Faithfulness Conflict in Korean Blends

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Abstract

This study addresses the question of what basic principles and constraints govern blending while focusing on the description and analysis of phonological properties of Korean blends. Korean blending shows a systematic phonological word-formation process that usually preserves the prosodic structure of the head source word, while the initial part of the segmental sequence of the blend is from the non-head source word. This general pattern can be explained by adopting prosodic faithfulness constraints for the head and segmental faithfulness constraints for both source words. Usually, prosodic faithfulness overrides segmental faithfulness. General and exceptional patterns of Korean blends can be explained by the interaction of prosodic faithfulness and segmental faithfulness constraints within the framework of Harmonic Grammar.

Faithfulness Conflict in Korean Blends

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1 Introduction

Blending is a word-formation process in which two or more independent words are merged into a new word with the shortening of at least one of the source words, as can be seen in the English blend *brunch (br(eakfast) + (l)unch)*. Some recent investigations into blending in a variety of languages suggest that many of its core features are linguistically significant and a part of speakers' mental grammar. Among several linguistic factors, phonology plays an important role in creating the blend as shown in previous studies on blends in languages such as Hebrew (Bat-el 1996), English, as shown (Gries 2004, Hong 2005), Spanish (Piñeros 2004), and Japanese (Kubozono 1990).[1] For instance, in English, the segmental composition of a blend *brunch* is always based on both of its source words *br(eakfast)* and *(l)unch,* whereas its prosodic properties such as word-length and stress pattern are usually identical, or at least similar, to only one of the two source words, which is often called the 'head' of the blend (Gries 2004, Bat-el 2006). As will be shown below, similar phonological characterizations hold for Korean blends.

In the present study, I collect Korean blends from various sources and give a phonological description for them. I show that Korean blends reveal certain tendencies in their formation and provide an analysis. For the understanding of the intended meaning of a blend, both of its source words need to be recovered effectively by language users (Lehrer 1996, Piñeros 2004, Bat-el 2006). Recoverability of the source words must be high when their similarity to the blend is high. This leads to the assumption that the phonological characteristics of the blends mentioned above (i.e., segmental dependence on the source words and prosodic dependence on the head) are adopted to enhance the similarity between the blend and its source words. To put it differently, blending is a process of keeping the surface forms of the source words and the blend as similar as possible (Bat-el 1996, Hong 2005). For this purpose, segmental and prosodic characteristics of blending conflict with each other. Segmental and prosodic characteristics of blending have been explained within a constraint-based framework such as Optimality Theory (Prince and Smolensky 1993/2004). Generally, prosodic faithfulness overrides segmental faithfulness (Bat-el 1996, Piñeros 2004, Hong 2005), including in Korean blends, resulting in imperfect segmental faithfulness but (near) perfect prosodic faithfulness. However, the resolution of conflicting constraints is not always subject to the strict domination principle. In some exceptional cases of Korean blends, there is a tradeoff between two kinds of faithfulness, where if segmental faithfulness would be violated too much, prosodic faithfulness is sacrificed. In the present study, I will show that the patterns found in Korean blends can be analyzed with the same types of constraints, and they are amenable to an analysis using Harmonic Grammar (Legendre, Miyata, and Smolensky 1990, Smolensky and Legendre 2006), where constraints are assigned weights, not rankings.

2 Characterizations of Korean Blends

This section provides a detailed discussion of phonological patterns of Korean blends. My data sources include previous studies on Korean blends (Im 1996, Park 2007, Hwang 2009), the Dic-

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[1]Typical examples of blends in these languages include the following:

(i) Hebrew: *kmoyonéz* ' mayonnaise substitute' = *kmó* 'alike' + *mayonéz* 'mayonnaise'

(ii) English: *alphameric* 'consisting of both letters and numbers'= *alphabetic* + *numeric*.

