Universal Phonological Processes in Korean; An overview

Hyung-Soo Kim
Jeonju University, Korea

1. Introduction

This paper introduces certain phonological processes in Korean, under the concept of universal phonological process. There are many phonological processes traditionally recognized in Korean and still many more are perhaps waiting to be discovered. Since it is impossible to include all these processes in this short introductory paper, the discussion will center on the processes that have been popular topics for analysis among phonologists in Korea.

Universal phonological process is a concept that undelies the phonological theory developed by James Foley (Theoretical Phonology: Foley 1977, 1979, 1991). This concept maintains that there exists a limited number of processes occurring as part of the definition of Language, to which all of the phonological rules in languages of the world must belong. It requires that the description of phonological rules and their explanation must be done by referring to these processes. Incorporation of this concept into the explanatory scheme of phonology has been an important contribution to the study of phonology because by working on these universal phonological processes and their manifestation in various languages, we can increase our knowledge of Language, the linguistic system that underlies all languages of the world.

Among the universal phonological processes occurring in Korean I have chosen the following three processes to illustrate the concept of universal phonological process:

1) syncope: the process by which a medial vowel drops
2) lenition, which is weakening of a consonant in intervocalic position
3) dissimilation, becoming dissimilar of sufficiently similar consonants

Other processes occurring in Korean will be presented in a similar form in the future. The purpose of this exercise is to introduce to the reader the major phonological phenomenena occurring in Korean, and encourage future research on the problems that still remain to be resolved. It is my personal belief that working through universal processes is by far the best, the easiest and the most effective way to get initiated into the phonology of a not-so-well-known language such as Korean, because when working on processes which one is already familiar with to a certain degree, it is easier to find the genuine phonological problems in the language being analyzed.

2. Universal phonological processes in Korean

2.1. Syncope

Syncope, as is well known in traditional grammar, is a phonological process by which a medial vowel drops under various preferential conditions. As argued in detail in H-S. Kim (1993), syncope in Korean is subject to the following five principles;
1) it occurs to a low toned vowel in preference to a high toned one, as in the following Late Middle Korean nouns,

LMK ḥaṟaṭ < *haṟaṭ "day" (cf. nom. ḥaḷḷ-ṛ < *haṟaṭ-ṛ)
LMK māṭaṛ < *māṭaṛ "floor" (cf. nom. māḷḷī < *māṭaṛ-ī)
LMK pāṟaḍ < *pāṟaḍ "sea" (cf. nom. pāṛaṛ-ī)

where a low toned vowel drops but a high toned vowel remains (cf. K-M. Lee 1972b, p.152). As S-N. Lee (1960) has first observed in his pioneering paper on dissimilation in Middle Korean, the elision of r in the above words such as ḥaṟaṭ < *haṟaṭ "day" is due to a dissimilation rule that drops the second of two similar liquids in word final position:

hāṟaṭ ḥaṟaṭ pāṟaṛ-ī pāṛaṛ
hāṟ-ī " " " preferential syncope: λ → O / VC—CV
" hāṭa ṭ pāṛa ṭ dissimilation of liquids: rVr# → rV#
hāḷḷī " " " MR (miscellaneous rules)

2) application of syncope depends on the number of consonants surrounding the medial vowel, as in the following Middle Korean verbs with the suffix -bi, which derives descriptive verbs from action verbs (cf. Ramsey 1978, p.219):

miypt-a "to be hateful" < mi- "hate"-bi-ta
tuript-a "to be frightening" < tur- "consider frightening"-bi-ta
nollapt-a "to be surprising" < nolla- "to be surprised"-bi-ta
kiript-a "to be missed" < kir- "to miss"-bi-ta
but mitpita "to be reliable" < mit- "believe"-bi-ta
kaspata "to be hard, trying" < kask- "to make an effort"-bi-ta
kolpata "(one’s stomach) is empty" < kolh- "(one’s stomach) remain unfilled"-bi-ta
paspita "to be busy" < pach- "to busy oneself with"-bi-ta
silphita "to be sad" < silh- "to grieve over"-bi-ta
alphata "to be sick" < alh- "to suffer from"-bi-ta
wuzbita "to be funny" < wuz- "to laugh"-bi-ta

