Syllable Structure and Syllabification in Koireng

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ABSTRACT:

Syllable plays a crucial role in the phonological study of a language. It also plays an important role in organizing the strings of segments in a language. Koireng belongs to the Old Kuki of the Kuki–Chin Group of the Tibeto–Burman language family (Grierson,1904). The total population of Koireng is 1873 (Census, 2011). Koireng is an endangered language, so the language needs to be studied to promote and preserve it as per NEP 2020. There are some literatures on Koireng, "Koireng Grammar" (Singh, 2010) and "A Descriptive Grammar of Sadu Koireng" (Devi, W. 2013), where the authors mentioned the types of syllables in the language, but neither of them has analyzed the syllabification process. So, this paper will be the first work on the detailed analysis of Koireng's syllable and syllabification process using Clements and Keyser's (1983) CV Phonology. The paper attempts to use the Maximum Onset Principle (MOP). It also aims to study whether the language follows the Sonority Sequencing Principle (SSP).

Keywords: Koireng, MOP, SSP, Syllable, NEP 2020.

INTRODUCTION

Koireng is one of the endangered and lesser-known languages spoken in Manipur. Though the official name of this tribe is Koireng, they identify themselves as Kolren. Koireng can be transliterated as Kol = "east"; Ren = "men/people," which means people of the east. It is spoken in Manipur and has close affinities with Aimol, Chiru, Kharam, Kom, and Purum. The word Koireng is used to refer to the language as well as the people who speak this language. Different scholars have referred to Koireng by different names, such as Kwoireng, Kolren, Koren, Quireng, and Kolhreng (Singh, 2010). They are one of the indigenous and oldest hill tribes of Manipur.

They have distinct customs, culture, traditions, and beliefs. Most of the tribes of Manipur have a chieftainship system where the chief (Kullakpa) is the head of the village. Koireng also follows this system. The chief of the village is referred to as Khoreng in Koireng (Ngalengnam, 2015). The original homeland of Koireng is Koram, which some Koirengs believe to be the Karen (presently known as Kayin) state of eastern Burma, now Myanmar (Kabui,1987).

Koireng is grouped into eight clans: Shong, Yei, Tieltu, Thamthu, Virei, Khonglung, Mikan, and Mreiem (Singh, 2010). The Khoreng (chief) of the village can only be chosen from the Shong clan (ibid). Ngalengma (2015) also claimed that the Khoreng of the village is chosen only from the Shong clan.

Population and its Demographic Distribution

The original homeland of Koireng is Koram, which some Koirengs believe to be the Koren state of eastern Burma (Kabui,1987). Koireng people inhibit in the eleven villages, namely: (1) Utonglok, (2) Sadu Koireng (3) Nurathel (4) Iril Mapal (5) Ekpan (6) Kamu Koireng (7) Longa Koireng (8) Awang Koireng in Senapati District (9) Tarung in Thangmeiband (10) Lamphel in Imphal West District and (11) Ngairong near Kwakta in Churachandpur District (ibid).
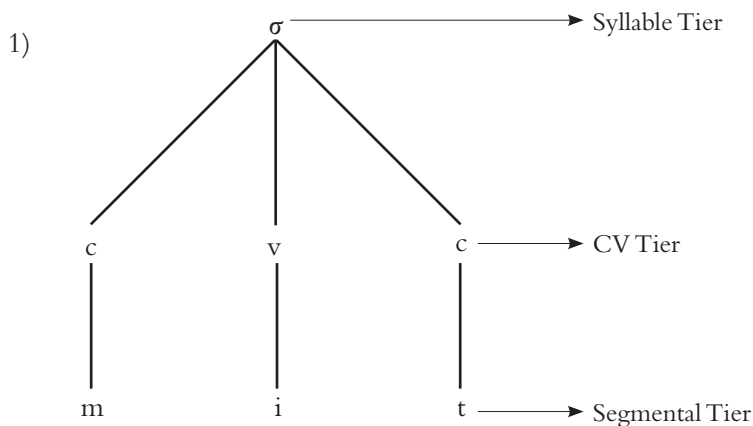
As per the Census Report 2011 by the Govt. of India, the total population of Koireng is 1873. The Koireng speakers inhabit Manipur's Chandel, Churachandpur, Imphal East, Imphal West, Senapati, Tamenglong, and Ukhrul districts. The number of speakers in the Chandel district is 27, 25 in Churachandpur, 130 in Imphal East, 409 in Imphal West, 1220 in Senapati, 6 in Tamenglong, and 56 in Ukhrul.