(iii) Spanish: *pánsáklos* 'potbellied Santa Clause' = *pánsa* 'belly' + *sàntaklós* 'Santa Clause'

(iv) Japanese: *yonhuruenza* 'Bae Yong-Jun is so famous that his popularity spread like influenza' = *yonsama* 'Bae Yong-Jun, the famous Korean actor' + *inhuruenza* 'influenza'

tionary of neologisms in Korean (2007), the open dictionary on http://www.naver.com, and other media outlets, such as the Internet and television shows. Some were also collected via personal contact. 408 tokens were collected as an appropriate set of Korean blends for the present research. In order to highlight the crucial areas in blend formation, overlapping segments are underlined, and truncated segments are parenthesized: e.g. *motel= mot(or)+(h)otel*.

2.1 Combining Patterns

This section discusses how two source words 'blend' into one word. In (1), *ka* is from the first word, and *licinal* is from the second word. Generally, the initial part of the left source word becomes the initial part of the resultant blend whereas the final part of the right source word becomes the end of the resultant blend. This linear combination pattern is quite common in blends of all languages (Kubozono 1990, Bat-el 1996, Piñeros 2004, Hong 2005).

(1) *kalicinal = ka(c'a) + (o)licinal*
"the one that is not original" ('fake'+'original')
(2) *camp^{h}ociʌm = cam + simp^{h}ociʌm*
"a symposium that is really boring" ('a sleep'+'a symposium')

The majority of Korean blends can be classified according to the following criteria: (i) the presence or absence of overlapping segments at the switch point (a boundary of two source words where the first source word ends and the second source word starts), and (ii) the truncation of source words (cf. Lehrer 1996, Hong 2005). While overlap will be discussed in Section 2.3, most of the time, right source words are truncated (398 out of 408 blends) as in (1) and (2). Both left and source words are truncated in (1) and only the right source word is truncated in (2).

2.2 Word Order

When two source words are combined to form a blend, their order is determined by both phonological and semantic factors. With respect to semantic interpretation, Korean blends are similar to Korean compounds in that the semantic relation of two source words can be either endocentric or exocentric. With respect to Korean noun-noun compounds, the main difference between endocentric and exocentric relations is the existence of a semantic head. To put it simply, if one of the words works as a modifier and the other as a semantic head, the relation is endocentric. On the other hand, if there is no semantic head, it is exocentric. The example of Korean endocentric compound is *yʌhaksɛŋ* "female student" (*yʌ* 'female'+ *haksɛŋ* 'student') and an exocentric compound is *anp^{h}ak* "inside and outside" (*an* 'inside' + *pak* 'outside). In the case of Korean, semantic heads occupy the right side, which plays an important role in determining the word order of a blend.

According to my classification of the present corpus, endocentric blends are much more common than exocentric ones. Among 408 blends, 354 blends are endocentric, and semantic relationship determines the order of the two source words. As with compounds, the semantic head always goes to the right hand side in Korean blends. In Table 1 (a) *simp^{h}ociʌm* goes to the right side because *camp^{h}ociʌm* refers to a kind of symposium, and thus *simp^{h}ociʌm* is the semantic head of the blend, whereas *cam* works as a modifier. On the other hand, 54 blends are exocentric, usually being composed of two source words that can occupy the same syntactic slot. There is no semantic head in this relation, and the two source words do not have a predetermined order when combining with each other.

While the word order of the endocentric blends is predetermined by semantic factors, the order in exocentric blends is more complicated. Bat-el (2006) argues that in English blends, when two source words of a blend are in an exocentric relation, their order may be determined by the phonology. Word order of Korean exocentric blends is also determined by phonological factors, as supported by cases like *p^{h}ok^{h}alak* in (b). The blend contains similar source words as in the Korean blend, but the word order is different. *Sutkarak* is longer than *p^{h}ok^{h}i,* and in the case of exocentric blends in which neither source word can be the semantic head by definition, the longer word usually goes to the right side, becoming the head of the blend. Consider the English blend *spork (sp(oon) + (f)ork)* where two source words have a different word order than Korean. Phonology

also plays a role in determining the order of constituents in a blend in other languages, such as Japanese or English (Kubozono 1990, Bat-el 2006).

