

A Correspondence Analysis on Hiatus Resolution in Korean*

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Kang, Ongmi. 1999. **A Correspondence Analysis on Hiatus Resolution in Korean.** *Studies in Phonetics, Phonology and Morphology* 5. A vowel hiatus context is resolved by vowel coalescence, vowel elision, glide formation, or glide insertion. These are all onset-driven phenomena. The formal speech form, which may show a vowel hiatus, is derived by IO-correspondence. A vowel hiatus is eliminated by deleting a V in a V+V sequence or by obligatory glide formation of the first vowel. On the other hand, the casual speech form, where vowel coalescence, optional glide formation and glide insertion occur, is derived by OO-correspondence. The difference between the formal speech form and the casual speech form is the constraint ranking between Onset and other constraints. (Chosun University)

Key word: Vowel Coalescence, Vowel Elision, Glide Formation, Glide Insertion, IO-correspondence, OO-correspondence.

1. Introduction

There are four ways to avoid a vowel hiatus context in Korean: (i) glide formation, if V_1 is o/u , y , it becomes a glide w , y ; (ii) vowel coalescence, a $V + V$ sequence fuses into V ; (iii) vowel elision, V_2 is deleted when $V_1 + V_2$ are same vowels or one of them is \acute{e} (iv) glide insertion, a glide y , w is inserted between $V_1 + V_2$

In this paper I argue that the formal speech form, which has a vowel hiatus context, is mediated by IO-correspondence and the casual speech form, where optional glide formation, vowel coalescence, and glide

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insertion occur, is done by OO-correspondence. These hiatus resolution strategies are motivated to eliminate onsetless syllables in the output. The following table shows how a vowel hiatus is resolved in each context.

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	① Glide Formation with Compensatory Lengthening	② Vowel Coalescence	③ Vowel Elision	④ Glide Insertion
Kang, Ongmi. 1999. <i>Studies in Phonetics, Phonology and Morphology</i> 5. A vowel hiatus context V ₁ is resolved by vowel coalescence, vowel elision, glide formation, or glide with Cl speech form IO-correspondence.	wə:	ü:	u	uwə
hand, the casual speech formation and glide difference between the constraint rank	yə:	ö:	o	iyə/e
University	e:	e:	e:	eyə
Key Element	ɛ:	ɛ:	ɛ:	ɛ
Insertion, IO-corresp	a	a	ɛ:	a
	ə	ə	e:	ə
	ə	ə	i:	i

This paper is organized as follows. First, I introduce a distinction between OO-correspondence and OO-correspondence to explain formal speech forms and casual speech forms. Second, I will show how a vowel hiatus is resolved by glide formation, vowel coalescence, vowel elision, or glide insertion. Third, I deletion shows a glide symmetry between vowel coalescence and glide insertion. This deletion is motivated by the fact that the distinction between a word and a syllable is not clear in Korean. In this paper, I argue that the formal speech form, which has a vowel hiatus, is resolved by glide formation, vowel coalescence, and glide insertion. In this paper, I argue that the formal speech form, which has a vowel hiatus, is resolved by glide formation, vowel coalescence, and glide insertion.

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insertion and deletion. The OO-correspondence (Benes 1992) is a resolution strategy given constraints to eliminate correspondences in relation to it. The following table shows how those constraints are resolved in a context S_1 and S_2 (an element of S_2) are referred to as correspondents of one another when $\alpha R \beta$.

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Correspondence theory (Chosun University) correspondence between S_1 and S_2 . It was originally proposed to relate the identity between the input and output words. A Correspondence Analysis on Hiatus Resolution in Korean. *Studies in Phonetics, Phonology and Morphology* 5. A vowel glide base and the reduplicant and between the full form and the truncated form (Benua 1995), which is called OO-correspondence. Correspondence identity is regulated by faithfulness constraints as shown in the casual speech form and glide difference between (3) Faithfulness Constraints

① Glide Formation with Compensatory Lengthening	② Vowel Coalescence	③ Vowel Elision	④ Glide Insertion
e:	e:	e:	e
ɛ:	ɛ:	ɛ:	ɛ
a	a	ɛ:	a
ə	ə	e:	ə
ɪ	ɪ	i:	i

Key: Every segment in S_1 has a correspondent in S_2 .
 MAX(u): every mora in S_1 has a correspondent in S_2 .

IDENT(u): mora associations in S_1 should be the same as those in S_2 .

