

On the Regularization of the Irregular Verbs in Korean

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0. Introduction

There are a number of Korean verbs which do not follow the general phonological rules of Korean in their conjugation (Choy 1959 : 320-337; He 1965 : 271-273). These verbs are traditionally regarded as morphophonemically irregular predicates, because morphophonemic alternations that occur when the stems of these verbs are followed by certain suffixes are phonologically unpredictable.

<i>l</i> -irregular	<i>t</i> -irregular
<i>s</i> -irregular	<i>ye</i> -irregular
<i>h</i> -irregular	<i>l̥</i> -irregular
<i>i</i> -irregular	<i>k̥ara</i> -irregular
<i>u</i> -irregular	<i>n̥ara</i> -irregular
<i>p</i> -irregular	<i>li</i> -irregular

Recently several linguists (Kim 1968, Lee 1973, Cook 1973, Kim-Renaud 1973) have attempted to show from a generative point of view that these irregular alternations are not really exceptions to some fixed phonological rules by postulating different underlying forms. Therefore, superficially identical forms of these irregular verbs as well as regular ones are thought to be a direct result of certain environment.

What I wish to do in this paper is to examine some of the most impressive solutions thus far given and to determine if those solutions can effectively explain the irregularities of those predicates and to present my own claims for underlying representations of the irregular predicates and the phonological rules required to derive their correct final phonetic shapes.

Since, as Kim notes, 'the *ə*-series' irregular verbs (borrowing a term from Kim) are found only in an extremely limited number of vocabulary items, and their alternant shapes in affixation must be regarded as lexically, rather than phonologically, conditioned, I will discuss only three types of irregular verbs, namely *p*-irregular, *t*-irregular, and *s*-irregular, out of the above-listed twelve.

As for the rest, *i*-, *u*-, *h*-, and *l*-irregular, I agree with Kim's analysis in general. Thus I will not discuss them further here.

1. P-irregular verbs

This group of verbs, whose stems end in *p*, show a *p*~*w* alternation in the

stem-final position, unlike regular verbs ending in *p*; for example:

<i>Regular</i>		<i>Irregular</i>	
cap-ta	‘to catch’	ku:p-ta	‘to roast’
cap-ko		ku:p-ko	
cap-əsə		kuw-əsə	
cap-əra		kuw-əra	

As can be seen above, for the regular verbs, the stem-final consonant *p* stays all the way through the paradigms.¹ But the irregular case, the stem-final *p* is substituted by *w* when it is followed by a vowel-initial suffix.

Kim (1968) regularizes this irregularity by positing an underlying *w* for the stem-final *p* in the irregular verbs with a watertight explanation for the change of *w* to *p*. Kim’s argument is based on ‘the principle of close articulation’ (Kim 1972 : 160-162) which explains one characteristic mode of articulation in Korean, i.e. a ‘conspiracy’ of closer articulation which tends to make the aperture between the upper and lower articulator as narrow as possible.

Then, now, let us examine the following examples from the present Kyengsang dialect of Korean.²

kku:p-ta	‘to roast’	to:p-ta	‘to help’
kku:p-ko		to:p-ko	
kkup-əsə		top-əsə	
kkup-əra		top-əra	

These verbs show no *p*~*w* alternation in the stem-final position, although they are treated as irregular verbs in the standard dialect. Also, it is a well-known fact that *p*-irregular verbs do almost always show regularity in their conjugation: *nup-ta* ‘to lie down’, *ki:p-ta* ‘to mend’ etc. in the Kyengsang dialect.

If we are forced in the Kyengsang dialect to posit *w* as the underlying representation of *p*, we will be faced with the difficult task of accounting for the change of *w* to *p* in intervocalic position.

Thus, I propose that the irregularity be regularized by rather positing an underlying *p* in the *p*-irregular cases. That is, I claim that the underlying form of the stem-final consonant *p* in regular and irregular verbs are identical. If *p* is considered as an underlying segment, then it can be accounted for in the same way that the historical changes are accounted for.

Here, I will present some examples which show that the fifteenth century

¹ Since it is a well known fact that Korean voiceless intervocalic lax stops become voiced, I will not discuss about that.

