

Vowel Shortening and Evidence for a Moraic Consonant: a Case from Kyungsang Dialect of Korean

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Young-Hee Chung. 1997. Vowel Shortening and Evidence for a Moraic Consonant. *Studies in Phonetics, Phonology and Morphology* 3, 247-264. In the Kyungsang dialect of Korean, there is a vowel shortening process of verb stems. In the literature of the Korean phonology, this process has been viewed as shortening a long vowel of stems. In the present paper, however, it is argued that shortening is a result of lack of a moraic consonant in the case of consonant-final stems, unlike in vowel-final stems. The present analysis using a moraic consonant is superior to previous ones in that it provides a systematic and straightforward explanation for the generalizations captured of consonant-final stems. (Sejong University).

1. Introduction

In the Kyungsang dialect of Korean spoken in Daegu area, there is a vowel shortening process of verb stems. The final long vowel of verb stems, whether the stem is consonant-final or vowel-final, shortens when the following suffix is vowel-initial. When the following suffix is consonant-initial, shortening does not occur. In the literature of the Korean phonology, this process has been viewed as shortening a long vowel. In the present paper, however, it is argued that shortening process of consonant-final stems should not be considered as shortening a long vowel, but as a result of lack of a moraic consonant.

Our interest centers around consonant-final stems since interesting generalizations are captured of these stems. The generalizations are: (1) The majority of sonorant-final verb stems have a long vowel. They undergo shortening before a vowel-initial suffix (2) Among obstruent-final stems, so-called "irregular" verb stems (which end with [p], [t], [s] alternating with [w], [r] and [Ø], respectively) have a long

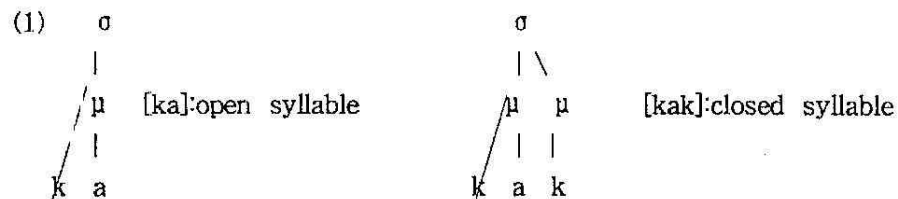
vowel and this long vowel shortens before a vowel-initial suffix. Rest of them have a short vowel with few exceptions. (3) There are a few obstruent-final stems which are not "irregular" but have a long vowel. Interestingly, these stems do not undergo shortening.

It will be shown that the above generalizations are given a systematic and straightforward explanation under the present analysis using moraic phonology, which makes the present analysis superior to previous analyses. The present paper is organized as follows. First, a brief overview of moraic theory will be presented. Next, the shortening process is analysed within the framework of moraic phonology. Sonorant-final stems, obstruent final-stems and consonant cluster-final stems will be dealt separately. It will be argued that shortening of consonant-final stems is a result lack of a moraic consonant.

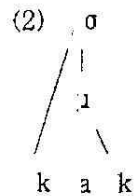
2. Moraic Theory

2.1 The mora tier

Moraic theory, suggested by Hyman (1985), McCarthy and Prince (1986) and Hayes (1989) among others, assumes a prosodic tier of mora. The role of moras is dual. First, it represents the contrast between light and heavy syllables: a light syllable has one mora, a heavy syllable two. For instance, in a language where an open syllable is counted as light, a closed syllable as heavy, the structure for the syllables will be as follows, where μ = mora:



Note that the syllable final consonant is assigned a mora. In a language where closed syllables are counted light, however, a syllable final consonant is not assigned a mora, but adjoins to the preceding mora as follows:

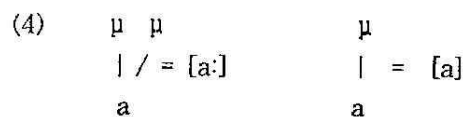


Second, a mora counts as a phonological position. So a long vowel is normally represented as a melodic element which is doubly linked as illustrated in (3).

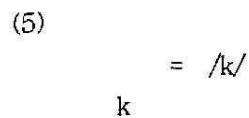


2.2 Underlying Forms and Syllabification

Generally, it is assumed that only distinctive information is present in underlying forms, including about moraic structure. It follows that in languages with contrastive vowel length long vowels are assigned two moras, short vowels one underlyingly.

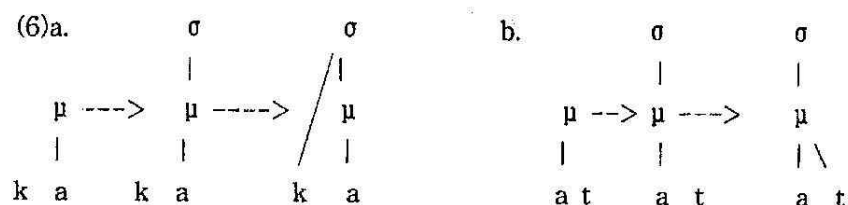


Short consonants will not bear a mora unless assigned one by rule (Hayes, 1988).



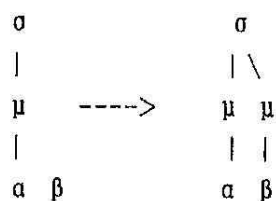
Moraic structures receive their explicit interpretation when they are grouped into syllables by a syllabification algorithm. Following Hayes

(1988), I assume that syllabification consists of the following: first, select certain sonorous moraic segments for domination by a syllable node; second, adjunct onset consonant to the syllable node and coda consonant to the preceding mora. Adjunction is subject to language-specific conditions on syllable well-formedness and the division of intervocalic clusters. The following schematic derivation illustrate the procedure.