1. Introduction
 This paper is organized as follows. First, I introduce a distinction between S_1 is the input (I), the base, the formal speech form (F), and speech forms and casual speech forms. Second, I will show how a S_2 is the output (O), the reduplicant, the casual speech form (C). Where a glide is inserted to give a vowel hiatus in Korean (vowel glide insertion), Third, v -deletion shows a glide symmetry between identity of the pairs of IO-correspondence and OO-correspondence is regulated by parallel but distinct sets of faithfulness constraints (MAX-IO, MAX-FC, DEP-IO, DEP-FC, IDENT-IO(u), IDENT-FC(u), MAX-IO(u), MAX-FC(u), etc.), which will be referred to as IO-Faith and FC-Identity.

2. Correspondence Theory
 I assume that the formal speech form in Korean is an output derived by IO-correspondence (FC-Identity). The lines in (1) represent each form, where optional glide formation, vowel coalescence, and glide insertion strategies will be analyzed under Correspondence Theory, which restricts correspondence mapping between two given strings.

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correspondence between S_1 and S_2 . The OO-correspondence in (1) is a resolution strategy to avoid word-final syllable hiatus, as is the IO-correspondence in (2). The following table shows how these two correspondences resolve elements of context (S_1) and formal speech (S_2) are related as speech correspondents of one another within $R\beta$. [see III]

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Correspondence between S_1 and S_2 . It was originally proposed to relate the identity between the input and output. A Correspondence Analysis on Hiatus Resolution in Korean. See [5] in Phonetics, Phonology and Morphology 5. A vowel hiatus context is resolved at a certain place where the relation of vowel glide and the reduplication and between the full form and the truncated form (Benua 1992), which is called OO-correspondence. Correspondence identity is regulated by faithfulness constraints as shown in (5).	① Glide Formation with Compensatory Lengthening	② Vowel Coalescence	③ Vowel Elision	④ Glide Insertion
	a	a	\emptyset	ε
	ε	ε	ε	ε
	\emptyset	\emptyset	i	i

3. Vowel Coalescence and Compensatory Lengthening
 IDENT (4) mora associations in S_1 should be the same as those in S_2 .

This paper is organized as follows. First, I introduce a distinction between IO-correspondence and OO-correspondence to explain formal speech forms and casual speech forms. Second, I will show how a vowel hiatus (in the input) is resolved in the casual speech form (in Korean) as shown in (5).
 IO-correspondence is regulated by parallel but distinct sets of faithfulness constraints (MAX-IO, MAX-FC, DEP-IO, DEP-FC, IDENT-IO(u), IDENT-FC(u), MAX-IO(u), MAX-FC(u)) in the full form, which has a glide and FC-identity.

In this paper I argue that the formal speech form, which has a vowel and FC-identity, is an output derived from the formal speech form by IO-correspondence while the casual speech form is another output derived from the formal speech form by OO-correspondence.
 I assume that the formal speech form in Korean is an output derived from the input by glide formation, vowel coalescence, and glide insertion strategies. The IO-correspondence mapping between two segments of adjacent two vowels fuse into one vowel which has the feature of the first of the two vowels. The OO-correspondence mapping between two segments of adjacent two vowels (one is a vowel or consonant).

is a resolution strategy to deal with the hiatus in relation to the phonetic process of vowel coalescence.

The following examples show how the hiatus is resolved in a formal context (S1) and a casual speech form (S2) are referred to as speech correspondents of one another.

(1) $R[\text{voc}] \quad R[\text{voc}] \quad \beta \rightarrow R[\text{vc}]$
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Correspondence theory (Gopson University) refers to the correspondence between S1 and S2. It was originally proposed to relate the identity between the formal and casual speech forms. The phonetic process of vowel coalescence and glide insertion are the main factors in the formation of the casual speech form. A vowel glide is inserted between the two vowels in the formal speech form to resolve the hiatus. The phonetic process of vowel coalescence and glide insertion is the main factor in the formation of the casual speech form. The phonetic process of vowel coalescence and glide insertion is the main factor in the formation of the casual speech form. The phonetic process of vowel coalescence and glide insertion is the main factor in the formation of the casual speech form.

In the following sections I will consider how constraints in the formal speech form are resolved in the casual speech form.

Insertions in formal speech form casual speech form
 MAX(u): every mora in S1 has a correspondent in S2.