Semantic relation	Count	Examples
Endocentric	354 (86%)	(a) *camp^{h}ociΛm = cam + simp^{h}ociΛm* "a symposium that is really boring" ('a sleep'+'a symposium')
Exocentric	54 (14%)	(b) *p^{h}ok^{h}alak = p^{h}ok^h(i) + (sut)kalak* "a spork" ('a fork'+'a spoon')
Total	408	

Table 1: Semantic relations of Korean blends.

To sum up, in endocentric blends, the right side of a blend is occupied by its semantic head, and in exocentric blends, by the longer source word. The semantic head of endocentric blends and the longer source word of exocentric blends will be referred to as the 'phonological head' for the remainder of this study.

2.3 Overlap

An overlapping segment is a segment in a blend shared by the two source words. Notice that the presence of overlapping segments in a blend can have an effect of maximizing the number of segments of its source words, as can be seen in (3). Underlined segments *oŋ* are segments from both source words.

(3) *ho<u>ŋ</u>ali = ho<u>ŋ</u>bo + do<u>ŋ</u>ali*
"a public relations club at College" ('public relations'+'a club')

In my corpus, 153 (37.5%) blends have overlapping segments, whereas 255 (62.5%) blends have no overlapping segment. When we consider the overlap between two source words, overlapping segments are not restricted only to identical segments from each source word. Segments that are similar (i.e., differing in only one feature), such as aspiration in Korean, can also work as overlapping segments. The overlap of similar segments is found in approximately 15 blends from the corpus. The example in (4) may be interpreted as showing that both /k'/ of the left source word and /k^h/ of the right one correspond to the word-medial /k^h/ of the blend.

(4) *t^{h}ɛ<u>k^h</u>oliΛn = t^{h}ɛ(<u>k'</u>wΛnto) + <u>k^h</u>oliΛn*
"a mixture of Taekwondo and Korean" ('Taekwondo'+'Korean language')

The quadri-syllable blend in (4) is longer than its tri-syllabic head, *k^{h}oliΛn,* and many such cases that do not preserve the length of the head involve overlapping segments, which will be discussed in section 2.4. When the length of the head is not preserved, the cutoff is often at the overlapping segments.

2.4 Length

The length of a blend is often the same as that of one of its source words. Preserving the same length is a crucial part of enhancing the similarity between the source word and the blend. Subsection 2.4.1 discusses the general factors that determine the length of blends. Subsection 2.4.2 looks at exceptional patterns and provides a more in-depth explanation with the relation between the length and the overlap.

2.4.1 General patterns

I measure length of blends in syllables. The following figures break down the data long two pa-

rameters: (i) which source word, if any, matches the blend in syllable count, and (ii) which of the two source words is longer. Figure 1 shows that approximately 80% (76%4%+) of blends have the same length as at least one of two source words when two source words have different lengths, and there is a tendency for blends to follow the length of the right source word (76%).

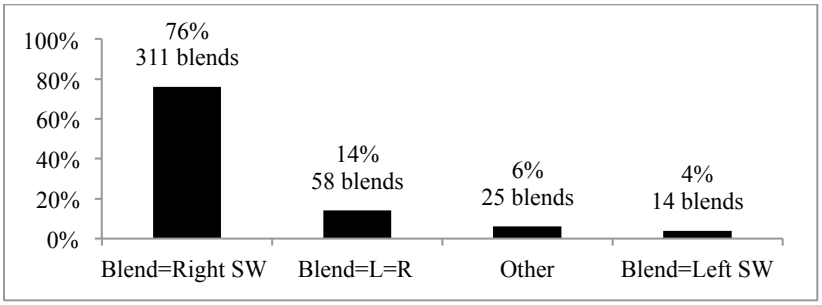

Figure 1: Which source word determines the length of the blend? (SW=Source Word)

As shown in Figure 2, most of the time (292 blends), the right source word of a blend is longer than its corresponding left source word. In his research on English blends, Kubozono (1990) concludes that a longer word tends to occupy the right hand side. A similar observation is made in my corpus of Korean blends as well, where a longer word tends to occupy the right side.