² As this phenomenon is well known fact I do not need any informant.

Middle Korean *p* has changed into *w* in the present Korean.³

kopang → kobang → koβang → kwang 'storeroom'
 səpil → səbil → səβil → səwil → səul 'Seoul'
 kipim → kibim → kiβim → kiwim → kium 'mending'

When we examine the above examples of irregular verbs, we are able to find a clue in accounting for the *p* to *w* change in terms of assimilation in the degree of aperture. As for the degrees of aperture, I refer to⁴

aperture 0	stops	t, d
aperture 1	fricatives	s, z
aperture 2	nasals	n, m
aperture 3	liquids	l, r
aperture 4	glides	y, w
aperture 5	high vowels	i, u
aperture 6	mid vowels	e, o
aperture 7	low vowels	æ, a

As in French *fille* [fi:y] from Latin *filia* 'girl', Italian *pieno* [pyeno] from Latin *plenu* 'full', and Polish *biw* from Slavic *bil* 'be',⁵ etc., the above Korean examples illustrate a change from narrow aperture to wide aperture, i.e. from aperture 0 to aperture 4, which is an instance of a general phonological process. Furthermore, it is a much more natural type of assimilation than the *w* to *p* change Kim elaborates.

Now we have arrived at a firm ground for accounting for the consonant alternation; *p* is weakened in intervocalic position through the above type of assimilation. Thus, we arrive tentatively at (1):

(1) $p \rightarrow w/V \text{ ___ } V$

One problem still remains unsolved: the environment for the *p*~*w* alternation. In both regular and irregular cases, the consonant in question occurs in intervocalic position, but as seen above, the alternation occurs only in irregular verbs in which the length of the stem vowel is constantly long. It seems that the long vowel is favorable to weakening of the following consonant.

More recently Lee (1973) has made a keen observation in the analysis of t- and s-irregular verbs. He has pointed out the vowel length difference between regular and irregular verbs (the irregular verb always involves a long vowel) and has claimed that vowel length is what influences the consonant alternation. However, Lee neither attempts to explain why the long stem-vowels cause the stem-final consonant to be dropped

³ For *wi* to *u* change, see Kim (1968a).

⁴ For further discussion about aperture see de Saussure (1916:70-76) and Kim (1972).

⁵ For further details, see Kim (1968b).

or to be changed into another consonant before vowel-initial suffixes, nor does he make it clear why the length of the stemvowel is shortened when the change in the stem-final consonant occurs. His is simply an observation, not an explanation. Borrowing Lee's observation on vowel length, I assume that the alternation occurs not because of different underlying consonants, but rather because of differing length in the preceding vowel.

For a moment, let us turn our attention to vowel length in present Korean, whose orthography does not differentiate length. In fact, from the time when King Sejong's scholars invented *hangul*, Korean alphabet (1444A.D.), small dots (called *pangcem*) were placed to the left of each syllable to indicate the tone. One dot represents the *ke-seng*, high tone, two dots signified the *sang-seng*, rising tone, and the absence of a dot meant *pyeng-seng*, low tone.⁶ But tone began to disappear in the standard dialect as early as at the end of fifteenth century and was presumably nondistinctive by the sixteenth century. While the standard dialect of Modern Korean (spoken in the central provinces) exhibits no primary tonal phenomena, but instead has a vowel length distinction, both the Kyeng-sang dialect in South Korea and the Hamkyeng dialect in North Korea have retained distinctive tone.

However, there have also been several scholars who have claimed that these *pangcem* represented vowel length, on the bases of the similarity between the *sang* tone and long vowels. In fact, vowels which have *sang* tone are long in modern Korean.⁷ At any rate, since syllables with the *sang* tone were longer than the others and vowel length is the only remnant in the standard dialect, it seems not unreasonable to claim that the present simply mirrors the original tonal distinction.

There are quite a few minimal pairs whose members are distinguished in terms of length alone. Notice the corresponding Middle Korean forms which show the *pangcem*, the tone markers.