Status of Koireng in TB language family

Koireng is a Tibeto-Burman language. Koireng belongs to the Old Kuki of the Kuki-Chin Group of the Tibeto-Burman language family (Grierson,1904). Safer classified Koireng under the western unit of the Old Kuki branch of the Kukish section, the Burmic Division of the Tibeto-Burman language family. Benedict placed Koireng in the western Kuki unit of the Kuki–Naga (Kukish) branch of the Tibeto–Burman language family.

Theoretical Framework

The paper attempts to study the syllable of Koireng using the CV Phonology model of Clements and Keyser (1983). It depicts that the syllable comprises three tiers: the syllable tier, the CV tier, and the segmental tier. The paper also attempts to use Maximum Onset Principle (MOP). It will also use the Onset Principle given by Ito, where the principle states that languages generally have a tendency to avoid having onset less syllables (1989). It further aims to study whether the language follows the Sonority Sequencing Principle (SSP).

1)

σ ———————————————→ Syllable Tier

c   v   c ——→ CV Tier

m   i   t ——→ Segmental Tier

Koireng Phonology

The organization of Koireng's speech sounds will be discussed below. The study of sound patterns within and between languages is known as phonology. The study of phonology aids in our comprehension of how speech sounds can convey meaning within a single language or between several. A syllable is a building block of speech. Vowels and consonants are the constituents of a syllable. So, it is necessary to discuss the vowels and consonants.

Consonants

Consonants are speech sounds produced by obstructing the air from the lungs. There are twenty consonant phonemes in Koireng, and they are / p, b, t, d, c, k, pʰ, tʰ, kʰ, m, n, ŋ, ɾ, s, z, h, w, ʋ, j, l /. Apart from the 20 consonant phonemes, four phonemes, i.e./ɡ, ɡʰ, bʰ, and dʰ/, can occur only in loan words.

Table 1. Consonants chart of Koireng

	Bilabial	Labiodental	Alveolar	Palatal	Velar	Glottal
Plosive	p b		t d	c	k	
Asp. Plosive	pʰ		tʰ		kʰ	
Nasal	m		n		ŋ	
Tap			ɾ			
Fricatives			s z			h
Approximant	w	ʋ		j		
Lateral approximant			l			

Asp. stands for aspirated sounds

The 20 consonant phonemes are established on the basis of the following minimal pairs.

/p/ : /pʰ/	peɾ	'kick'
	pʰeɾ	'knit'
/t/ : /tʰ/	tiŋ	'back'
	tʰiŋ	'firewood'
/k/ : /kʰ/	koŋ	'waist'
kʰoŋ	'drum'	
/b/ : /t/	buɾ	'snow'
	tuɾ	'poison'
/t/ : /d/	tan	'run'
	dan	'traditional'
/c/ : /k/	cum	'walk down'
	kum	'year'
/m/ : /n/	mu	'see'

	nu	'mother'
/ŋ/ : /l/	ŋa	'fish'
	la	'song'
/t/ : /ɾ/	to	'touch'
	ɾo	'rain'
/j/ : /ɾ/	naj	'child'
	naɾ	'nose'
/ʋ/ : /z/	əʋoɾ	'throw'
	əzoɾ	'sell'
/s : /z/	sal	'spring'
	zal	'sleep'
/w/ : /h/	wa	'bird'
	ha	'teeth

The 20 consonants of Koireng can be classified based on the manner of articulation.

