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NON-NATIVE INTERPRETATION AND (RE)PRODUCTION OF SL/FL SOUNDS. CASE STUDY: KOREAN AND ROMANIAN

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ABSTRACT. ***Non-native interpretation and (re)production of SL/FL sounds. Case study: Korean and Romanian*.** Issues in pronunciation arise from the fact that not all languages have identic phonetic inventories and that a language could make use of sounds that may not be present in the phonetic inventory of another, thus a FL learner could have difficulties in reproducing them. This paper tries to approach the issue of non-native pronunciation of sounds with regard to the acquisition of the Korean phonetic system by Romanian native speakers, and *vice-versa*.

Keywords: *phonetics and phonology, Korean language, non-native accent, phonological rules*

REZUMAT. ***Interpretarea şi (re)producerea unor sunete din limbi straine de către vorbitori non-nativi. Studiu de caz: limbile coreeană şi română.*** Problemele de pronunţie apar datorită faptului că nu toate limbile au inventare fonetice identice şi a faptului că o limbă poate întrebuinţa sunete care nu sunt prezente în inventarul fonetic al unei alte limbi, astfel creând unui vorbitor de limba străină dificultăţi în ceea ce priveşte reproducerea lor. Acest articol încearcă să abordeze problema pronunţiei non-native în cazul achiziţiei inventarului fonetic al limbii române de către vorbitori nativi de limbă coreeană, şi *vice-versa*.

Cuvinte cheie: *fonetică şi fonologie, limba coreeană, accent non-nativ, reguli fonologice*

Introduction

The purpose of this paper is to approach the issue of non-native pronunciation of sounds, with focus on the phonetic systems of Romanian and Korean languages. A classification of each language's phonetic inventories will

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be made, focusing on significant differences between them, and noting how they are perceived and (re)produced by non-native speakers/ learners of the two languages. Issues in pronunciation arise from the fact that a language could make use of sounds that may not be present in the phonetic inventory of other languages, thus a FL learner could have difficulties in reproducing them. Hamakali notices that these pronunciation difficulties are caused primarily by the phonological differences between a learner's /speaker's first and second language:

> "Research on second language (L2) learners' pronunciation difficulties has attributed pronunciation difficulties to the phonological differences that exist between the speaker's first language (L1) and the target language. As a result, pronunciation difficulties present serious threats to effective communication, especially when pronunciation errors occur in minimal pairs, which lead to unintended altered meaning." (Hamakali 2013, 158)

Kim and Flynn call the difference in the (re)production of the sounds found in the SL's phonetic inventory "non-native accent", raising the following concern:

> "What makes a non-native accent? Several factors may contribute to this. An accent may involve segmental insertion, deletion, and/or substitution. On the other hand, an accent may be due to differences between the L1 and the L2 prosodic patterns, which may in turn reflect differences having to do with duration, amplitude and/or pitch." (Kim and Flynn 2004, 1845)

The linguists evoke issues that might appear in pronunciation by making reference to changes in segments, linguistic phenomena which are described by Crystal as "any discrete unit that can be identified, either physically or auditorily, in the stream of speech" (2008, 426), and which are also called phones. Therefore, the two authors mention all the changes that might appear at a phonetic level: insertion of an extra phone, removal and replacement of certain sounds, issues that We will try to address throughout this paper, as far as Korean and Romanian non-native pronunciation is concerned.

The premise of this paper, however, is that issues encountered by Korean native speakers when they use Romanian, and *vice versa,* are of various natures: one of them is related to the fact that the two languages make use of sounds that are not found in the phonetic inventory of the other, thus non-native speakers have trouble (re)producing them. Another is related to certain phonological rules particular to each language. And third, we can go as

far as saying that syllabic structure might contribute to this problem as well. The goal of this paper is, therefore, threefold: to classify the phonetic inventories of both Korean and Romanian, to propose an analysis of how non-existent forms are perceived and (re)produced by non-native speakers of the two languages, and to see how phonological rules specific to each language affect non-native pronunciation.