3. Vowel Coalescence and Compensatory Lengthening

This paper is organized as follows. First, I introduce a distinction between IO-correspondence and OO-correspondence to explain formal speech forms and casual speech forms. Second, I will show how a vowel glide is inserted to resolve a vowel hiatus in the formal speech form. Third, I will show how a vowel glide is inserted to resolve a vowel hiatus in the casual speech form. Identity of the pairs of IO-correspondence and OO-correspondence is regulated by parallel but distinct sets of faithfulness constraints. In the formal speech form, a glide v is inserted between V_1 and V_2 . In the casual speech form, a glide v is inserted between V_1 and V_2 .

In this paper, I argue that the formal speech form, which has a vowel glide, is derived from the casual speech form in Korean. The phonetic process of vowel coalescence and glide insertion are the main factors in the formation of the formal speech form. The phonetic process of vowel coalescence and glide insertion is the main factor in the formation of the formal speech form. The phonetic process of vowel coalescence and glide insertion is the main factor in the formation of the formal speech form. The phonetic process of vowel coalescence and glide insertion is the main factor in the formation of the formal speech form.

starting in formal speech and that corresponds to the casual speech form. The input is /s'a:nsa:4's/ and the output is [s'a:nsa:4's]. The input is /s'a:nsa:4's/ and the output is [s'a:nsa:4's].

Input	Align	Uniformity	MAX-IO(u)
a. s'a:nsa:4's		*	
b. s'a:nsa:4's		*	*
c. s'a:nsa:4's		*	

the formal speech form of /s'a:nsa:4's/ is [s'a:nsa:4's] and the casual speech form is [s'a:nsa:4's]. The input is /s'a:nsa:4's/ and the output is [s'a:nsa:4's].

B. Vowel Coalescence and Compensatory Lengthening

Next, we look at the vowel coalescence and compensatory lengthening. The input is /s'a:nsa:4's/ and the output is [s'a:nsa:4's]. The input is /s'a:nsa:4's/ and the output is [s'a:nsa:4's].

Input	Align	Uniformity	MAX-IO(u)
a. s'a:nsa:4's		*	
b. s'a:nsa:4's		*	*
c. s'a:nsa:4's		*	

the formal speech form of /s'a:nsa:4's/ is [s'a:nsa:4's] and the casual speech form is [s'a:nsa:4's]. The input is /s'a:nsa:4's/ and the output is [s'a:nsa:4's].

IC Analysis on hiatus

starting from the formal speech form (e.g. /s'a:nsa:4's/). The formal speech form is derived from the input /s'a:nsa:4's/ by the process of vowel lengthening. The formal speech form is derived from the input /s'a:nsa:4's/ by the process of vowel lengthening. The formal speech form is derived from the input /s'a:nsa:4's/ by the process of vowel lengthening.

Input	Align	Uniformity	MAX-IO(u)
a: s'a:nsa:4's			
b: s'a:nsa:4's			
c: s'a:nsa:4's			

Let us look at the first case (a). The formal speech form is derived from the input /s'a:nsa:4's/ by the process of vowel lengthening. The formal speech form is derived from the input /s'a:nsa:4's/ by the process of vowel lengthening. The formal speech form is derived from the input /s'a:nsa:4's/ by the process of vowel lengthening.

B. vowel coalescence and compensatory lengthening

Contrary to the common belief, it should not be bimoraic. The formal speech form is derived from the input /s'a:nsa:4's/ by the process of vowel lengthening. The formal speech form is derived from the input /s'a:nsa:4's/ by the process of vowel lengthening. The formal speech form is derived from the input /s'a:nsa:4's/ by the process of vowel lengthening.

Let us look at the second case (b). The formal speech form is derived from the input /s'a:nsa:4's/ by the process of vowel lengthening. The formal speech form is derived from the input /s'a:nsa:4's/ by the process of vowel lengthening. The formal speech form is derived from the input /s'a:nsa:4's/ by the process of vowel lengthening.

4. Vowel Elision with Final Compensatory Lengthening

(14) $\left[\begin{smallmatrix} \text{d} \\ \text{t} \\ \text{c} \end{smallmatrix} \right] \text{le} \text{a} \text{ } ^2$				
* $\left[\begin{smallmatrix} \text{d} \\ \text{t} \\ \text{c} \end{smallmatrix} \right] \text{le} \text{a} \text{ } ^2$	*	*	*	*

coalescence* shows that the lack of a final vowel in the syllable is compensated for by lengthening the preceding vowel. This is a common phenomenon in many languages, and is particularly prominent in Korean. The lengthening is not just a simple extension of the vowel, but a true lengthening that changes the syllable structure. This is why the lengthened vowel is considered to be in a different syllable from the original vowel. The lengthening is also a compensatory phenomenon, meaning that it occurs only when the syllable is closed by a consonant. If the syllable is open, the vowel is not lengthened. This is why the lengthening is considered to be a compensatory phenomenon.

