The Origin of Sino-Korean Coda -l Revisited\(^1\) (ISSKL2@UW 07/18-19/17)

Ik-sang Eom (Hanyang University, Seoul)

1. Introduction

One of the most controversial issues in Sino-Korean (hereafter SK) phonology is the origin of SK coda -l, which was derived from Old Chinese (hereafter OC) coda *-t of the entering tone. It has been debatable because the other two OC codas of the entering tone, *-p and *-k, are well preserved in SK. What has made historical linguists even more perplexed is why and how indigenous Korean vocabulary still maintains words ending in both -t and -l while SK has no words ending in -t, only in -l. Many plausible theories have been proposed to resolve these questions to date. To name just a few of them, Lee (2002[1972], 1981) and Martin (1997) proposed that SK coda -l was derived from -r, one of the three lenited codas -b, -r, -g of the northwestern dialects of late Tang and the Five Dynasties in the ninth to tenth century A.D. Eom (2002) disputed their ideas by presenting evidence that OC *-t was already realized as SK coda -l in the seventh century or earlier. That was at least two centuries before the lenition of OC entering tone codas, *-p, *-t, and *-k, took place in northwestern dialects. Accordingly, Eom claimed that SK coda -l from OC *-t was an internal change that took place within the domain of SK phonology. The remaining problem, however, is why and how OC *-t changed to -l almost without exception only in SK, in a context in which indigenous words ending in both -t and -l have survived into modern Korean. To this extent, Shin (2016) presumed that OC *-t might have been realized as a less released -r than a more released -t ending in Old Sino-Korean (hereafter OSK) due to the greater phonetic similarity between OSK -r and OC *-t. Unfortunately, however, a consensus has not been reached due to a lack of decisive evidence. Accordingly, this paper will justify Shin’s innovative view and propose an alternative way to resolve the problems found in the theories in question. We will begin with a brief review of each theory.

2. A Brief Review of the Previous Theories: External, Internal, or Phonetic Change

2.1 An External Change

In the 20th century, the most prominent explanation for the origin of SK coda -l was the influence from northwestern dialects of China in the late Tang and the Five Dynasties, when Middle Chinese (hereafter MC) coda -t underwent the following changes: \(-t > -d\) (8th C.) \(> -s\) (9-10th C.). Luo (1933:68, 168) proposed the following changes in the northwestern dialects of late Tang Dynasty:

<table>
<thead>
<tr>
<th>Old Chinese</th>
<th>Middle Chinese</th>
<th>Old Mandarin</th>
<th>MM</th>
</tr>
</thead>
<tbody>
<tr>
<td>-p</td>
<td>-b</td>
<td>-β</td>
<td>-0</td>
</tr>
<tr>
<td>-t</td>
<td>-d</td>
<td>-a</td>
<td>-0</td>
</tr>
<tr>
<td>-k</td>
<td>-g</td>
<td>-γ</td>
<td>-0</td>
</tr>
</tbody>
</table>

Taking Luo’s observation into consideration, Arisaka (1957:305), Lee (1972:73-74, 247), and Martin (1997) among many others proposed that SK coda -l was a reflection of the northwestern dialects of China in late MC. Martin (1997:267) considered that MC coda -t changed to -r or a sound similar to it in the northwestern dialects.

\(^1\) I am very thankful to Professor Zev Handel for careful proofreading of this paper and valuable comments.
by the 800s A.D. Martin’s further evidence includes similar changes found in Sino-Turkic, Old Turkish (Uighur), and SK.

<table>
<thead>
<tr>
<th></th>
<th>MC</th>
<th>MM</th>
<th>Sino-Turkic</th>
<th>Old Turkish</th>
<th>SK</th>
</tr>
</thead>
<tbody>
<tr>
<td>密</td>
<td>mit</td>
<td>mi-li</td>
<td>mir</td>
<td>bo:1</td>
<td>mil</td>
</tr>
</tbody>
</table>

In addition, Lee (1981:76-77) presented additional evidence for the -t to -r change in the Northern Wei (386-534), such as ‘kelmürčin (纥骨真)’ and ‘pürtüčin (拂竹真),’ which transliterated Mongolian kelemürčin (a translator) and örtegečin (a horseman) respectively. Unfortunately, however, the language of Northern Wei was not Sinitic but Altaic so Lee’s additional examples are not relevant as evidence of coda lenition in MC.