Theoretical background

The notions that we will be operating with throughout this paper are related to two branches of linguistics, namely phonetics and phonology. In order to make our endeavours clearer, definitions of the two disciplines will be provided, as well as explanations for the key concepts and terminology with which they operate, and which we will use as well.

Phonetics studies the production of human speech sounds, and it concerns itself with these sounds in relation to the way they are produced, with their physical properties, such as place of articulation (lips, tongue, teeth, etc.). It operates with the notion of "phone", the smallest perceptible segment of sound in a stream of speech (Crystal 2008, 361). Transcription of phones is done between square brackets [p].

E.g. [p] is a phone

Phonology concerns itself with specific properties of phones in certain languages. It classifies sounds within the system of a particular language, and the smallest unit it operates with is a "phoneme". Crystal mentions that phonemes "allowed linguists to group together sets of phonetically similar phones as variants, or 'members', of the same underlying unit" (2008, 361). Transcription of phonemes is usually done between slashes / /.

E.g. in Korean [p] : /p/ lax
/p*/ tense
/p^h/ aspirated

Shin et al. describe the difference between the two terms as follows:

> "In phonetics, a phone is understood as a physical, continuous, time-limited and quantifiable unit. It is continuous because it is difficult to distinguish the beginning and end of a sound; it is quantifiable because the various physical properties of a phone can be measured; it is time-limited because the length of a phone can be measured and is significant. On the other hand, in phonology, a phoneme is understood as a psychological, discrete and unquantifiable unit which has no time constraints. It is discrete because it is a psychological entity, and has no time constraints because the physical length of a phoneme is of no significance." (Shin et al. 2013, 41)

Writing systems and their relation to sound production

The Romanian writing system makes use of the Latin alphabet, with 5 additional letters which have been modified in accordance to the phonetic requirements of the language. The spelling is mostly phonemic, with some letters having more than one realisation.

E.g. C – [c] in 'cap'
[tʃ] in 'cine'

Korean presents us with a special situation, it does have a phonemic orthography, but it is a featural writing system. Geoffrey Sampson analyses Hangeul script in "Writing Systems. A Linguistic Introduction" (1990) and "Writing Systems: Methods of Recording Language" (2014). He notices that the symbols do not represent whole phonemes, but rather the features that make up the phonemes, such as voicing or its place of articulation. In Hangeul, the featural symbols are combined into alphabetic letters, and then the letters are joined into syllabic blocks, so that the system combines three levels of phonological representation. Shin et al. call it a phonemic alphabet, saying that:

> "each letter corresponds to one phoneme. However, unlike the Roman alphabet, Hangeul is not written letter by letter, but in syllables. That is, two or three letters which form one syllable are written together as one orthographic unit." (2013, 178)

Furthermore, there are several syllabic constraints in Korean that influence the pronunciation by native Korean speakers of other languages which do not share them. One example would be the fact that Korean does not allow the pronunciation of consonant clusters, nor fricatives as codas. These types of constraints and how they affect the (re)production of sounds in a foreign language will be exemplified throughout this paper.

Syllabic structure

As we mentioned before, we believe that syllabic structures in different languages are factors that influence pronunciation. Syllables are made out of a nucleus, an onset and a coda, with vowels always being a nucleus, and onsets and codas consonants. Based on the syllable structure, there are languages which have CV syllables, such as Japanese, and CVC syllables, which is the case for both Romanian and Korean.

The two languages we analyse have the following syllabic structures:

Korean: V

V + C

C +V

C + V + C

C + V + C + C →with only one of the final C being pronounced

Romanian: V

V + C

C +V

C + C + V

C + C + C + V

C + V + C

C + V + C + C

(C) + V + C + C + C

Korean language operates with certain syllabic rules which constrain the order in which phonemes can follow one another. One of the most important rule is the consonant cluster rule. Korean phonology does not allow the pronunciation of two neighbouring consonants, unless they obey the phonological rules that exist in the language. And even though, in writing, consonant clusters can appear as syllabic coda, they are simplified, only one of them being realised in coda positions, and both of them being realised if the following syllable is vowel initial. Thus, if the consonant cluster is in coda position, either the first C surfaces, or the second C surfaces:

a. The first C surfaces:

