Lexical Phonology in Korean Epenthetic-s Phenomenon

Jong-mi Kim
Associate Professor
Department of English Language and Literature
Kangweon National University
Chuncheon City, South Korea

Compound nouns in Korean often surface with an inserted consonant which is not present in either of the constituent nouns in isolation. The emergence of the consonant is conditioned by the morphological and phonological relationship between the constituents of a compound. This phenomenon has been traditionally called ‘sai sios,’ translated by Martin (1954:55) as ‘Epenthetic-g’ or ‘Bindungs-g.’ It has been the center of attention in Korean phonology for the past 40 years (Lee S-N 1954, Huh 1965, Kim-Renaud 1974, Y-S Kim 1984, J-M Kim 1991, among others). The purpose of this paper is to argue that the rule of Epenthetic-s must apply to the lexicon and thus to provide a crucial piece of evidence for the theory of Lexical Phonology.

The theory of Lexical Phonology has been proposed by Mohanan(1982) and extended by Kiparsky(1982), Pullyblank(1983), Kiparsky(1985), Mohanan(1986), etc. The heart of this theory is the claim that the lexicon must allow some phonological rules, which bear some disagreement (e.g., Sproat 1986). In order to support this claim, this paper is organized in the order of, first, the phonological analysis, second, the morphological analysis, then third, the lexical status of this phenomenon.

1. Phonology of Epenthetic-s Phenomenon

The phonological aspect of Epenthetic-s phenomenon, though looks complex, can be analyzed as coherent and regular phonology made of just one simple rule of insertion and other independently motivated rules. This section shall strive to show how this can be achieved, since its being a regular phonological rule serves an important basis for the arguments in the following sections.

The following table (1) illustrates this phenomenon. The surface representations of compound nouns are in brackets [ ], and those of constituent nouns are on
the left and right side of the symbol #. All inserted segments are underlined, and the Epenthetic-s segments in our analysis are in bold letters. Their phonological environments are written in the upper-most column and the left-most row.

(1) **Data on Epenthetic-s Phonology**

<table>
<thead>
<tr>
<th>V #</th>
<th>C # [+son]</th>
<th>C # [-son]</th>
</tr>
</thead>
<tbody>
<tr>
<td>___#(i,y) I. tum'il</td>
<td>II. phan'yuli</td>
<td>III. k'och'ip</td>
</tr>
<tr>
<td>[tum'il]</td>
<td>[phan'yuli]</td>
<td>[k'onnip]</td>
</tr>
<tr>
<td>___# V other than (i,y) Iyup'adi1</td>
<td>V. NONE</td>
<td>VI. NONE</td>
</tr>
<tr>
<td>[iyup'adi1]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>___# C [+son] VII. k'hon'nal</td>
<td>VIII. NONE</td>
<td>IX. NONE</td>
</tr>
<tr>
<td>[k'hon'nal]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>___# C [-son] X. ntk'a</td>
<td>XI. kilk'a</td>
<td>XII. pok'teNGi</td>
</tr>
<tr>
<td>[ntk'a]</td>
<td>[kilk'a]</td>
<td>[pok'teNGi]</td>
</tr>
</tbody>
</table>

(1)' glosses of the data above

I. back # work (future affairs)
II. board # glass (sheet glass)
III. flower # leaf (flower leaves)
IV. step father # son (a step son)
VII. nose # blade (nasal septum)
X. stream # side (stream bank)
XI. road # side (side of roads)
XII. fortune # lump (a fortunate person)

It is important to notice that the epenthized segments appear in various forms. It appears as two n's in data set I; as a single n in sets II, III and VII; as a single t in sets IV and X; as a [+ tense] feature in sets XI and XII; and as a phonologically null segment (if it exists at all) in sets V, VI, VIII and IX. In order to account for all these data, we need to follow the majority of previous works which have correctly argued that the "Epenthetic-s" is not underlyingly present, but is inserted between the two constituent nouns (eg., C-W Kim 1970). The reasons are:

(i) The segments appear only in compounds but not in
constituent nouns in isolation, and (ii) their feature specification is predictable.