2.2 An Internal Change

The most critical problem of the previous view regarding SK -l as an external change is that OC coda *-t was already realized as -l in OSK even before such lenition took place in the northwestern dialects of Chinese in the ninth century. Eom (2002:115) presents the following characters that were pronounced with coda -l in OSK during the Three Kingdoms Period (1st BCE-676AD) before the seventh century:

<table>
<thead>
<tr>
<th></th>
<th>OC</th>
<th>OSK</th>
</tr>
</thead>
<tbody>
<tr>
<td>忽</td>
<td>*xust</td>
<td>*kol</td>
</tr>
<tr>
<td>伐</td>
<td>*biwnt</td>
<td>*pul, *pel, *pel</td>
</tr>
<tr>
<td>乙</td>
<td>*iet</td>
<td>*a:</td>
</tr>
</tbody>
</table>

The first character, 忽, was often used as a suffix of Koguryo place names, while the second character, 伐, was used for that of Silla place names. The third character, 乙, was used as an accusative case marker in Hyangga poetry of the Silla dynasty. The OC reconstructions of these characters are based upon Wang Li, while their OSK reconstructions are cited from Pak (1971:12) for the first two and Pak (1990:90, 95) for the last character. What is apparent is that OC coda -t changed to -l in OSK no later than the seventh century, even before a similar change took place in the northwestern dialects of China in the 9th to 10th century. If it was an external change, one can assume that OC coda *-t must have been realized as -l in OSK before the ninth century. However, Eom’s (2002) close observation of OC coda -t characters used in the place names of Koguryo, Paekche, and Silla does not support the assumption that OC coda -t was realized as -l in OSK before the lenition of obstruent codas first appeared in the northwestern dialects of MC.

The second serious question that Lee and Martin have to answer is why SK coda -l in particular was influenced by the northwestern dialects of China. Unlike OC coda *-t, the other entering tone codas *-p and *-k are well preserved in SK. Although Martin (1996:86-87) presents some examples of coda *-k changed to Middle SK -h, such as尺 ə:ah, 俗 syoh, and 笛 tyoh, they are rare examples and the coda -h disappeared in Modern SK without any trace. All the characters with OC coda *-k remain unchanged in Modern SK. Eom (2002:106-107) points out no other characteristics of the old northwestern dialects of MC, such as the change of MC nasals to mb-, nd-, and ng and the merger of the dái 代 and tài 泰 rhymes, are detected in SK.

Accordingly, Eom (2002, 2008) concludes that SK coda -l is the result of an internal change. Oh (2008) and many others also support the idea that SK coda -l is the result of an internal change.

2.3 Phonetic Adjustment

Although the theory of internal change sounds much more plausible than that of external change, a question still remains to be answered. That is why and how *-t changed to -l only in SK phonology, while both -t and -l...
presumably existed in Old Korean (hereafter OK) as both codas are easily found in the indigenous words of modern Korean. It is, in fact, a perplexing puzzle. In her lengthy article, Shin (2015) points out this problem and proposes new ideas to resolve it. Based upon Lee (1998:84-85, 113) claiming that Korean codas were phonetically released until the 13th century, Shin (2016:257) presumes that OC unreleased coda *-t was borrowed into SK as -r, the actual pronunciation [r], rather than as released coda -t because of phonetic similarity between OC *-t and SK -r. The plosive codas of OC and MC, *-p, *-t, -k, were unreleased from the beginning until they were deleted in late MC. The plosive codas in Modern Korean and SK are unreleased. Unlike Modern Korean, however, MK plosive codas were released until the end of the thirteenth century (Lee 1998:84-85, 113). Shin states that the distinctive difference between released and unreleased codas is the release of airflow. She proposes that -r changed to -l later in Korean as the Korean codas changed from released to unreleased. Her exposition presents a possible reason why OC *-t was converted to SK -l under the situation where -t was also available in Korean. Shin’s intuitive ideas of phonetic adjustment seemingly resolve the perplexing problem that the view of internal change confronted before. However, this new proposal also awaits several issues to be justified further.

3. An Alternative View

The following questions need to be answered before the hypothesis of phonetic adjustment can be verified:

(4) a. Did the coda-release mean the release of airflow phonetically?

b. Why did only OC *-t change to SK -r while all other [-released] OC codas were realized as [+released] SK consonants?

c. Did both -t and -r exist in OK and OSK when OC codas were first borrowed into OSK?