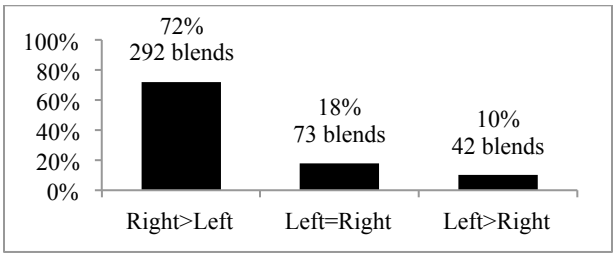

Figure 2: Which source word is longer?

Based on the two tendencies, it can be concluded that the right source word is generally longer and determines the length of the blend. To put it differently, since the right source word, which determines the length of the whole blend, is longer, more segments could be preserved from each source word compared to when the shorter source word determines the length of the blend.

An interesting finding is that in the case of endocentric blends, the right source word is usually both the semantic head and the longer word of the two. This is unlikely to be coincidental since it holds for many cases. One possible explanation is that as blending is intentional word-formation, Korean speakers tend to make a blend when the word on the right is longer, and less inclined to make blends when this condition is not satisfied. Then what is the advantage of making a blend with the longer source word on the right? With the right source word being longer, the right word determines the length of the blend, whereas the left source word occupies the initial part of the blend, which is a position that is usually considered perceptually prominent (Beckman 1997). Thus, when one determines the length of the blend, and the other occupies the initial segmental material, it yields better recoverability for both source words. With the example of *cam*$\underline{p^{h}}$*ociʌm*, *ca*$\underline{m}$ occupies the initial position that is prominent and (*si)*$\underline{m}$$p^{h}$*ociʌm* determines the length.

Table 2 is a breakdown of the relation between source words and blends in terms of their length. In most cases, the right source word, i.e. the semantic head of the blend, and the longer source word in case of exocentric blends, determines the length of the blend as in (d), (e), and (f).

Which SW is..?		
longer	same as blend	Examples
Left	Right	(a) *halpa = ha(nnaratay) + alpa* "a job being paid to write positive opinions about *hannaratay*" ('Korean political party'+'part-time job')
	Left	(b) *k^hipoto = k^hipot(i) + to* "a martial art of keyboard" ('Keyboard'+'The way to do a martial art')
	Neither	(c) *tonet^hicin = tone(isjʌn) +net^hicin* "a netizen who donates" ('donation'+'netizen')
Right	Right	(d) *camp^{h}ociʌm= cam+(si)mp^{h}oci.ʌm* "a symposium that is really boring" ('a sleep'+'symposium')
	Left	(e) *t^hellʌnsʌ =t^hellʌn(t^hi)+(ana.u)nsʌ* "one who is both actor and announcer" ('an actor'+'an announcer')
	Neither	(f) *la.i.t^hicin = la.i.t^hi + net^hicin* "a netizen who favors the right-wing" ('the right-wing'+'netizen')
Left= Right	Left/Right	(g) *jokoneci = jok(ulit^{h}i) + (ma)joneci* "a mixture of yogurt and mayonnaise" ('yogurt'+'mayonnaise')
	Neither	(h) *t^hɛk^{h}oliʌn = t^hɛ(k'wʌnto)+ k^{h}oliʌn* "a mixture of Takwondo and Korean" ('Taewkondo'+'Korean')

Table 2: Length comparison of the blend and the source words. (SW=Source Word)

2.4.2 Exceptional patterns: length and overlap

In the previous subsection, I discussed the general length patterns of Korean blends. This section deals with some exceptional patterns in Korean based on the intention of the coiner of the blend to make the meaning of the blend more explicit. I especially focus on exceptional cases that are identical in length to neither of the source words. These cases can be explained with the existence of overlapping segments.