Middle Korean Form

mal	'horse'	말
ma:l	'word'	: 말
nay	'odor'	내
nay:	'stream'	: 내 ㅎ
nun	'eye'	눈
nu:n	'snow'	: 눈
pal	'foot'	발
pa:l	'blinder'	: 발
pam	'night'	밤
pa:m	'chest-nut'	: 밤

⁶ For details, see He (1965:398-406).

⁷ For further discussion, see He (1963:256-258).

say	'new, fresh'	새
say:	'bird'	: 새
sem	'straw sack'	섬
se:m	'island'	: 섬

These examples provide a distinctive relationship between old *pangcem* and present vowel length sufficiently.⁸

As was the case with the above examples, the stem vowels of the irregular verbs, which are long in present Korean, had *sang* tone in Middle Korean.

ku:p-ta	'to roast'
ki:p-ta	'to mend'
to:p-ta	'to help'

Thus, we are able to presume that the modern long vowel which originally had rising tone must have been pronounced with a more or less greater degree of sonority than the present long and short vowels on the bases of phonetic realization, as rising tone vowel may need greater sonority than long vowel.⁹

Since we have claimed that the ensuing weakening was a kind of assimilation in degree of aperture which accompanies corresponding proportional degree of sonority, we can insist that the long vowel is an essential element to the process of weakening. Thus we get

to:p-ta	tow-ara
'to help'	'Help!'

p (aperture 0) changed to *w* (aperture 4) in assimilation to the surrounding vowels with aperture 7, *a*, and 6, *o*; which has strong sonority.

Let us then revise (1) as (2):

$$(2) p \longrightarrow w / V: \text{ ___ } V$$

The last unsolved problem, vowel shortening following assimilation, can be explained as follows. The above phenomena also provide the foundation to account for this problem. Since consonant weakening exemplifies an increase in degree of sonority, vowel shortening can be regarded as a kind of compensatory phenomenon as Kim-Renaud (1973) also notes. In other words, in order to keep, in the word, the distributional balance of sonority which is being menaced by the word, the distributional balance of sonority which is being menaced by the assimilation, the vowel length is lost. Thus, we can claim that a long vowel is shortened before vowel-initial affixes as far as those irregular verbs are concerned. But this can not be a fully convincing explanation, it seems.

⁸ For those Middle Korean vocabularies, I mostly depend on He (1965) and Nam (1960).

⁹ For further detail, see Jones (1918:23-25).

Now, let us examine the following examples. There are many verbs like *ei-ta* 'to gouge (out)', *yəiy-ta* 'to lose (a person)' etc. which show that one of the stem vowels is deleted when followed by a vowel-initial suffix; for example:

ei-ta	'to gouge'	yeiy-ta	'to lose'
ei-myən		yəiy-myən	
e-əsə		yəy-əsə	

In colloquial Korean, there is a general glide rule: i.e., $uə \rightarrow wə$, $iə \rightarrow yə$, and $oa \rightarrow wa$. When we examine the following examples, we can conclude that the glide rule is obligatory, when two consecutive vowels either followed or preceded directly by a vowel, on the other hand, the rule is optional when no vowel is preceded or followed by the two consecutive vowels. For $uə$ -vowel sequence,

pæu-ta	'to learn'	ciu-ta	'to erase'
*pæu-əra } pæwəra }	'Learn!'	*ciu-əra } ciwəra }	'Erase!'

But,

cu-ta	'to give'	tu-ta	'to put'
cu-əra } cwəra }	'Give!'	tu-əra } twəra }	'Put!'

For $iə$ vowel sequence:

kkoi-ta	'to allure'	moi-ta	'to gather'
*kkoi-əra } kkoyəra }	'Allure!'	*moi-əra } moyəra }	'Gather!'

But,

ki-ta	'to crawl'	ci-ta	'to bear on one's back'
ki-əra } kyəra }	'Crawl!'	ci-əra } cyəra }	'Hold!'

For oa verb sequence:

nao-ta	'to come out'
*nao-ara	'Come out!'
nawara	

But,

po-ta	'to look, to see'
po-ara } pwara }	'Look!'