ㄳ (ks)→ [k]

ㅄ(ps)→ [p]

ㄵ(nch)→ [n]

ㄶ(nh)→[n]

ㄾ(lh)→ [l]

ㄽ(ls)→[l]

ㄿ(lt')→[l]

b. The second C surfaces

ㄻ(lm)→ m

ㄼ(lp')→ p

ㄺ(lk)→k

c. The two clusters in which either the first or the second C can surface

ㄹㄱ (lk)→k 흙 *hŭk* ‘ mud’ [hɯk]

→l 맑 *mal* (다) ‘clean’ [mal]

ㄹㅂ (lp)→p 밟 *pap* (다) ‘(to) step on’ [pap]

→l 넓 *nŏl* (다) ‘large’ [nʌl]

Because Korean does not allow consonant clusters in an onset position, nor does it allow fricative clusters in coda positions, while Romanian does, issues in pronunciation may arise. Korean speakers of Romanian might have difficulty in (re)producing the sounds found in Romanian words which present consonantal clusters, falling back on an epenthetic sound to help themselves pronounce the words.

E.g.	Native pronunciation	Non-native pronunciation
stradă ‘street’	/stra.də/	/sɯ.tɯ.ra.də/
cruce ‘cross’	/cru.tʃe/	/cɯ.ɾu.tʃe/

Korean also restricts the presence of single obstruents and fricatives in coda position, thus they too are realised with the aid of an epenthetic vowel.

E.g.	Native pronunciation	Non-native pronunciation
praf ‘dust’	/praf/	/pɯ.ɾa.p^{h}ɯ/
cartof ‘potato’	/car.tof/	/caɾ.top^{h}/

An epenthetic sound is a sound that is added to a word and it can be either a consonant, in which case it is called an excrescence, or a vowel, which is called anaptyxis. In the case of Korean, only a vowel sound is added in those instances in which Korean phonological rules do not allow the pronunciation of certain sound sequences, and that vowel sound is / ɯ/. In natural languages, epenthetic sounds appear mostly in words borrowed from other languages (e.g. 아이스크림[1] *aisŭk'ŭrim* [aisɯkɯɾim] in Korean, or アルバイト[2] *arubaito* [a̟ɾɯ̟$^{\beta}$ba̟ito̟] in Japanese), or when speakers attempt to use another language that is not their mother tongue.

On the other hand, as far as syllabic structure is concerned, Romanian native speakers find no issues in (re)producing Korean words.

[1] Borrowed from the English ‘ice cream’.

[2] Borrowed from the German ‘Arbeit’ which means ‘work’. In Japanese it is translated as ‘part-time job’.

Phonetic classification

Vowels

Romanian vowels

As far as the Romanian vowel system is concerned, Ioana Chiţoran (2002, 7) proposes the following classification: seven vowels, two glides and two diphthongs:

vowels:	I	ɨ	u
	e	ə	o
		a	
glides:	j	w	
diphthongs:	e̯a	o̯a	

However, the linguist admits that the classification of Romanian vowels is a rather controversial one, and that several variants have been proposed, mentioning other vowel classifications as well:

1. Agard's (1984) classification, with the specification that he "does not include the mid back rounded glide /o/ in the inventory, perhaps suggesting that it is not distinct from /w/. He specifies, however, that these segments should be considered "autonomous phonemes"" (Chiţoran 2002, 9):

Glides:	j	w
	e̯	
Vowels:	I	ɨ/u
	e	ə/o
	a	

2. Graur and Rossetti's (1938) classification, which was later adopted by various other linguists as well, noticing that "The diphthongs are treated as monophonematic and are included in a square 9-vowel inventory, with three degrees of height." (Chiţoran 2002, 9)

I	ɨ	u
e	ə	o
e̯a	a	o̯a

3. Trubetzkoy's (1969) classification, describing it as a "triangular 9-vowel system with four degrees of height." (Chiţoran 2002, 9).