In these examples, the suffixal vowel i which is in the medial position drops after one consonant (miypt-a < mi- bi-ta "to be hateful") but retains after two consonants (mitpita < mit-bi-ta "to be reliable"). Consider the rules occurring in the following derivation:

mi- bi-ta mit-bi-ta
miibta " preferential syncope (C__)
miypt-a mitpita voicing assimilation
miypt-a " MR

3) application of syncope depends on the relative strength of the consonant preceding the medial vowel, as in

mākt-a "eat" magini
tamta "fill" tamini
capta "hold" cabini
ssista "wash" ssisini
but nolta "play" noni < nol-īni
where the medial \( i \) first drops preferentially after the strong liquid \( l \), then the liquid itself drops in contact with the \( n \) (cf. sonamu "pine tree" ≈ sol-"pine" -namu "tree"):

\[
\begin{align*}
\text{mok-ini} & \quad \text{tam-ini} & \quad \text{nol-ini} & \quad \text{preferential syncope (l\_)} \\
" & " & \text{noli} & 1 \to \emptyset/\_n \\
" & " & \text{noni} & k \to g/V/\_V \\
\text{mog-ini} & " & " & \\
\end{align*}
\]

The parameter that defines the relative strength of consonants here is the rho phonological parameter (Foley 1977, P37)

\[
\begin{array}{cccc}
\text{t} & \text{s} & \text{n} & \text{l} \\
\rho & & & \\
1 & 2 & 3 & 4 \\
\end{array}
\]

\( (t \text{ for stops, s for fricatives, n for nasals, and l for liquids}) \)

where resonants (i.e. liquids and nasals) are generally stronger than nonresonants (i.e. stops and fricatives), and among resonants, liquids are stronger than nasals. 4) weak vowels drop in preference to strong vowels; The fact that the vowel that drops by syncope in Korean is usually \( a / i \) suggests that this is the weakest vowel in Korean. But we would be able to make such a claim only after a full scale analysis of vowels in Korean. This, however, is beyond the scope of this paper and is thus left as a topic for future research.

5) syncope of a vowel may depend on the relative strength of a neighboring vowel, under the mechanism of strength fluxion, e.g.

- \( \text{orim } " \text{ice} " \) (cf. \( \text{or-}\text{ta } " \text{to freeze} " \))
- \( \text{urim } " \text{cry} " \) (cf. \( \text{ur-}\text{ta } " \text{to cry} " \))
- \( \text{norim } " \text{play} " \) (cf. \( \text{nor-}\text{ta } " \text{to play} " \))
- \( \text{corim } " \text{sleepiness} " \) (cf. \( \text{cor-}\text{ta } " \text{to drowse} " \))

but \( \text{sarm } <\text{sar-im } " \text{life} " \) (cf. \( \text{sar-}\text{ta } " \text{to live} " \))
\( \text{arm } <\text{ar-im } " \text{knowledge} " \) (cf. \( \text{ar-}\text{ta } " \text{to know} " \))

where the suffixal vowel \( i \) drops preferentially if the radical vowel is the strongest \( a \). This is because the strongest \( a \) first undergoes preferential strengthening in consonance with the Inertial Development Principle that strengthening occurs preferentially to strong elements (see Foley 1977, chapter seven for details). In response to this strengthening, the suffixal vowel weakens in consonance with the strength conservation principle that morphological units such as words and syllables maintain a constant amount of inherent strength, regardless of change by the \( IDP \) in strength of individual elements. The vowel thus weakened by strength fluxion between the radical vowel and the desinential vowel then drops, because as the \( IDP \) predicts, weak elements are more likely to drop than strong elements:

\[
\begin{align*}
\text{sar-im} & \quad \text{cor-im} \\
\text{sa}^+\text{ri-m} & " \quad \text{strength fluxion} \\
\text{sarm} & " \quad \text{preferential vowel elision} \\
\end{align*}
\]

Although \( \text{sarm} \) and \( \text{arm} \) have often been considered to be exceptions to the rule forming deverbal derivatives, there is no need to posit such exceptions, as their loss
of the suffixal vowel can be explained as a rule governed phenomenon under the concepts of strength fluxion and preferential syncope.