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4. iCC Analysis on hiatus

input: /sʌmɔ:sa:la/ [sʌmɔ:sa:la] 'to be busy' (MAX-IO(u),

dominance of syllabic reference in syllable) forms a prosodic stem, while a

4. vowel coalescence with the following compensatory lengthening

(14) [sʌmɔ:sa:la] and [sʌmɔ:sa:la] 'to be busy' (MAX-IO(u),

coalescence with the following compensatory lengthening) coalescence* shows

an iCC analysis of the input [sʌmɔ:sa:la] as follows: [sʌmɔ:sa:la] → [sʌmɔ:sa:la]

[sʌmɔ:sa:la] → [sʌmɔ:sa:la] 'to be busy' (MAX-IO(u),

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an iCC analysis of the input [sʌmɔ:sa:la] as follows: [sʌmɔ:sa:la] → [sʌmɔ:sa:la]

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an iCC analysis of the input [sʌmɔ:sa:la] as follows: [sʌmɔ:sa:la] → [sʌmɔ:sa:la]

[sʌmɔ:sa:la] → [sʌmɔ:sa:la] 'to be busy' (MAX-IO(u),

Phonetic Analysis on hiatus in Korean

Input: /sʌmsʌnʌsʌn/ [sʌmsʌnʌsʌn] 'set' (MAX-IO) (1)

Output: [sʌmsʌnʌsʌn] 'set' (MAX-IO) (2)

Output: [sʌmsʌnʌsʌn] 'set' (MAX-IO) (3)

Output: [sʌmsʌnʌsʌn] 'set' (MAX-IO) (4)

Output: [sʌmsʌnʌsʌn] 'set' (MAX-IO) (5)

Output: [sʌmsʌnʌsʌn] 'set' (MAX-IO) (6)

Output: [sʌmsʌnʌsʌn] 'set' (MAX-IO) (7)

Output: [sʌmsʌnʌsʌn] 'set' (MAX-IO) (8)

Output: [sʌmsʌnʌsʌn] 'set' (MAX-IO) (9)

Output: [sʌmsʌnʌsʌn] 'set' (MAX-IO) (10)

Output: [sʌmsʌnʌsʌn] 'set' (MAX-IO) (11)

Output: [sʌmsʌnʌsʌn] 'set' (MAX-IO) (12)

Output: [sʌmsʌnʌsʌn] 'set' (MAX-IO) (13)

Output: [sʌmsʌnʌsʌn] 'set' (MAX-IO) (14)

Output: [sʌmsʌnʌsʌn] 'set' (MAX-IO) (15)

Output: [sʌmsʌnʌsʌn] 'set' (MAX-IO) (16)

Output: [sʌmsʌnʌsʌn] 'set' (MAX-IO) (17)

Output: [sʌmsʌnʌsʌn] 'set' (MAX-IO) (18)

Output: [sʌmsʌnʌsʌn] 'set' (MAX-IO) (19)

Output: [sʌmsʌnʌsʌn] 'set' (MAX-IO) (20)

Output: [sʌmsʌnʌsʌn] 'set' (MAX-IO) (21)

Output: [sʌmsʌnʌsʌn] 'set' (MAX-IO) (22)

Output: [sʌmsʌnʌsʌn] 'set' (MAX-IO) (23)

Output: [sʌmsʌnʌsʌn] 'set' (MAX-IO) (24)

Output: [sʌmsʌnʌsʌn] 'set' (MAX-IO) (25)

7.2.3.2.3. Optimal syllable structure analysis on hiatus

Input: /sʌmɪa:l sʌbɔ:z/ 'to be busy' (see (36)).

Onset: /s/ is chosen as the optimal onset, since it outranks the alternative onsets /sʌ/ and /sʌm/.

Segment: The optimal segment is /sʌmɪa:l sʌbɔ:z/.

Onset: /sʌ/ is chosen as the optimal onset, since it outranks the alternative onsets /sʌm/ and /sʌmɪ/.

Segment: The optimal segment is /sʌmɪa:l sʌbɔ:z/.

Onset: /sʌm/ is chosen as the optimal onset, since it outranks the alternative onsets /sʌmɪ/ and /sʌmɪa/.

Segment: The optimal segment is /sʌmɪa:l sʌbɔ:z/.

Onset: /sʌmɪ/ is chosen as the optimal onset, since it outranks the alternative onsets /sʌmɪa/ and /sʌmɪa:l/.