I	ɨ	u
e	ə	o
e̯a	o̯a	a

To these classifications we would like to add a fifth, the one proposed by Turculeţ (1999), who claims that the Romanian vowel system is made up out of seven vowels: /e/, /i/, /a/, /ə/, /ɨ/, /o/, /u/, and 4 semivowels /e̯/, /i̯/, /o̯/, /u̯/.

This apparent disagreement regarding the classification of Romanian vowels is also noted by Renwick, who evokes the same names as Chiţoran, saying that:

> "The phoneme inventory of Romanian has been the subject of much debate by scholars of the language. Regarding the vowel inventory, there has been disagreement as to whether diphthongs should be generated by rules combining glides and monophthongs, or whether they are instead underlying and thus listed among the phonemes." (2002, 16)

Korean vowels

The vowel system that will be used throughout this paper is the following one:

- Front, unrounded: i, e
- Back, unrounded: ɯ (ɨ̞), ʌ
- Back, rounded: o, u
- Front, unrounded: a

with the addition of 2 semivowels /j/ and /w/, and several diphthongs: /je/, /ja/, /jo/, /ju/, /jʌ/, /wi/, /we/, /wa/, /wo/, /wʌ/ and /ɯi/. I choose to use this seven vowel system instead of the eight vowel system previously used by Korean linguists, or the 10 vowel system proposed by Yu Cho, who admits however that the number of Korean vowels is under debate, because "first, the phonemic status of the front rounded vowels (ü and ö) and second, the ongoing merger of /e/ and /ɛ/. Due to these marginal vowels, some researchers posit only seven underlying vowels for Standard Korean." (Yu Cho 2016, 23)

Consonants

Romanian consonants

The Romanian consonants as well have had various classifications over time, Bibiri et al. (semanticscholar.org) mentioning the phonemic theory with the largest number of consonants, namely 72, proposed by Petrovici (1956), as well as the theory which counted for the smallest number of consonants – 20, proposed by Vasiliu (1965). In this paper, the following classification of the consonants will be used:

Place Manner	Bilabial	Labio-dental	Dental-alveolar	Alveolar	Post-alveolar	Velar	Glotal
Plosive	p b		t			k g	
Nasal	m			n			
Fricative		f v	s z		ʃ ʒ		h
Affricate			ts		tʃ d͡ʒ		
Lateral				l			
Trill				r			

Korean consonants

Place Manner	Bilabial	Labio-dental	Dental-alveolar	Alveolar	Alveolo-palatal	palatal	Labio-velar	Velar	Glotal
Plosive	p/b p^h p*		t/d t^h t*					k/g k^h k*	
Nasal	m		n					ŋ	
Fricative			s s*						h
Affricate					tʃ $tʃ^h$ tʃ*				
Approxi-mant						j	w		
Lateral/ flap				l /ɾ					
Trill									

Issues that can appear in pronunciation

1. Different realisations for the same phone

First of all, we can notice in Korean different realisations for the same phone in the case of stops and affricate sounds, realisations which have different properties and which correspond to different letters in the Korean alphabet.

b/p (ㅂ)	p * (ㅃ)	p^h (ㅍ)
d/t (ㄷ)	t* (ㄸ)	t^h ㅌ)
k/g (ㄱ)	k* (ㄲ)	k^h (ㅋ)
tʃ/ dʒ (ㅈ)	tʃ* (ㅉ)	$tʃ^h$ (ㅊ)
s (ㅅ)	s* (ㅆ)	
(voiceless unaspirated lenis) = lax	(voiceless unaspirated fortis) = tense	voiceless aspirated fortis) = aspirated

Although these are all realisations of the phones [p], [t], [k], [s] and [tʃ] respectively, Romanian learners/speakers of Korean can have a hard time distinguishing between them because not all of them naturally occur in Romanian. As Shin et al. says: "The same segment sequences can be interpreted differently by speakers of different languages due to the phonological differences between languages" (2013, 54). Romanian native speakers have trouble distinguishing between the 3 allophones of each of the previously mentioned phonemes, as in Romanian they are regarded as part of one phoneme, since Romanian does not have such phonation contrasts and an incorrect production would not result in change of meaning, as is the case with Korean words. Thus, Korean words that include the previously mentioned phonemes can often be mispronounced by Romanian native speakers, usually by turning a tense or aspirated sound in a lax one. This is best evidentiated in the following Korean minimal pairs or triplets:

