the same as N. Kim's Phrase Minimality and Hierarchical Alignment at Phrase. On the other hand, Sohn postulates the constraints Align-XP and Wrap-XP instead of N. Kim's Parse and Align (Ph, r; I, r). However, Sohn's three constraints Maximum Binarity, Align-XP and Wrap-XP encounter problems that N. Kim's system does not.

First, her constraint Maximum Binarity needs to use the concept of 'counting' in order to check whether any given P-phrase contains more than two words or not. It is a standard assumption that 'counting' is not

allowed in phonology and/or in linguistics in general. Therefore, her constraint needs to be revised so that the job can be done without recourse to the concept of counting. N. Kim's constraint Hierarchical Alignment at Phrase manages to achieve the same result without the need for counting.

Second, in order to capture the generalization in (8e) that a five-word syntactic phrase such as ($w_1 w_2 w_3 w_4 w_5$) is divided into three and two $\{w_1 w_2 w_3\} \{w_4 w_5\}$ rather than two and three $\{w_1 w_2\} \{w_3 w_4 w_5\}$, N. Kim (1997: 218) uses the gradient evaluation of the constraint Align (Ph, r; I, r), whereas Sohn (2001) uses the gradient evaluation of Wrap-XP. Consequently, Wrap-XP plays at least three roles in her system. First, it groups a lexical head and its argument in order to make a P-phrase. Second, it requires given words to be parsed into a P-phrase as done by Parse in N. Kim's system. Finally, it regulates how lower prosodic units are organized into higher prosodic units, as done by Align (Ph, r; I, r) in N. Kim's system.

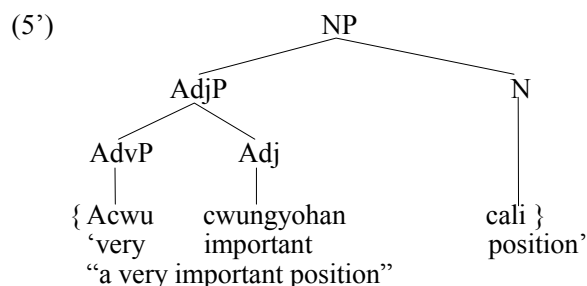
As an ideal rule does one operation, so an ideal constraint should play one role rather than a bundle of roles. Looking back to the early 1980's, the burden carried by one powerful rule PASSIVIZATION is divided into several pieces and the pieces of the burden are taken care of by appropriate devices, each of which plays one 'primitive' role (Radford 1981). More recently, Ito et. al. (1996) divided Foot Binarity, proposed in Prince & Smolensky (1993), into two constraints, Foot Minimality and Hierarchical Alignment, which monitor the minimum and maximum sizes of the foot, respectively.⁶ This paper takes the position that a constraint should be maximally general. If one function of a constraint such as the parsing function or the alignment function is independently necessary, it is preferable to avoid including it in the already existing constraint, which is not a straightforward member of the Parse or Alignment constraint family. Hence, this paper argues that the roles played by Wrap-XP should be factored into several primitive roles and each primitive role should be handled by a separate constraint, as done in N. Kim (1997, 2000).

Third, Sohn's Wrap-XP contains another problem, i.e., it is a rule in its nature rather than a constraint. She adopts this 'constraint' following Truckenbrodt (1995). However, both authors seem to have a trouble in distinguishing the concept of a rule from that of a constraint. Basically, a constraint is a negative statement, which prohibits a certain output representation in phonology, whereas a rule is a positive process, which

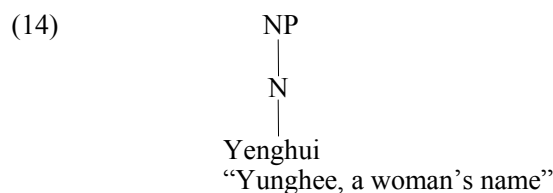
⁶ Foot Binarity plays two roles in the sense that it regulates the minimum and maximum sizes of a foot. However, Foot Minimality simply monitors the minimum size of a foot, while Hierarchical Alignment checks the maximum size.

requires a certain output to be formed. A phonological rule will see the underlying representation and asks a certain output to be made from the underlying representation. The constraint Wrap-XP states that a lexical head and its argument should be organized into a single P-phrase. Wrap-XP sees an S-phrase first and orders a head and its argument to be grouped into the same P-phrase. In this respect, Wrap-XP should be replaced by another constraint, which reflects the OT spirit better.