Segment: The optimal segment is /sʌmɪa:l sʌbɔ:z/.

Onset: /sʌmɪa/ is chosen as the optimal onset, since it outranks the alternative onsets /sʌmɪa:l/ and /sʌmɪa:l s/.

Segment: The optimal segment is /sʌmɪa:l sʌbɔ:z/.

Onset: /sʌmɪa:l/ is chosen as the optimal onset, since it outranks the alternative onsets /sʌmɪa:l s/ and /sʌmɪa:l sʌ/.

Segment: The optimal segment is /sʌmɪa:l sʌbɔ:z/.

Onset	Segment	Onset	Segment
/s/	/sʌmɪa:l sʌbɔ:z/	/sʌ/	/sʌmɪa:l sʌbɔ:z/
/sʌ/	/sʌmɪa:l sʌbɔ:z/	/sʌm/	/sʌmɪa:l sʌbɔ:z/
/sʌm/	/sʌmɪa:l sʌbɔ:z/	/sʌmɪ/	/sʌmɪa:l sʌbɔ:z/
/sʌmɪ/	/sʌmɪa:l sʌbɔ:z/	/sʌmɪa/	/sʌmɪa:l sʌbɔ:z/
/sʌmɪa/	/sʌmɪa:l sʌbɔ:z/	/sʌmɪa:l/	/sʌmɪa:l sʌbɔ:z/
/sʌmɪa:l/	/sʌmɪa:l sʌbɔ:z/	/sʌmɪa:l s/	/sʌmɪa:l sʌbɔ:z/
/sʌmɪa:l s/	/sʌmɪa:l sʌbɔ:z/	/sʌmɪa:l sʌ/	/sʌmɪa:l sʌbɔ:z/

The optimal syllable structure analysis is shown in (37).

Onset: /s/ is chosen as the optimal onset, since it outranks the alternative onsets /sʌ/ and /sʌm/.

Segment: The optimal segment is /sʌmɪa:l sʌbɔ:z/.

Onset: /sʌ/ is chosen as the optimal onset, since it outranks the alternative onsets /sʌm/ and /sʌmɪ/.

Segment: The optimal segment is /sʌmɪa:l sʌbɔ:z/.

Onset: /sʌm/ is chosen as the optimal onset, since it outranks the alternative onsets /sʌmɪ/ and /sʌmɪa/.

Segment: The optimal segment is /sʌmɪa:l sʌbɔ:z/.

Onset: /sʌmɪ/ is chosen as the optimal onset, since it outranks the alternative onsets /sʌmɪa/ and /sʌmɪa:l/.

Segment: The optimal segment is /sʌmɪa:l sʌbɔ:z/.

Final: DEPENDENCY ON HLAUS

a. $**([y])$ 'over there'
 b. $**([w, \text{ə}])$ 'into the tree'

a. *
 b. $**([e, w])$ since glide formation of i derives
 a. * b. $**([w, \text{ə}])$ which violates Onset on

a. *
 b. $**([w])$

DEP-FC_N(y)

*

DEP-FC

a. *
 b. $**([w, \text{ə}])$

a. *
 b. $**([w])$

a. *
 b. $**([w, \text{ə}])$

a. *
 b. $**([w])$

a. *
 b. $**([w, \text{ə}])$

a. *
 b. $**([w])$

a. *
 b. $**([w, \text{ə}])$

a. *
 b. $**([w])$

4. Input: $\text{FCN}(y)$

5. Output: $\text{FCN}(y)$

6. DEP-FCN(y)

7. DEP-FCN(y)

8. DEP-FCN(y)

9. DEP-FCN(y)

10. DEP-FCN(y)

11. DEP-FCN(y)

12. DEP-FCN(y)

13. DEP-FCN(y)

14. DEP-FCN(y)

15. DEP-FCN(y)

16. DEP-FCN(y)

17. DEP-FCN(y)

18. DEP-FCN(y)

19. DEP-FCN(y)

20. DEP-FCN(y)

21. DEP-FCN(y)

22. DEP-FCN(y)

23. DEP-FCN(y)

24. DEP-FCN(y)

25. DEP-FCN(y)

26. DEP-FCN(y)

27. DEP-FCN(y)

28. DEP-FCN(y)

29. DEP-FCN(y)

30. DEP-FCN(y)

31. DEP-FCN(y)

32. DEP-FCN(y)

33. DEP-FCN(y)

34. DEP-FCN(y)

35. DEP-FCN(y)

36. DEP-FCN(y)

37. DEP-FCN(y)

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