방 *pang* /paŋ/ 'bread' and 빵 *ppang* /p*aŋ/ → [paŋ]

공 *kong* /koŋ/ 'ball' and 콩 *k'ong* /k^hoŋ/ ' bean' → [koŋ]

당 *tang* /taŋ/ 'sugar', 땅 *ttang* /t*aŋ/ 'earth' and 탕 *t'ang* /t^haŋ/ 'soup' → [taŋ]

자다 *chada* /tʃada/ 'to sleep' and 짜다 *tchada* /tʃ*ada/ 'to be salty' → [tʃada]

살 *sal* /sal/ 'flesh' and 쌀 *ssal* /s*al/ 'rice' → [sal]

The general rule for the misinterpretation of these allophones is the following:

/p*/, /p^h/→/p/
/t*/, /t^h/→/t/
/k*/, /k^h/→/k/
/s*/→/s/
/tʃ*/, /$tʃ^h$/→ /tʃ/

As in Romanian they are all different realisation of a phone – [p], [t], [k], [s] and [tʃ] - using them interchangeably would not result in a change in the meaning of a word, but, as we can see, using them interchangeably in Korean does completely change the meaning of the word in which they appear. This misinterpretation occurs also due to the fact that, as Yu Cho notices, "whereas voicing and aspiration are cross-linguistically common laryngeal features for obstruent systems, having a three-way distinction involving aspiration and tenseness (but not voicing) within one language is a quite unusual phenomenon" (Yu Cho 2016, 5)

2. Fricative sounds

As we can notice by comparing the consonant systems of the 2 languages, Korean only has three fricative sounds: the alveolar fricatives /s/, /s*/ and the glottal fricative /h/. However, in Romanian, there are several other fricative sounds, such as: the labiodental fricatives /f/, /v/, the alveolar /z/ and the palato-alveolar fricatives /ʒ/. Consequently it is not easy for native Korean speakers to distinguish between the fricative sounds from Romanian and to pronounce them correctly. The first difficulty arises from the fact that, in Romanian, fricative sounds are made in four different places (labio-dental, dental-alveolar, palato-alveolar, glottal), whereas in Korean, all fricatives are pronounced either in the alveolar or glottal positions. This makes it hard for the Korean native speakers to (re)produce all Romanian fricative sounds. Shin et al. notices this lack in fricative sounds in Korean, and offers an explanation as to why other fricative sounds from other languages are hard to render:

> "Because there are no voiced obstruents among Korean phonemes, they are difficult for Korean speakers to pronounce. In addition, fricatives show the longest duration among obstruents, which means that there must be a prolonged vibration of the vocal folds in order to make a voiced fricative sound. Due to these difficulties, in Korean /f/ is replaced by /p^h/, /v/ by /b/, /θ/ by /s */, /ð/ by /t/, /s/ by /s/ or /s */, /ʃ/ by /swi/, and /ʒ/ by /ʧwi/."(Shin et al. 2013, 76)

Their approach is a more general one, that includes other fricative sounds as well, not just those found in the Romanian phonetic system. And, although other obstruents can indeed be used as a replacement of absent fricative sounds from the Korean phonetic system, the explanation for this replacement can be quite a simple one and it revolves around the places of articulation. Some Korean native speakers simply replace the missing sounds from their phonetic inventories with a sound that is closest to it, as far as the place of articulation is concerned, in their own phonetic system, or the manner

of articulation. Therefore a labio-dental will be replaced by a bilabial, and a dental-alveolar will be replaced with a palatal-alveolar, while a palatal-alveolar fricative will be replaced with a palatal-alveolar affricate:

/v/→/b/
/f/→/p^h/
/z/→ /tʃ/ or /dʒ/
/ʒ/→/tʃ/
Eg: viteaz 'brave' [bitʲeadʒɯ]
Telefon 'telephone' [telep^{h}on]