Table 3 shows the relation between the length of the blend and the existence of overlapping segments. When the length of the blend is not the same as one of the source words, most of the time, overlapping segments exist.

	Blend < Head SW	Blend > Head SW	Blend = Head SW
Overlap	3	14	130
No Overlap	0	8	239
Total	3	22	369

Table 3: Length and overlap.

In (c), (f), and (h) from Table 2, heads do not determine the length of the blend; instead, an additional syllable is added for each blend. In this arrangement, many segments from each source word can be preserved in the resulting blends. For example, in (f) *la.i.t^hicin = la.i.t^hi + net^hicin*, one additional syllable has been added to the blend whose head consists of three syllables, but the trade-off is that as a result, *it^h* from the left source word is preserved in the blend. Instead of being faithful to the length of the head, this blend has chosen to maximize the segmental material from the source words. This is possible because *la.i.t^hi* and *nɛt^hicin* have the overlapping segment *t^h*. This example shows that the faithfulness requirement for the length of the head can be violated to enhance the recoverability of the source words' segmental material.

As discussed in example (4), strictly speaking, there is no overlapping segment in the blend *t^hɛk^{h}oliʌn* shown in (h). But given that the medial /k'/ of the left source word is very similar to the medial /k^h/ of the blend, it can be considered as an overlap segment with an imperfect mapping of /k/ and /k^h/. The only difference is the laryngeal specification.

To sum up, a blend has the length of its head, facilitating identification of the head source word. In Korean, the prosodic correspondence between the blend and its head source word is

achieved in terms of syllable count. Thus, a majority of blends consist of the same number of syllables as their head source words. There are cases in which blends and their heads do not have the same number of syllables. Most of such exceptional blends have an overlap at the switch point while having more syllables than their head source words. Thus, it seems that segmental faithfulness is maximized in these blends, although the prosodic correspondence is sacrificed.

3 Constraint-Based Analysis

This section provides a theoretical analysis of Korean blends based on the descriptions given in the previous section. Firstly, I discuss two conflicting sets of faithfulness constraints involved in Korean blending. Then, surface-to-surface correspondence between source words and blends is discussed. Lastly, I present an analysis of Korean blends in Harmonic Grammar.

3.1 Two Competing Goals

People tend to create blends intentionally, usually for fun. To achieve the desired effect, recoverability of the source words must be ensured. For this reason, a blend should be maximally similar to its source words. 'Similarity' could be defined in various ways, such as in prosodic structure, segmental quality, or syllable structure. In section 2, we have seen the conflict between requirements for these similarities to ensure the recoverability of source words.

First of all, the similarity of a blend's prosodic structure to the two source words is important for recoverability. Blends across languages typically preserve the prosodic structure of one of the source words (usually the head), which allow people to recognize the head easily (Piñeros 2004). In Korean blends, the prosodic structure may be implemented in terms of length. At the same time, blends tend to preserve as many segments of the source words as possible. Thus among many requirements, the formation of a Korean blend aims toward the following two competing goals (cf. Bat-el 2006, Tomaszewicz 2008 for English, and Piñeros 2004 for Spanish).

(5) Two competing goals of Korean blending
   a. Blends must have the length of one of its source word, usually the '(semantic/phonological) head'
   b. Blends must have a maximum number of segmental correspondents in both source words

Firstly, blends must have a prosodic structure that is plausible for a single word in the language, and it usually follows that of the head. Thus, 'the prosodic structure of the head' is preserved (Piñeros 2004). There have been other studies (Bat-el 1996, Piñeros 2004, Hong 2005, Trommer and Zimmermann 2010) that analyzed blends as a part of 'Prosodic Morphology', as with other morphological processes such as truncation and reduplication. Blending is governed by prosodic morphology principles, but one difference is that the prosodic template of blends can vary as a function of the prosodic structure of the head. In Korean blends, the requirement to preserve the prosodic structure of the head source word may be satisfied at the syllable level. Only the number of syllables of the head needs to be maintained in Korean blends.