Shin (2016:255) views the distinctive difference between [+released] and [-released] codas as the presence or absence of an apparent airflow after closure of the oral cavity. The apparent airflow after closure may be related to aspiration. If so, the [+released] coda may not have meant an apparent airflow after closure of the oral cavity at least at the early stage of OK because aspiration was still in the process of developing in early OK. Eom’s (1994) study on the toponyms of Koguryo, Paekche, and Silla listed in the Samguk sagi (Chronicles of the Three Kingdoms), the earliest extant historical records in Korea, indicate that aspiration was not phonemic until the seventh century in OSK. In the place names of those three kingdoms, an aspirated sound often corresponds to an unaspirated sound. According to Chang (1982:86), aspiration appeared only in Korean dentals in the seventh century, when aspiration in labials was not phonemic but still phonetic. Aspiration was not yet developed in Korean velars at that time. Chang claims that aspiration became fully developed in Korean as late as the fifteenth century. Ryu (1993:98), on the other hand, claims that aspiration appeared at latest at the eighth to ninth century and was fully established by the tenth century. Their studies suggest that the [+released] OSK codas might not be phonetically conditioned until aspiration was fully developed in Korean at a later stage.

Instead, the [+released] codas seem to be more related with the CV phonotactics of OK syllabic structure. OC codas were often ignored or moved to the onset position in the following syllable in the toponyms of those three kingdoms. The following Paekche examples, in which a syllable with a coda alternated with one without, are quoted from Eom (2015:134-135):

(5) 悅己=豆陵伊 (#23) 伏龍= 盃龍(#90) 葛草=何老 (#144)

Equivalent to the Silla place name suffix pil 火 (➔伐) was puri 夫里 in Paekche place names. Ungjin 熊津 in Paekche was known as koma 난가, from which we know that kom was pronounced as koma. These examples indicate that the syllabic structure of Sino-Paekche Korean was CV. Ryu (1990:76), in fact, clearly states that the syllabic structure of OK was CV, having no consonantal codas at all due to the [+released] nature of all
the consonants. His evidence includes pul and kol/kul that were transliterated as puru 夫婦 and kuru 溝溝 respectively in early SK resources. This tendency, according to Ryu, lasted until the sixth to seventh century. If Ryu is correct, the nature of [+released] codas of OSK ought to be associated with both phonetic and phonotactic conditions, which rendered CVC in OC to CV or CVCCV in SK. Thus, (4a) needs further verification.

Shin’s (2016:255) answer to the second question, (4b) is simple and straightforward. She regards that there were no alternative sounds to replace [+released] SK codas -p and -k so the phonetic adjustment from [-released] *
-p and *
-k in OC to [+released] -p and -k in OSK was easily predictable. If OSK -p and -k were easily predictable, there is no reason to regard -t as an exception. If Shin insists that it was because there was -r in addition to -t, it is merely an assumption without decisive evidence. The additional coda(s) could have been -r, -l, or both -r and -l as Lee (2002:85) points out a high possibility of having both *r- and *l- in OK inventory.

What is unusual is converting all the [-released] OC codas into [+released] SK -p, -k, -m, -n, -ng except for -t, which was substituted by -r. It is particularly so when all the consonants were [+released] in OK (Ryu 1990:76). Sometimes doubtable is the degree of phonetic correspondence between Chinese and Sinoxic dialects. Sinoxic dialects tend to render the original pronunciations of Chinese as precisely as possible only within the capacity of their own languages. When the native phonology has no sounds that match exactly with Chinese, it is quite common to substitute something similar for those. The discrepancies are inevitable and Sino-Korean is no exception. Voicing and aspiration in Chinese, for instance, were fully or partially ignored in SK (Eom 1994). Accordingly, the necessity to remedy the subtle difference between OC and OSK in terms of [+/-released] might not have been so demanding because the sound difference was marginal and it would only make SK inventories unbalanced and inconsistent. Even if there were both strongly released -t and weekly released-r in OK, it is still debatable whether the unreleased OC coda -t [tʰ] sounded closer to the released -r [ɾ] than the released -t to the Korean listeners of that time because even now modern Koreans often perceive and transcribe an unreleased coda as the released onset of the expanded following syllable. Some examples of this phenomenon with recent English loanwords are as follows:

(6) Sub sabi bed pedi gag kəgi bath presi
Bob pobi God kadi dog togi pass phcsi
soup siphi seat sithi suit suthi net nethi
nut nathi cut khathi hat hethi mat methi
jet ðɨthi hope hophi park phakhi cork khorikhi

The above examples suggest that the coda-release might not have been as sensitive as what one can think of now in terms of perception. Accordingly, Shin’s answer to (4b) needs to be reconsidered.