Let us examine another type of examples. There are verbs like *pe:ta* 'to cut', *mæ:ta* 'to tie', *sæ:ta* 'to leak' etc. The long stem vowel of the above verbs is shortened

when vowel-initial suffix follows, while the length of the vowel is retained when a consonant-initial suffix follows: as follows,

pe:-ta	'to cut'	mæ:-ta	'to tie'
pe-əra } pe:-ra }	'Cut!'	mæ-əra } mæ:-ra }	'Tie!'

The above phenomena provide a firm ground for a claim that Korean verb does not allow three consecutive vowels. Furthermore, I have been unable to find any verb which retains a vowel sequence when followed by a vowel-initial suffix in Martin's(1969) or Lee's dictionary (1964). Here we can conclude that no Korean verb allows two consecutive vowels in the stem when the stem is followed by a vowel-initial suffix.

Therefore, if we assume that the long vowel in those verbs is an underlyingly vowel sequence and we are able to follow the vowel sequence notation for long vowels, as discussed in Kenstowicz (1970), we can account for the vowel shortening by the idiosyncratic surface structure constraint on Korean verbs followed by vowel-initial affixes. Thus we get (3).

$$(3) V \longrightarrow \phi / [V \text{ --- } (G)] + V$$

verb stem
G=glide

2. T-irregular verbs

Verbs of this set show a $t \sim r$ alternation while other regular verbs ending in t do not show such alternation. Examine the followings.

<i>Regular</i>		<i>Irregular</i>	
kət-ta	'to fold up'	kə:t-ta	'to walk'
kət-ko		kə:t-ko	
kət-əsə		kər-əsə	
kət-əra		kər-əra	

In the regular verb, the stem-final consonant t remains throughout the paradigm while, in the irregular verb, t becomes r when followed by a vowel-initial suffix. Notice that, in the irregular case, the stem vowel is also long and is shortened only if the consonant is changed as the case with p -irregular verbs.

Kim regularizes the t -irregularity by regarding the prevocalic r as the underlying segment, again by the rule of close articulation explained above. But, as was the case with p -irregular verbs, there are examples of verbs which keep the stem-final consonant t through the paradigm, although they are t -irregular verbs, in the Pyengan dialect.

tit-ta	'to listen'	kkæ dat-ta	'to realize'
tit-ko		kkædat-ko	

tit-əse	kkædat-əsə
tit-əra	kkædat-əra

Since Kim posits *r* as the underlying segment here, he will again have a difficult time accounting for the change of *r* to *t* before vowel-initial suffixes. Though Kim's analysis is supported on strong theoretical and explanatory grounds, it seems to demonstrate an excessive desire to extend his 'principle of close articulation' even to the case of the so-called irregular verbs of Korean, causing the complication of the phonemic system by adding extra phonemes like *r*.

Needless to say, I propose *t* as the underlying segment; as was the case with *p*-irregular verbs, *t*-irregularity can be regularized by assimilation of the degree of aperture as explained above. And the *t*~*r* consonant alternation is influenced by vowel length we discussed, and the vowel shortening also can be explained in the same way as with *p*-irregular verbs.

3. S-irregular verbs

Stem-final *s* of verbs in this set is deleted when followed by a vowel-initial suffix, while it remains in the regular cases in the same environment. Examine the following examples.

<i>Regular</i>		<i>Irregular</i>	
pis-ta	'to comb'	i:s-ta	'to connect'
pis-ko		i:s-ko	
pis-əsə		iφ-əsə	
pis-əra		iφ-əra	

In the irregular case, a stem-final consonant *s* is deleted before a vowel-initial suffix. Notice also the length of the stem vowel, which is long in the irregular case but not in the case of the regular verbs. The long vowel is shortened after the consonant deletion.

Kim regularizes the *s*-irregularity by claiming that the 'disappearing *s*' is an underlying segment of *s*-irregular verbs and argues about the lack of symmetry of a Korean phonological system which shows a hole in the *s*-column and claims that the usual *s* should be included in the aspirated series (i.e. *sh*), and gives as a crucial evidence the fact that the usual *s* is peculiar in its breathy-character and that it is never voiced intervocally as in the other lax aspirated series.