Once we admit that Epenthetic-s is inserted between the two constituent nouns, there are three possible places of insertion: i) as a final segment of the first constituent, ii) as an initial segment of the second constituent, and iii) as a segment independent from either of the constituents. Most previous literature opts for the third possibility, essentially because we do not find evidence for either of the other two options (e.g., Ahn 1985). I will argue later, however, for the first possibility in order to account for the neglected data set in V and VI.

For the moment, let us concentrate on the majority of data by positing the rule of t-insertion as the following.

(2) The rule of t-insertion

\[ \emptyset \longrightarrow t / \quad \] \[ N \quad \] \[ N \]

This rule inserts a t as a last segment of the first constituent of a compound noun. The rule environment is specified for nouns because other types of compounds (e.g. verb compounds) do not obey this rule. Once we set this rule, a variety of data can be explained without any further contemplation. Let us review the data sets in (1) one by one. The data sets IV, VII, X, XI and XII in (1) are readily accounted for as shown in the following derivation.

(3) Derivation of IV, VII, X, XI and XII in (1)

(a) example from IV

(2) voicing

\[ \text{ythu atil} \longrightarrow \text{ythut atil} \quad \longrightarrow \quad [\text{ypuqadil}] \]

(b) example from VII

(2) nasalization

\[ \text{kho nal} \quad \longrightarrow \quad \text{khot nal} \quad \longrightarrow \quad [\text{khoqnaal}] \]

(c) example from X

(2) tensing

\[ \text{n\text{\r}}\text{a ka} \quad \longrightarrow \quad \text{n\text{\r}}\text{at ka} \quad \longrightarrow \quad [\text{n\text{\r}}\text{tk}\text{\text{a}}] \]

(d) example from XI

(2) tensing SEC

\[ \text{kil ka} \quad \longrightarrow \quad \text{kilt ka} \quad \longrightarrow \quad \text{kilt k\text{\text{a}}} \quad \longrightarrow \quad [\text{kilk\text{\text{a}}}] \]
The surface representations are derived by other independent rules such as intervocalic voicing in (3a), nasal assimilation in (3b) which nasalizes an obstruent preceding a nasal stop, and obstruent tensing in (3c) which tenses the second obstruent in an obstruent cluster. (3d & e) are subject to the phonotactic constraint of Korean which allows only one consonant per coda and per onset. Thus, the formal device of the Stray Erasure Convention (Steriade 1982;87) erases the unsyllabified segments in these examples, and produces the correct surface forms.

Had we not inserted a t by the t-insertion rule (2), we would not have a tense k' for the data in (3d). Tensing does not automatically occur after a sonorant consonant. For instance, /cal + ko/ "small + and" is pronounced as [calko], not *[calk'o]. Thus, as found in previous analyses (eg., C-W Kim 1970, Kim-Renaud 1974;164), the inserted t for these data, causes tensing of the initial obstruent of the second constituent, and get deleted by the surface phonetic constraint *CCC in Korean.

An important aspect of the present analysis, however, is in the account of the next data set I,II and III where the epenthesized segments are now [n]. Our analysis requires an independently motivated n-insertion rule for these sets of data (cf. Ahn 1985;71 for a different view and J-M Kim 1991 for counter arguments).

(4) n-insertion rule

\[ \emptyset \rightarrow n / \text{[+-round]} \]
\[ _N [\text{[+-back]} \]
\[ / \text{[+high]} \]

This rule inserts the segment n when the second constituent of a compound begins with i/y. Unlike the previous t-insertion rule, this n-insertion occurs i) between a noun and any stem including a verb, and ii) the inserted n is part of the second constituent.

As for the first point, n-insertion also apply to a NV compound as in /path_N # ilku_V + ta/ [pannilguda] "field # cultivate + Indicative" and /mun_N # yel_V + ta/ [munnyelda] "door # open + Indicative."

As for the second point, we observe two things.