2.2 Lenition

Lenition is a phonological process in which consonants, usually \( p \), \( t \), and \( k \), weaken in intervocalic position. Even though usual environment for lenition is traditionally known to be an intervocalic position, as for example in French, e.g. Lt *ripa* Fr *rive* "river" where \( p \) converts to \( v \) in the intervocalic position, the essential environment could be reduced to postvocalic position, as for example in Italian and Spanish, e.g. Lt *patre* It *padre* [padre] Sp *padre* [padre] where \( t \) lenites to \( d \) in Italian and to \( ð \) in Spanish.

Languages often differ in the precise condition on lenition and its reflex. Consider, for example, the following examples in French and Spanish:

<table>
<thead>
<tr>
<th>Latin</th>
<th>Spanish</th>
<th>French</th>
</tr>
</thead>
<tbody>
<tr>
<td>cupa</td>
<td>cuba [kuβa]</td>
<td>cuve &quot;barrel&quot;</td>
</tr>
<tr>
<td>vita</td>
<td>vida [biða]</td>
<td>vie &quot;life&quot;</td>
</tr>
<tr>
<td>amica</td>
<td>amiga [amiɣa]</td>
<td>amie &quot;female friend&quot;</td>
</tr>
</tbody>
</table>

Looking at the data in French first, the lenition rules initially appear to be

\[
\begin{align*}
\text{p} & \rightarrow \text{v} (\text{V}_-\text{V}) \\
\text{t} & \rightarrow \emptyset (\text{V}_-\text{V}) \\
\text{k} & \rightarrow \emptyset (\text{V}_-\text{V})
\end{align*}
\]

In Spanish, on the other hand, Latin \( p \), \( t \), and \( k \) first become voiced, and then spirantized in the same intervocalic position (Note: the orthographic \( b \), \( d \), and \( g \) in the above Spanish data reflect the intervocalic voicing of voiceless stops in Old Spanish). The rules of lenition occurring in Spanish are thus

\[
\begin{align*}
\text{p} & \rightarrow \text{b} \rightarrow \beta (\text{V}_-\text{V}) \\
\text{t} & \rightarrow \text{d} \rightarrow \delta (\text{V}_-\text{V}) \\
\text{k} & \rightarrow \text{g} \rightarrow \gamma (\text{V}_-\text{V})
\end{align*}
\]

The Spanish data compared with the French data thus suggest the following intermediate stages of lenition,

1) \( \text{p} \rightarrow \text{b} (\text{V}_-\text{V}) \)  
2) \( \text{b} \rightarrow \beta (\text{V}_-\text{V}) \)  
3) \( \beta \rightarrow \text{w} \)

1) \( \text{t} \rightarrow \text{d} (\text{V}_-\text{V}) \)  
2) \( \text{d} \rightarrow \delta (\text{V}_-\text{V}) \)  
3) \( \delta \rightarrow \emptyset (\text{V}_-\text{V}) \)

1) \( \text{k} \rightarrow \text{g} (\text{V}_-\text{V}) \)  
2) \( \text{g} \rightarrow \gamma (\text{V}_-\text{V}) \)  
3) \( \gamma \rightarrow \emptyset (\text{V}_-\text{V}) \)

where the voiceless stops first become voiced as in 1), and then spirantized as in 2), and finally drops out as in the rule 3) of lenition in the case of \( t \) and \( k \), though not in the case of \( p \) where the spirant \( \beta \) rather converts to \( w \) (Note: \( v \) in Lt *cupa* Fr *cuve* is the consonantalized reflex of \( w \)). This conversion of \( \beta \) to \( w \) is a type of vocalization, a strengthening rule that occurs on the above \( p \) parameter, which we shall return to shortly when we discuss the lenition rules in Korean.