3. Liquids

In Korean we notice the absence of both the alveolar liquid [l] sound and the palatal liquid rhotic [r] sound, which are well represented in the Romanian phonetical system, /ɾ/ and /l/ being regarded in Korean as free variants of the phone [l] (Shin et al. 2013, 46), Korean native speakers being unable to make a clear difference between them. In Korean, [l], which is graphically represented by ㄹ is realised either as /l/ or /ɾ/ depending on the phonetic environment in which it is found: /l/ in coda position and in germination and / ɾ / in word-initial position and intervocalic. However, we must distinguish between /r/ and /ɾ/, and the first is, as we mentioned, an alveolar liquid rhotic sound, while the second is an alveolar flap.

Eg.	Native pronunciation	Non-native pronunciation
ridica 'to lift'	[ridika]	[ɾidika]

Liquids can pose problems for both Korean natives who speak Romanian and for Romanian natives who speak Korean, as the first, in some cases, have difficulty distinguishing between the Romanian [r] and [l] sounds, sometimes using them interchangeably, or not being able all together to (re)produce the [r] sound as a rhotic, while the second can have difficulty in reproducing the flap sound which in some cases is replaced with an [r] sound. Moreover, as we mentioned that [l], which corresponds to the letter ㄹ, is realised differently depending on its place in a sequence of sounds, Romanian speakers sometimes mix the two allophones, producing /l/ when there should be flap, and *vice-versa*.

4. The dental-alveolars [z] and [ts]

The dental-alveolar sounds [z] and [ts] are part of the Romanian phonetic inventory, however they are not part of the Korean phonetic inventory, thus they also could raise issues in pronunciation, in the case of Korean native speakers.

[z] is a dental alveolar fricative, as is [s], which is found in the Korean phonetic inventory, however, [s] is a voiceless sibilant, and [z] is a voiced sibilant. Due to its absence from the Korean inventory, Korean native speakers tend to replace [z] with [dʒ], which is a voiced palato-alveolar.

E.g.	Native pronunciation	Non-native pronunciation
zar 'dice	[zar]	[dʒaɾ]

The sound [ts] corresponds to the Romanian letter <ţ>, and it is a voiceless palato-alveolar affricate. Korean native speakers replace them with [tʃ], a voiceless palato-alveolar.

E.g.	Native pronunciation	Non-native pronunciation
preţ 'price'	[prets]	[pɯɾetʃɯ]

5. The vowel /ʌ/

The open-mid back unrounded vowel /ʌ/ is a vowel sound that can be found in Korean language's phonetic inventory. This sound is not characteristic to the Romanian phonetic inventory however. As the sound is foreign to the native Romanian speakers, they tend to replace it with the close-mid back rounded vowel /o/ which is common to their native language's phonetic inventory.

E.g. /ʌ/→/o/	Native pronunciation	Non-native pronunciation
너 *nŏ* 'you'	/nʌ/	/no/
너무 *nŏmu* 'very'	/nʌmu/	/nomu/

Phonological rules constraints

In Korean, pronunciation is constrained by a set of rules which Shin et al. classify as: "(i) rules that can be applied without knowledge of the word's morphological information; and (ii) rules that can be applied in consideration of the word's morphological information." (2013, 179) Korean language functions, thus, based on a larger series of phonological rules, by which it is decided how a word/grapheme will be pronounced. Shin et al. (2013, 187-196) have come up with a list of rules for which we will try to offer examples:

1. Post-obstruent tensification

This is a phenomenon in which a lax obstruent becomes tense, if said obstruent is part of a compound word.

산불 *sanbul* /san + pul/ →[san.p*ul] 'wild fire'.