Secondly, a blend must preserve as much of the segmental structure from its source words as possible – whether head or non-head – for semantic 'recoverability' of the two source words (Bat-el 2006). It is obvious that the more segmental materials from the base words survive in the resultant blend, the easier they are to identify. Since the size of a blend is limited to the size of its head due to (5) above, the two goals are often in conflict with each other. Therefore, the blending process necessarily involves the resolution of the two competing demands for faithfulness: (i) faithfulness to the prosodic structure of the head, and (ii) faithfulness to the segments of both source words. An interesting aspect of blending is that unlike many phonological processes where faithfulness and markedness constraints are in conflict, it is two sets of faithfulness constraints that are competing with each other.

For preserving more segments from the two source words, it is desirable for the blend to have segments correspond to both source words (Piñeros 2004). This is why blends tend to have overlap segments, which have identical correspondences in two source words. The primary point of

contention, therefore, is between the two types of faithfulness constraints.

3.2 Surface-to-Surface Correspondence

Bat-el (1996) and Piñeros (2004) propose surface-to-surface (output-to-output) correspondence constraints between source words and blends. Output-to-output correspondence is the faithfulness requirement between output forms, as opposed to input-output correspondence, which requires faithfulness of the output to its input. Truncation and reduplication have been analyzed using output-to-output correspondence, where the truncated form and its base form should be similar to each other and a reduplicant and its base also should be faithful to each other (McCarthy & Prince 1995).

A correspondence relation of blends needs to be defined for the analysis of Korean blends. A blend is in a surface-to-surface correspondence with each of its source words. Source words and their resultant blend are in a correspondence relation, and such a relation requires similarity between the two source words and the blend (cf. Zuraw 2002). As a result, the faithfulness requirements, such as segmental or prosodic structure maximization of each source word are in competition with each other. For example, the head source word of the blend usually can correspond to the blend with respect to its prosodic structure, but segmental maximization of the head may be violated at the initial part of the blend. Fully-prosodified forms are required for provided correspondence. The resolution of this conflict can be analyzed under the constraint-based framework.

3.3 Harmonic Grammar

I adopt the framework of Harmonic Grammar (Legendre, Miyata, and Smolensky 1990, Smolensky and Legendre 2006). Harmonic Grammar (HG) is similar to Optimality Theory (Prince and Smolensky 1993/2004) in that it also represents the output form with the relative strengths of competing constraints. Previous constraint-based studies on blends were based on OT (Bat-el 1996, Piñeros 2004). The difference is that constraints in HG are not subject to strict domination. Rather, the constraints have numerical weights. These weights can lead to a ganging effect. A candidate with severe violations of constraints with lower weights may win over another candidate with lesser violations of constraints with higher weights (Pater 2009). The following constraints are mainly adopted from Bat-el (1996).

The prosodic template is the most important factor for a phonological approach to Korean blends. However, establishing correspondence between prosodic constituents is non-trivial; for discussion, see Ito, Kitagawa, and Mester (1996), Benua (1997), and McCarthy, Kimper, and Mullin (2012). For the purpose of this study, I will apply the Output-to-Output (OO)-Max-σ and Dep-σ constraints. Max-σ requires that each syllable in the head be represented in the blend, and Dep- σ requires that each syllable in the blend have correspondents in the head. The following set of constraints in Example (6) concern prosodic structure of the Korean blend (HD=head):

(6) OO-Max-σ(HD): Every syllable in the head must have a correspondent syllable in the blend.
OO-Dep-σ(HD): Every syllable in the blend must have a correspondent syllable in the head.

