

Syllable Structure in Korean Revisited

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Many authors hypothesize that a syllable in Korean can have a maximum of four segments: CGVC. There are two views regarding the position of the glide: as a part of a complex onset as in (1)a (Kim and Shibatani 1976, Lee 1982, among others), and as a part of a complex nucleus along with the peak vowel as in (1)b (Gim 1987, cf. Kim 1984: 9ff). This paper argues that, phonetically, the maximum syllable structure is simply CVC as in (1)c (cf. Ahn 1985: 48).

Loan phonology of Korean supports the CVC structure. In a consonant-glide (CG) sequence, the vowel [ɯ] is inserted resulting in two syllables or the glide is fused into the preceding consonant, as shown in (2). The two distinct adaptation strategies for the original CG clusters show that there is no room for a glide with another onset consonant in the syllable. The lack of CG sequences is due to the constraint (3), which excludes (1)a. These adaptation strategies are against (1)b as well, because if the input glide could be syllabified into the complex nucleus the epenthetic vowel would not be inserted or the glide should remain as such.

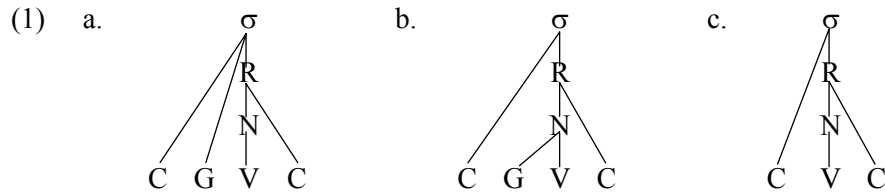
The lack of consonant-liquid (CL) sequences supports the CVC structure. If a loanword contains a CL sequence, the epenthetic vowel is inserted as in (4). There is a universal implication that if a language lacks a CL onset it also lacks a CL onset (Calabrese 2002, van der Hulst 2005, among others). Korean lacks syllable-initial CL clusters, which indicates that it also lacks syllable-initial CG clusters. Hence, (1)a cannot be the correct syllable structure.

In addition to [y] and [w], Korean has the third glide [ɥ], the high back unround glide. It occurs only with [i] preceding it, as in (5). In addition, the sequence [ɥi] cannot occur with a preceding consonant in a single syllable. The lack of the *Cɥi* sequence shows that there is no independent glide position under the nucleus node or as part of a complex onset. To ensure that the surface syllables lack a branching nucleus, the constraint (6) is necessary. The glide [ɥ] always fills the single onset position, which is usually occupied by a “regular” consonant.

The distribution of the palatal allophone of the laryngeal fricative /h/ supports the structure (1)c. The allophone [ç] is found before the high front vowel [i] as in [çim] < /him/ ‘power’. Unexpectedly, however, this palatal variant is also found before back vowels [ʌ, a, u, o] as in (7). The glide present in the lexical representation turns the laryngeal into palatal and subsequently deletes, which is a case of opacity. The result is lack of the glide in the context of C_V in a syllable. The absence of [y] between [ç] and a back vowel at surface supports (1)c as the maximum syllable structure in Korean.

The infinitive forms of certain predicates exhibit the same point. When a predicate ending in [i] with a preceding coronal non-stop is followed by the infinitive suffix [ʌ], the two vowels create a hiatus configuration. As shown in (8), the stem-final [i] does not surface; nor is the expected glide [y] present to which the stem-final /i/ is devocalized due to hiatus resolution (cf. gerund forms). The stem-final vowel (or its derived glide) palatalizes the preceding consonant and is subsequently deleted due to the constraints (3) and (6). The glide property (palatality) is incorporated into the preceding consonant. If there were a room for a glide as in (1)a or (1)b, the absence of the glide would remain unexplained.

The paper also examines spectrograms of syllables with the alleged CGV sequences. It shows that the surface forms of such syllables do not contain a glide, and argues that the maximal phonetic syllable structure contains the CVC sequence.