But let us examine the following examples which can be found among the Kyengsang, Cenla, and Pyengan dialects.

i:-s-ta	'to connect'	pu:s-ta	'to swell up'
i:s-ko		pu:s-ko	

is-əsə	pus-əsə
is-əra	pus-əra

These are treating as irregular verbs in modern standard Korean together with verbs like *na:s-ta* 'to get well', *cu:s-ta* 'to pick up', *ki:s-ta* 'to draw line' etc. but no *s*-deletion occurs (including the above three verbs) in the above dialects. Therefore, if we follow Kim's analysis, a question must be asked: What is the nature of the above *s*?

Thus, I propose usual simple *s* as the underlying segment and claim that it is assimilated to surrounding vowels and its deletion is favored by preceding long vowel as was the cases with the above two different irregular verbs. And vowel shortening can be accounted for by the same way with above cases.

If we follow the present analysis, the historical process provides a solid foundation for the analysis. Let us take some examples and examine them from a diachronic point of view. The verbs like *u:s-ta* 'to laugh', *a:s-ta* 'to grab' etc. belong to regular verbs; that is, stem final consonant is *sh*-origin *s* which neither can be voiced nor deleted in intervocalic position according to Kim's claim. But this *s* was voiced and deleted in Middle Korean. Let us examine their old forms.

:us-ta	→ uzum	→ ue	'to laugh'
:as-ta	→ aza		'to grab'

Notice that the old forms have *sang* tone marker, two dots.

Middle Korean *z*, which was written as '△', has disappeared since sixteenth century, thus, no longer exists in modern Korean. There are many examples which show that *z* was substituted for *s* in intervocalic position, and finally disappeared.

əbəsɪ	→ əbəzɪ	→ əbəi	'parents'
kis-ta	→ kizə	→ ki-ə	'to draw'
kisiki	→ kiziki	→ kiiki	'in secret'

4. Conclusion

In this paper, I have re-examined the so-called *p*-, *t*-, and *s*-irregular verbs of Korean and tried to regularize their irregularities in terms of the assimilation in the degree of aperture which is a universal phenomenon.

But there are several verbs which do not follow the phonological rules which we have postulated above, i.e. one group appears to be regular verbs though they have long stem vowels, the other group is treated as irregular verbs though they have short stem vowels. In other words, verbs of the former group provide the context for the rule discussed above but they do not undergo the rule, and the verbs of the latter group undergo the rule though no context for the rule is provided.

<i>Regular</i>		<i>Irregular</i>	
u:s-ta	'to laugh'	tit-ta	'to listen'
u:s-ko		tit-ko	
us-əsə		tir-əsə	
us-əra		tir-əra	
ə:t-ta	'to get'	nup-ta	'to lie down'
ə:t-ko		nup-ko	
ət-əsə		nuw-əsə	
ət-əra		nuw-əra	

But in the course of historical change, it is rather natural to have the above number of exceptions. These can be treated by the use of 'exception features' Kisseberth discussed (1970). Thus, we can categorize the two regular verbs which have exceptional context as not serving context for the rule discussed; [-context Rule (2)], on the other hand, though the two irregular verbs do not meet the context for the rule we can categorize in the lexicon as undergoing the rule: [+Rule(2)].¹⁰

As we have seen above, a general principle provides more insightful analysis than a language specific principle. Furthermore, we could do better to apply a general principle in accounting for phonological changes provided it does not make the situation complicated rather than apply a language specific principle causing complications in the phonemic system.

There are questions which I have left open. Why does *t* stop at *r* and *p* stop at *w* while *s* goes to *ʃ*? Are *t* and *p* still in the process of change and headed for *ʃ*? Does the present status of *t* and *p* indicate a temporary stop on the road to becoming *ʃ*? If yes, why do they stop for a while?

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¹⁰ Since this case is not so complicated as Kisseberth's data (1970), we can simply categorize the two regular verbs as [-Rule(2)], instead of [-context rule (2)] feature.

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