The constraints above are adopted as templatic constraints. Thus the syllable number of the head needs to be preserved in the resultant blend to satisfy both of these constraints. These constraints only refer to the head since the head, not the non-head, governs the prosodic structure of the blend. At this point, we need to remember that even though the head and blend retain the same prosodic structure, their segmental compositions may be different. Under the assumption that syllables of the head and the blend may correspond to each other even when they have different constituent segments or internal structures, the correspondence constraints will have the effect of maintaining the syllable count of the head in the blend. This naturally leads to the necessity of segmental faithfulness, given in (7) below.

(7) Max-seg (HD/N-HD): Every segment in the Head/Non-Head must have a correspondent in the blend.

For the preservation of segments from both source words, I use a Max-segment constraint. This is a correspondence between source words and a blend. Similar to the syllable correspondence, corresponding segments need not be identical in their segmental quality. In other words, featurally different segments still could be corresponding segments while violating a featural faithfulness constraint, i.e. IDENTITY.

Since most blends preserve the length of the head, the prosodic structure faithfulness constraints have higher weights than segmental faithfulness constraints. Following is the HG analysis for the blend *camp^{h}ociʌm* that has the same length with the head source word. Example (8) shows the syllable/segmental correspondence of two candidates for the blend *camp^{h}ociʌm*. Candidate (a) preserves prosodic structure of *simp^{h}ociʌm*, whereas segments of first syllable are from *cam*, and *m* is an overlapping segment. A tableau of *camp^{h}ociʌm* is given in Example (9); faithfulness of prosodic structure has a higher weight. For each candidate, the number of violation marks incurred for each constraint is multiplied by the weight of the constraint (one violation is a negative number '-1,') then summed. A sum of weight*violation marks is given on the rightmost column under *H*. Candidate (9a) is the optimal output because it preserves the prosodic structure of head; it has a higher harmony score (-4). Weights are calculated with OT-help 2.0 (Staubs et al. 2010).

(8) Syllable/segmental Correspondence
camphociʌm = cam + simphociʌm
"a symposium that is really boring"('a sleep'+'a symposium')

	σ_1	+	σ_2	σ_3	σ_4	σ_5
	$[c_1a_2m_3]$	+	$[s_4i_5m_6]$	$[p^h{}_7o_8]$	$[c_9i_{10}]$	$[ʌ_{11}m_{12}]$
(a)	σ_2	σ_3	σ_4	σ_5		
	$[c_1a_2\underline{m}_{3,6}]$	$[p^h{}_7o_8]$	$[c_9i_{10}]$	$[ʌ_{11}m_{12}]$		
(b)	σ_1	σ_2	σ_3	σ_4	σ_5	
	$[c_1a_2m_3]$	$[s_4i_5m_6]$	$[p^h{}_7o_8]$	$[c_9i_{10}]$	$[ʌ_{11}m_{12}]$	

(9) Tableau for *camp^{h}ociʌm*

	5	5	2	*H*
cam + simphociʌm	OO-Max-σ (HD)	OO-Dep-σ (HD)	Max-seg	
(a) ☞camphociʌm			s,i (-2)	-4
(b) camsimphociʌm		σ (-1)		-5

But sometimes an output that violates prosodic faithfulness could win over a form that violates segmental faithfulness too much, as in Example (10) below. In Table 5, weights are assigned to each constraint same as Table 4. Even though *tot^{h}icʌn* does not violate the prosodic structure constraint, it violates Max-seg too much – four more violations than *tonet^{h}icʌn*. Therefore, *tonet^{h}icʌn* becomes the optimal output, although it exceeds the syllable number of the head. By doing so, we get a constraint violation trade-off between Max-seg and OO-faithfulness to syllables. When too much segmental deletion would occur, prosodic faithfulness is sacrificed, and this is something cannot be done with strict domination of OO-faithfulness>>Max-seg in OT.