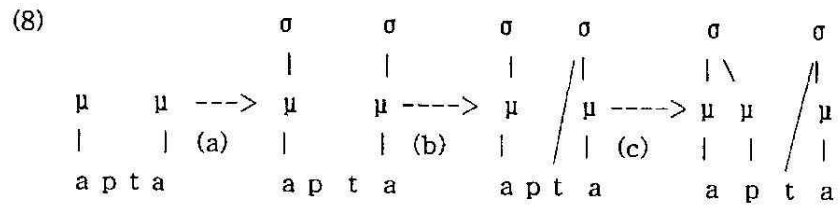


The next ingredient of the analysis is the set of language-specific rules. One such rule is "weight by position", which renders closed syllables heavy in certain languages. (Hayes 1988). The basic idea is that certain consonants are given a mora when they are adjoined to the syllable. The rule (7), Weight by Position, was proposed by Hayes (1988) for languages where all closed syllables count as heavy.

(7) Weight by Position



It is generally assumed that prevocalic consonants must be parsed as non-moraic onset elements, and thus can never receive weight by position (Hayes, 1988).



(a)=σ assingment (b)=Adjunction of Prevocalic Consonants
 (c)=Adjunction, Weight by Position

Hymar (1985) points out that in some languages, only a subset of the consonants make their syllable heavy when they occur in coda position. This can be, according to Hayes (1988), described by placing restrictions on β in the language-particular version of the Weight by Position rule.

3. Vowel Shortening

In this section, vowel shortening of North Kyungsang dialect of Korean will be analyzed under the moraic theory sketched above. First, vowel-final stems will be considered in (3.1), and consonant-final stems will be discussed in (3.2).

3.1 Vowel-final Stems

Consider the following vowel-final stems in (9). A long vowel of verb stems shortens when the following suffix is vowel-initial. When the following suffix is consonant-initial, the vowel does not shorten.

(9) stem-infinitive	imperative	imperative(polite)	
næ-ta	ne-əla ¹⁾	nee-kəla	'to serve'
pæ-ta	pe-əla	pee-kəla	'to cut'
swii-ta	swi-əla	swii-kəla	'to rest'

To account for the shortening in (9), a vowel shortening rule as in (10)

¹⁾[ɐ] represents a schwa sound.

is required.

(10) Vowel Shortening (Verbs)

$$\begin{array}{c} \sigma \quad \sigma \\ / \backslash \quad | \\ \mu \quad \mu \quad \mu \end{array}$$

Vowel Shortening deletes a mora of a long vowel before another mora. The form *ne-əla* 'serve-imperative' is derived as follows:

(11)

$$\begin{array}{ccc} \sigma & \sigma & \sigma \\ / \backslash & | & / \backslash \\ \mu \mu & \mu & \mu \\ | / & | & | \\ n & e & ə \quad l \quad a \end{array} \xrightarrow{\text{rule (10)}} \begin{array}{ccc} \sigma & \sigma & \sigma \\ / \backslash & | & / \backslash \\ \mu \mu & \mu & \mu \\ | / & | & | \\ n & e & ə \quad l \quad a \end{array}$$

The application of rule (10) desyllabifies the second mora of the stem. Since an unsyllabified mora is not realized phonetically, the stem vowel is pronounced short.

When the stem is followed by a consonant-initial suffix, there is an intervening consonant between the stem and the following vowel, which prevents the rule (10) from applying, as illustrated in (12).

(12)

$$\begin{array}{ccc} \sigma & \sigma & \sigma \\ / \backslash & | & / \backslash \\ \mu \mu & \mu & \mu \\ | / & | & | \\ n & e & k \quad ə \quad l \quad a \end{array}$$

3.2 Consonant-final Stems

Of consonant-final stems are captured the following generalizations. (a) The majority of sonorant-final verb stems have a long vowel.²⁾ They undergo shortening before a vowel-initial suffix. (b) Among

² Around two thirds of sonorant-final stems have a long vowel.

obstruent-final stems, so-called "irregular" verb stems (which end with [p],[t], [ʒ] alternating with [w],[r] and [ɸ])) have a long vowel. Rest of them have a short vowel with a few exceptions. "Irregular" verb stems undergo shortening before a vowel-initial suffix. (c) There are few obstruent-final stems which are not "irregular" but have a long vowel. Interestingly, these stems do not undergo shortening.

In subsequent sections, I will provide an explanation for the generalizations mentioned above. It will be argued that shortening of consonant-final stems is not a result of shortening a long vowel, but of lack of a moraic consonant. Sonorant-final stems will first be discussed in (3.2.1). Obstruent-final stems are considered in (3.2.2) and consonant-cluster final stems in (3.2.3)

3.2.1 Sonorant-final Stems

A long vowel of sonorant-final stems shortens before a vowel-initial suffix. It remains long, however, before a consonant-initial suffix as seen in (13).

(13) infinitive	conjunctive	imperative	past-indicative	
mi:l-ta	mi:l-ko	mi:l-ʒla ³	mi:l-ət-ta	"to push"
sa:l-ta	sa:l-ko	sa:l-ala	sa:l-at-ta	"to live"
na:m-ta	na:m-ko	na:m-ala	na:m-at-ta	"to be left"
si:n-ta	si:n-ko	si:n-ʒla	si:n-ət-ta	"to wear shoes"

Vowel Shortening (10) cannot apply to the words in (13) since a consonant intervenes between the long vowel and the suffix-initial vowel as illustrated in (14) below.

³Suffixes alternate between [ʒla] and [ala], depending on whether a preceding stem ends in a consonant or a vowel.