The afore mentioned authors come with a classification of the instances in which this phenomenon takes place, namely:

i. lax+lax=tense
   먹다 *mŏkta* /mʌk- + -tɑ/ → [mʌkt* ɑ] 'to eat'[3]
ii. aspirated+lax=tense
   옆집 *yŏpchip* /jʌp^{h} + tʃib/ → [jʌptʃ*ip] 'next door'
iii. tense+lax=tense
   깎다 *kkakta* /k* ɑ k* - + -tɑ/ → [k* ɑ kt* ɑ] 'to carve'
iv. /s/, /s*/, /tʃ/, /tʃ*/+ C=/t/
   있다 *itta* /is* - + -da/ → [itt*a] 'to be'

2. Obstruent nasalization, where an obstruent, such as /p/, /t/, /k/, is nasalized when it is followed by a nasal consonant, or /l/, as in the examples:

   /p/ + /m, n/ → [m] + [m, n]
   갑문 *kammun*/kap + mun/→[kammun] 'locked gate'
   /t/ + /n/ → [n] + [n]
   맏놈 *mannom*/mat + nom/→[mannom] 'first born son' (pejorative form)
   /k/ + /m, n/ → [ŋ] + [m, n]
   국물 *kungmul* [kuk – mul]→[kuŋmul] 'soup'
   /p, k/ + /l/ → m, ŋ + l
   식량 *singnyang* /ʃik + ɾyaŋ/ → [ʃiŋɾyaŋ] 'groceries'

3. Liquid nasalization
   /m/ or /ŋ/ + /l/ → /l/= /n/.
   승리 *sŭngni* [sɨŋ - ɾi]→[sɨŋni]
   금리 *kŭmni* [kɯm- + -li] → [kɯmni]

4. Lateralization, process in which nasals become lateralized when it is next to a liquid, regardless of their position, as "surface phonetic constraint in Korean…forbids liquid–nasal sequences, /l/–/n/." (Shin et al. 2013, 192). Professor Shin, however, only mentions the occurrence of this change in the following order of sounds:

[3] Examples taken from Shin et al. (2013).

/l/ +/n/ →/ll/, as in 겨울날 *kyŏullal* [kjʌul + nɑl] → [kjʌullɑl] 'winter days',

/n/ + /l/ →/ll/, in 신라 *silla* [ʃilla]

5. Non-coronalisation (Bilabialisation and Velarisation) occurs when "sounds that are articulated in the default (i.e. coronal) position are either assimilated into the front position or into the back position, depending on the sounds that follow them" (Shin et al., 2013, 192), where a coronal is a "feature which characterizes sounds that are produced by raising the tongue blade (including the tip of the tongue) from its neutral position towards the teeth or the hard palate." (Glottopedia.com). Examples of such sounds are: /d/, /t/, /s/, /z/, /n/ and /l/. This process is divided into two categories, namely bilabialisation, when an alveolar becomes bilabial, and velarisation, when an alveolar or bilabial become velar. The process of non-coronalisation, however, is not obligatory. Thus, the phonetic realization of the following examples, taken from Shin et al., are both correct:

   신문 *sinmun* [sin- + -mun] → [sinmun ~ simmun] 'newspaper'

   한강 *han'gang* [hɑn- + kɑŋ] → [hɑnkɑŋ ~ hɑŋkɑŋ] 'the Han river'

   감기 *kamgi* [kɑmki] → [kɑmki ~ kɑŋki] 'cold'

6. Aspiration is the process through which, in Korean, lax consonants become aspirated when they are in the proximity of the glottal sound /h/:

   낳다 *nat'a* [nah +ta]→ /nat^{h}a/ 'to give birth'

   갑하산 *Kap'asan* [kap +ha+san]→/kap^{h}asan/ 'mount Gapha'

7. Similar-place Obstruent Deletion

This rule is linked to the Korean phonetical particularity of having 3 different realization for the same phoneme (lax, aspirated and tense), and it implies that "when a sequence contains two consecutive consonants that are pronounced in similar positions, one of them is deleted for ease of pronunciation." (Shin et al. 2013, 192). Although the linguists say that one of them is deleted, actually it is the lax consonant that is deleted, while the aspirated or tense ones are kept. Thus:

/p/ + /p^{h}/→ /p/is deleted

갑판 *kapp'an* /kap + p^{h}an/ → [kap^{h}an] 'deck'

/k/ + /k^h/ →/k/ is deleted
식칼 *sikk'al* /sik + k^hɑl/ → [sik^{h}ɑl] 'kitchen knife'

8. /h/Deletion

Another optional rule that, according to Shin et al., is mostly noticed in fast speech, and it presupposes the avoidance of /h/ between voiced sounds. For example 대학교 *taehakkyo* can be either realized [dehakkjo] or [deakkjo].