(10) *tonet^{h}i.cin = (to)ne.i.sjʌn + net^{h}icin*
'a netizen who donates' 'donation 'netizen'

(11) Tableau for *to.ne.t^{h}i.cin*

	5	5	2		*H*
tone.isjʌn + net^{h}icʌn	OO-Max-σ (HD)	OO-Dep-σ (HD)	Max-seg		
(a) ☞tonet^{h}icin		σ (-1)	i,s,j,ʌ,n (-5)		-15
(b) tot^{h}icʌn			n,e,i,s,j,ʌ,n (-7)	n,e (-2)	-18

Let us now consider the case where the prosodic structure of the head is not preserved, with

the overlapping of non-identical but similar segments. To explain the pattern under consideration, we need one more constraint for feature identity.A. Constraint (12) requires corresponding segments of a source word and a blend to agree with each other in their feature specifications.

(12) Ident-Feature: Correspondent segments must agree in feature specifications.

Using this constraint, I will show how a blend with overlap of non-identical segments can be the optimal output. Again, using the example *tʰɛkʰoliʌn = tʰɛ(k'wʌnto)+ kʰoliʌn,* I assume that /k'/ from *tʰɛk'wʌnto* and /kʰ/ from *kʰoliʌn* both correspond to /kʰ/ in *tʰɛkʰoliʌn*, but the feature identity between /k'/ and /kʰ/ is violated. A small weight of 0.5 is assigned to the feature faithfulness constraint.

A candidate (a) in Example (13), /kʰ/ is in double correspondence with /k'/ and /kʰ/ of the source words. Even though it violates the ID-SW-BL constraint, it is optimal because it better satisfies Max-seg than the other candidates. Note that segments that are totally different from each other would not be in a correspondence relation because it would incur a serious violation of Identity constraints.

(13) *tʰɛkʰoliʌn = tʰɛ(k'wʌnto) + kʰoliʌn*
"a mixture of Taekwondo and Korean" ('Taekwondo'+'Korean language')

(14) Tableau for *tʰɛkʰoliʌn*

	5	5	2		0.5	*H*
tʰɛkwʌnto+kʰoliʌn	OO-Max-σ (HD)	OO-Dep-σ (HD)	Max-seg		Ident-feature	
(a)☞ tʰɛkʰoliʌn		σ (-1)	w,ʌ,n,t,o (-5)		k' (-1)	-15.5
(b) tʰɛkʰoliʌn		σ (-1)	k',w,ʌ,n,t,o (-6)			-17
(c) tʰɛliʌn			k',w,ʌ,n,t,o (-6)	kʰ,o (-2)		-16

To sum up, by applying Harmonic Grammar, the general and exceptional patterns of Korean blends can be explained. The important point here is that there are two sets of faithfulness constraints competing in Korean blending, and that their relation is not always strict. Blending aims to gain the best recoverability. Prosodic structure faithfulness is weighted higher than segmental faithfulness, but sometimes, preserving the segmental maximization and sacrificing the prosodic structure faithfulness yields better recoverability.

4 Conclusion

The aim of this paper was to describe and analyze the general characteristics of Korean blends, particularly their phonological patterns, while showing that phonological factors play a crucial role in the formation of Korean blends. In this paper, I collected data for Korean blends, and argued that although some exceptions exist, Korean blends are in fact, very grammatical. I have shown that blends are created based on surface-to-surface correspondence between source words and the resultant blend, and this correspondence requires them to be as similar as possible. I have adopted two sets of faithfulness constraints that are in conflict with each other: one requires prosodic faithfulness while the other requires segmental faithfulness.

While Korean blends can be analyzed with the constraints used for blends of other languages, I have shown that Korean blends can be better explained under the framework of Harmonic Grammar in which constraints are weighted. Most Korean blends are faithful to the prosodic structure of the head, and some exceptional cases were found when overlapping segments exist.

This paper also raises possibilities for further studies. The nature of the overlapping of similar segments could be studied in more detail with phonetic approaches. For example, how similar do two segments have to be in order to be considered an imperfect mapping? A study that aims to answer such a question would clarify the nature of blending as well as the role of perceptual con-

fusability in determining correspondence.

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