(2) Loanwords with a CG onset

original form	borrowed form	
[tyuwnə]	[t ^{hy} una]	‘tuna’
[twɪst]	[t ^h ɪrwɪstɪt ^h ɪ]	‘twist’ (dance)
[kyuwt]	[k ^{hy} ut ^h ɪ]	‘cute’
[kwɪyn]	[k ^{hwy} in]	‘queen’
[pyuwmə]	[p ^{hy} uma]	‘puma’
[pwazɔ̃]	[p ^h ɪrwajɔ̃]	‘perfume’ Fr. <i>poison</i>

(3) Complex Onset Constraint *



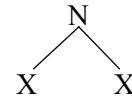
(4) Loanwords with a CL onset

original form	borrowed form	
[prɪntər]	[p ^h ɪrɪntɪ]	‘printer’
[plækard]	[p ^h ɪlæk ^h adɪ]	‘placard’
[kriym]	[k ^h ɪrɪm]	‘cream’
[klɪnɪk]	[k ^h ɪlɪnɪk ^h]	‘clinic’
[trʌk]	[t ^h ɪrʌk ^h]	‘truck’
[slɪpər]	[stɪlɪp ^h ɪ]	‘slipper’

(5) Distribution of the glide [ɰ]

[ɰɪ]	‘just’
[ɰɪmu]	‘duty’
[ɰɪsa]	‘physician’
[ɰɪguʃɪm]	‘doubt’

(6) Branching Nucleus Constraint *



(7) The palatal allophone [ç] of /h/ before vowels other than [i]

[çʌ]	‘tongue’	[çʌŋgi]	‘scent’	[ç ^w uʃɪk ^h]	‘rest’	[ç ^w omo]	‘yeast’
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(8) Absence of a stem-final vowel between a palatal consonant and the infinitive suffix /ɪ/

stem	infinitive /ɪ/	gerund /ko/	stem	infinitive /ɪ/	gerund /ko/
/tasi-/ ‘smack’	[taʃʌ]	[taʃigo]	/çi-/ ‘lose’	[çʌ]	[çigo]
/tani-/ ‘travel’	[taɲʌ]	[taɲigo]	/č ^h i-/ ‘hit’	[č ^h ʌ]	[č ^h igo]
/talli-/ ‘run’	[taʎʌ]	[taʎigo]	/č ^h i-/ ‘steam’	[č ^h ʌ]	[č ^h igo]

(9) Stem vowels showing “optional” glide formation with the infinitive suffix /ɪ/

/ki-/ ‘crawl’	[kiʌ] ~ [k ^y ʌ]	/k ^h u-/ ‘lend’	[k ^h uʌ] ~ [k ^h wʌ]
/titi-/ ‘step on’	[tidiʌ] ~ [tid ^y ʌ]	/po-/ ‘see’	[poa] ~ [p ^w a]
/tu-/ ‘put’	[tuʌ] ~ [t ^w ʌ]	/ko-/ ‘boil down’	[koa] ~ [k ^w a]

Ahn, S.-C. 1988. A revised theory of syllable phonology. *Linguistic Journal of Korea* 13.

Calabrese, A. 2002. Dynamic phonology: Markedness and economy in a derivational model of phonology. Ms., Univ. of Connecticut, Storrs.

Gim, C.-K. 1987. A study on the syllable structure and phonological processes in the nucleus. *Mal* 12.

van der Hulst, H. 2005. Molecular structure of phonological segments. In P. Carr et al., eds., *Headhood, Elements, Specification and Contrastivity*, 193-234. Amsterdam: John Benjamins.

Kang, O. 1999. A correspondence approach to glide formation in Korean. *Korean Journal of Linguistics* 24.

Kim, K.-O., and M. Shibatani. 1976. Syllabification in Korean. *Language Research* 12.

Kim, Y.-S. 1984. *Aspects of Korean morphology*. Doctoral dissertation, Univ. of Texas at Austin.

Lee, B.-G. 1982. A well-formedness condition on syllable structure. In The Linguistic Society of Korea, ed. *Linguistics in the Morning Calm*, 489-506. Seoul: Hanshin.

Lee, Y. 1996. Glide formation in Korean: An optimality analysis. *Korean Journal of Linguistics* 21.