As we can see, Korean pronunciation has quite a few constraints, and not knowing or being innately familiar with these phonological rules that affect the pronunciation of certain words, native speakers of Romanian who learn/speak Korean may encounter difficulties. As Shin et al. (2013) states, for Korean native speakers such rules are innate, but second language learners need to learn them and apply the correctly. Therefore, we can notice a few issues in the non-native pronunciation of Korean, with regard to these phonological rules:

- A disregard for post-obstruent tensification, as Romanian lacks such a rule, nor does it have a realization for plosives. Therefore, in a consonant cluster in which tensification should take place, in non-native pronunciation it does not. Romanian native speakers adopt a syllabic pronunciation.
  E.g. Syllabic pronunciation Native pronunciation Non-native pronunciation
  산불 *sanpul* 'wild fire [san + pul] /san.p*ul /sanpul/
- Neither obstruent not liquid nasalisation occur, transformations that happen in Korean do not happen in Romanian, as the following consonant sequences are allowed:

  [p] + [m, n] ↛ [m] + [m, n]
  pneumonie 'pneumonia'/pne.u.mo.ni.e/
  apnee 'apnea'/ap.ne.e/
  /t/ + /n/ ↛ [n] + [n]
  etnografic 'ethnographic'/et.no.gra.fik/
  /k/ + /m, n/ ↛ [ŋ] + [m, n]
  acnee 'acne'/ak.ne.e/
  /p, k/ + /l/ ↛ m, ŋ + l
  aplana 'to settle'/a.pla.na/
- Lateralisation is also foreign to Romanian native speakers, a syllabic pronunciation of Korean words being kept in this case as well.
  E.g. Syllabic pronunciation Native pronunciation Non-native pronunciation
  겨울날 *kyŏullal* [kjʌul + nɑl] [kjʌullɑl] [kjʌulnɑl]
  'winter days'

- As bilibialisation and velarisation are not obligatory rule in the Korean phonology, it is not important if they are applied or not by Romanian native speakers
- Aspiration does take place, as it is also a trait of the Romanian phonology
- Similar-place obstruent deletion does take place, since Romanian native speakers have difficulty in distinguishing between the three-way contrast of Korean stops, however, a preference for keeping the lax consonant has been observed.

Syllabic pronunciation	Native pronunciation	Non-native pronunciation	
갑판 *kapp'an* 'deck'	[kap + p^han]	[kap^{h}an]	[kapan]
식칼 *sikk'al* 'kitchen knife	[ʃik + k^hɑl]	[ʃik^{h}ɑl]	[ʃikal]

On the other hand, even though Romanian generally has a grapheme-to-phoneme pronunciation rule, we can also encounter a few exceptions to the rule, such as:

- Velarisation of /n/ before /k/, /g/ and /h/
  /n/ + /k/, /g/, /h/→[ŋ]
- Velarisation of /h/ in word-final position
- Palatalisation of /h/ before /i/ and /j/
- Phonological restrictions in the occurrence of diphthongs.

Insufficient data has rendered us unable, however, to analyse how these exceptions to the rule affect Korean native speakers, although we can assume that, in both cases, incomplete or faulty acquisition of phonological traits, and unfamiliarity with phonological constraints that appear in the two languages can lead to issues in pronunciation.

Conclusions

In this paper we tried to approach only particularities that might affect the pronunciation of non-native speakers of the two languages, which, as was shown, can pose problems in the interpretation and (re)production of the sounds found in the two languages' inventories. The non-native speakers of both languages are prone to certain pronunciation mistakes. The origin of misinterpretation lays the differences between the phonetic inventories of the two languages. Incomplete or faulty acquisition of phonological traits can also create a "non-native accent".

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