Fourth, because Sohn's system does not assume the general constraint Parse, which requires all the words to be parsed into a P-phrase, her system encounters another problem with Wrap-XP in conjunction with Align-XP. It is already pointed out that Wrap-XP is problematic because it plays at least three roles, which are unrelated to each other. Oppositely, we can see now that one function, i.e., parsing, is done by two different constraints, Wrap-XP and Align-XP. If a given S-phrase contains a lexical head and its argument, as in (5a) (repeated below in (5')), parsing the S-phrase into a P-phrase can be done by Wrap-XP.



However, Wrap-XP cannot handle a unary branching S-phrase, as in (14). Note that Wrap-XP is turned on only when a lexical head and its argument coexist. The constraint Wrap-XP tells nothing if a lexical head stands by itself. Therefore, prosodic phrasing of a unary branching S-phrase should be handled by Align-XP, which requires the left and right edges of an S-phrase to be aligned with the left and right edges of a P-phrase.



As an ideal constraint should play one role rather than a bundle of roles, so a ‘primitive’ role should be taken care of by one constraint. Otherwise, the system can entail redundancy inevitably. This paper takes the position that a constraint should be not only maximally general but also minimally redundant. For instance, reexamine the prosodic phrasing in (5’) above. Because Sohn assumes two different constraints for parsing, the prosodic phrasing in (5’), which is already accounted for by Wrap-XP, can now be re-explained by Align-XP. In other words, we can argue for the prosodic phrasing in (5’) that the left edge of the NP and the right edge of the VP are aligned with the left and right edges of a P-phrase due to Align-XP. This ‘ambiguity’ in prosodic phrasing results from the redundancy contained in Sohn’s system.

Finally, the current version of the constraint Align-XP meets another trouble because it contains ‘ambiguity’ in XP’s reference. For instance, for the phrasing in (5’), XP should be interpreted as referring to the topmost node NP rather than the AdjP. However, her system does not have any device, which can order XP to pick up the correct reference NP. In this respect, Align-XP should be revised to make XP’s reference clear and straightforward.

3.2 The same generalizations in S. Kim (2002)

Section 3.2.1 shows that the three generalizations in S. Kim (2002) are the same as those in N. Kim (1997, 2000). Section 3.2.2 compares N. Kim’s account to S. Kim’s and shows that N. Kim’s account is more adequate than S. Kim’s serial process-based analysis.

3.2.1 Facts

In his paper “The size restriction in phonological phrasing and its simplified algorithm” (2002), S. Kim shows at least three generalizations for NK Korean prosodic phrasing, as in (15) below.

- (15) a. There is no large phonological phrase consisting of more than three phonological words (S. Kim 2002: 65).
 b. Compounds are entirely parallel to syntactic phrases in phonological phrasing (S. Kim 2001: 65).
 c. Phonological phrases are formed by the interaction between the syntax-dependent process and the syntax-free process (S. Kim 2001: 65).

However, the above generalizations are argued in detail in N. Kim's previous studies, as already pointed out in (8). Among them, the three generalizations concerned are repeated below in (8') for convenience's sake:

- (8') a. A P-phrase can have maximally three words (N. Kim 1997: 161).
 h. Phrasing in compounds is the same as that in phrases (N. Kim 1997: 346).
 i. For prosodic phrasing, phonological weight as well as syntactic properties needs to be considered (implicitly in N. Kim 1997, explicitly in N. Kim 2000)

It is obvious that the first two generalizations in (15a-b) correspond to the generalizations in (8'a) and (8'h). Constraints, which are syntax-sensitive, are constraints which refer to syntactic structure only. Constraints, which are syntax-free, are constraints, which regulate the length of a P-phrase. Hence, the generalization in (15c) is substantially the same as in (8'i). This generalization results in the preference in the length of P-phrases in NK Korean: a binary P-phrase is the most preferred, a ternary is the next preferred, and a unary is the least preferred if other syntactic conditions are satisfied equally.