The third question is doubtable when considering the formation order of Korean consonantal codas. The toponyms of the Samguk sagi, one of the most reliable resources of OK, indicate that SK codas were not developed concurrently as no OC *-p ending character was used in the toponyms of Paekche even while OC *-t and *-k ending characters were in use (Eom 2015:345). The formation dates of nasal codas seem to be different too. What is notable is Ryu’s (1990:179-185) claim that OK had no closed syllable until the end of the seventh century. Some consonantal codas appeared at the earliest in the sixth to eighth century and only became fully developed as late as the tenth to twelfth century. Below is listed the order of development of Korean codas, quoted from Ryu (1990:179-185), where the evidential source he relied on is written in parentheses:

(7) a. The 6-8th Century (Samguk sagi): -m, -l, -n, -p, -k
b. The 9-10th Century (Kyunyo hyangga): -ŋ
c. The 10-12th Century (Kyerim yusa): -t, -ts, -s, -h
Ryu’s (1990:179-180) examples with his own reconstructions include the following:

(8) a. 及付山 [ka par tara] → 吸山 [kip tara] 
豆夫只 [tu pu ki] → 塔洪 [tu puk]
萬內 [ma no] → 權呼 [man o]

b. 手良每形法卍供乙留 水令火月 = 蘇令火月而 [kuŋ i ru]

c. 面醜曰骨 (?�) = 築沒朝動 = 落雨 仍 輔

(8a) gives place names of the Three Kingdoms that were written differently after the unification of Silla (Ryu 1990:179-180). One can see that sequences originally written with two open-syllable characters on the left are written with one character with a coda on the right. The velar nasal onset appeared as early as the seventh to eighth century in hyangga poetry but it only began to be used at coda position in the ninth to tenth century as in (8b) (Ryu 1990:181). According to Ryu (1990:183-184), the appearance of coda -l in Korean had to wait until the Kyerim yusa. As is shown in (8c), the negation marker ‘mot’ used in the Kyerim yusa was written in two characters, mo 毛+dong 冬 as in 毛 東 居 叱 沙 모도 사라사=못 살아서 in a hyangga poem and ‘kot,’ meaning a flower, was also spelled in two characters, ko 古+cha 茶 to denote hwa 華 in the Samguk sagi. Thus, one can see that SK coda -l was in use a minimum of two centuries later than coda -l. If Ryu is correct, which I believe to be the case, it is difficult to accept (4c).

The exact date of the major stratum of Modern SK has been controversial up to date. Scholars in the field more or less tend to reach a consensus to date SK the eighth century (Kôno 1968, Shen 2006, Ito 2007). Considering this date, one can now understand that there was no -l in the Korean inventory when the phonological system of Middle SK was formed in the eighth century. This is why MC coda *-t was realized as -l in SK because it was phonetically the closest to MC *-t in the consonantal inventory of MK regardless of whether MK codas were released or not. This also implies that SK coda -l might not be the direct result of avoidance of released coda -t.

4. Conclusion

Based upon the discussions above, one can conclude that SK coda -l was the closest sound to MC coda *-t among those available in the SK consonantal inventory at the stage of the formation of the SK phonological system. Recall that coda -l developed early in the 6-8th century Korean while coda -t was a late development in the 10-12th century. The phonological system of SK was formed before coda -t was fully developed in native Korean. The only choice for MC coda *-t was -l in SK when the major portion of SK was established. This is why OC and MC coda *-t was not realized as SK coda -t but -l while indigenous Korean has words ending in either -t or -l. The results of this study suggest that Shin’s (2016) ideas of phonetic adjustment need to be reconsidered.

The results of this study imply also that those indigenous Korean words ending in -t must have been relatively later developments than those words ending in -l. Thus, the conventional views on some native Korean words, such as put for ‘a writing brush’ and nat for ‘a daytime’ as OC loanwords have to be revised as well. Hashimoto (1977) points out that Korean word ‘put’ is a reminiscent form of OC bi. Eom (2007, 2008) regards ‘nat’ and ‘nal’ (day) as traces of OC ri, sun. Realizing -t as a later development, Eom (2015) revised his book of 2008 and refutes ‘put’ and ‘nat’ as OC traces. In his revised book, Eom (2015:350) concludes that Korean -t was fully developed way after SK phonological system was established. This scenario implies that those indigenous Korean words ending in -t appeared after MC *-t changed to SK -l. The results of this study may shed light to resolve a long term puzzle in SK phonology.
References