3.2.2 Differences in the accounts

S. Kim (2002) provides two different ways of accounts, a serial process-based analysis in Section 3 and an OT-based analysis in Section 4.2. This paper will not discuss his OT-based analysis in detail for the following reasons. First, the main goal of his paper is to provide a serial process-based analysis and not to provide a new OT-based analysis. Second, he himself recognizes that he proposes 'a new constraint-ranking system where N. Kim's (2000) constraints are renamed or revised without any loss of their properties (S. Kim 2002: 80-81).'

In Section 3 of S. Kim (2002), he proposes a serial process-based analysis in order to capture the 'apparent' parallelism between prosodic phrasing and footing in terms of illustrating the stress pattern of Garawa. Then, we can raise a question of whether capturing the parallelism between prosodic phrasing and footing is meaningful.

Some similarities between the word-internal prosodic structure and the P-phrase-internal prosodic structure do exist because both structures are based upon the same two concepts, linear precedence between constituents, and hierarchical structure between daughters and their mother node. However, I would like to stress here that the structure of word-

internal prosody, i.e., footing, differs from that of P-phrase-internal structure as significantly as the structure of morphology differs from that of syntax. For instance, many stress languages such as Araucanian (Roca et. al. 1999) and Western Aranda (Roca et. al. 1999) do not allow a degenerate foot, i.e., a non-branching foot either at the syllable or at the mora level. However, it is hard to imagine any language that would not allow a unary branching, and thus *degenerate* P-phrase. Stress languages such as Koya (Hayes 1980) exhibit an unbounded foot, whereas it is hard to imagine any language that would allow P-phrases, which are limitless, and thus *unbounded* in length. Because the word-internal prosodic structure differs in its inherent nature from the P-phrase-internal structure, they should be analyzed in terms of different tools, i.e. with different constraints. The parallelism seems to be apparent, but not real, and hence capturing the apparent parallelism between prosodic phrasing and footing is not so meaningful.

Another problem with S. Kim's approach is the use of a derivational theory. It is a well-known fact in linguistics and/or in science in general that something explained by a more constrained and thus less powerful theory is also accounted for by a less constrained and thus more powerful theory. A derivational theory is less constrained in the sense that it can use intermediate levels and rule ordering that are not used in a non-derivational theory. Because a derivational theory uses more tools that the other theory does not have, it is expected that the derivational theory is more powerful.⁷ Therefore, it is meaningful if something that is accounted for by a derivational theory, i.e., a less-constrained and thus more powerful theory, is explained again by a non-derivational theory, i.e., a more constrained and thus less powerful theory. However, if the direction is reversed, i.e., if something that is accounted for by a non-derivational theory is explained again by a derivational theory as S. Kim (2002) does, the second theory seems to be not so meaningful because it is well predicted that the second theory is possible.

4. Concluding Remarks

This paper has compared N. Kim (1997, 2000) with Sohn (2001) and S. Kim (2002). Sohn (2001) deals with the same five generalizations that are proposed in N. Kim (1997). In addition, S. Kim (2002) deals with three of the generalizations proposed in N. Kim (1997, 2000). Though the later

⁷ More recently, OT uses more powerful devices such as constraint conjunction, multiple level OT, candidate-to-candidate constraints, etc. However, none of these are necessary in the present case.

accounts show some differences in the accounts, they fail to improve upon the earlier account of N. Kim (1997, 2000). In other words, the later accounts tackle the same generalizations in a less desirable fashion. N. Kim's account is more adequate than Sohn (2001), which uses the three problematic constraints, Maximum Binarity, Align-XP, and Wrap-XP, and S. Kim (2002), which proposes a serial process-based analysis.

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