- Plosives:/ p, pʰ, b, t, tʰ, d, c, k, kʰ/
- Nasal: /m, n, ŋ/
- Tap: /ɾ/
- Fricatives: /s, z, h/
- Approximant: / ʋ, w, j, l,/

Based on the place of articulation, consonants of Koireng can be classified as follows:

- Bilabial: /p, pʰ, b, m, w/
- Labiodental: /ʋ/
- Alveolar: /t, tʰ, d, n, ɾ, s, z, l/
- Palatal: /c, j/
- Velar: /k, kʰ, ŋ/
- Glottal: /h/

The 20 consonants of Koireng can again be sub-classified as obstruents and sonorants. There are 12 obstruents and 8 sonorants in the language.

Plosives and fricatives are grouped as obstruents, while nasal, tap, and approximants are grouped as sonorants.

Vowels

Vowels are syllabic speech sounds that are produced freely without any obstruction in the oral cavity. Based on the position of the lips and tongue, the six vowels of Koireng are classified as follows :

Table2. Vowels in Koireng

	Front	Central	Back
	Unrounded	Unrounded	Rounded
High	i		u
Mid	e	ə	o
Low	a		

The articulatory description of six vowels is given below :

i – High front vowel

e – Mid–front vowel

a – Low–front vowel

ə – Mid–central vowel

u – High back rounded vowel

o – Mid–back rounded vowel

The above six vowels are established based on the following minimal pairs.

/i/ : /u/	əpi	'grandmother'
	əpu	'grandfather'
/e/ : /u/	ɾel	'large basket'
	ɾul	'snake'
/a/ : /ə/	aj	'crab'
	əj	'chew'
/i/ : /o/	mit	'eye'
	mot	'banana '

    All the vowel phonemes /i, e, a, ə, u, o/ can occur in words' initial, medial, and final positions.
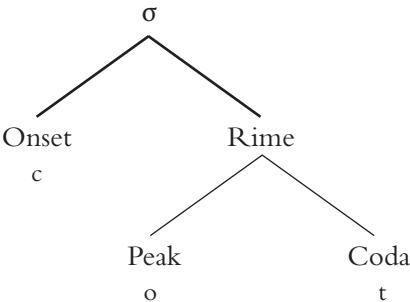
Syllable

A syllable is a single speech unit comprised of a peak, usually a vowel and consonants that may cluster around the peak. Laver (1994) defined a syllable as a complex unit comprising nuclear and marginal elements. Syllables play an important role in describing the generalizations of some phonological phenomena (Kahn, 1976). So, a detailed analysis of syllable structure and its syllabication process of Koireng is necessary. Chomsky and Halle also regarded syllables as an important concept in phonological structure comprehension (1968).

Syllable Structure

Permissible combinations of segments form a syllable. The syllable is a component of a prosodic structure that is hierarchically arranged (Selkirk,1982). The syllable, which is conventionally marked as a small Greek sigma (σ), has two immediate constituents: the onset (O) and a rime (R). The rime is branched into the nucleus (N) and coda (C). It is not necessary for rime to always branch; the V and CV syllable structures have nonbranching rime. The language does not permit onset and coda branching. A similar case is seen in Japanese: there may be CV or CVC type but no CCV or CVCC (Sung,2010). The syllable structure of Koireng can be illustrated in IC analysis as follows.
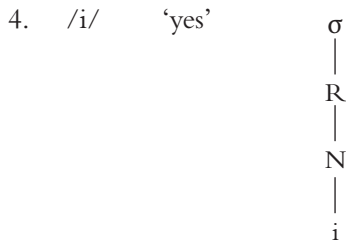
2.

Structural Constraints

3.

The above diagram shows the syllable template with feature percolation conditions (FPC) in Koireng. For instance, in words like /mot / 'banana' and /ŋiɾ/ 'stand', /m/ and /ŋ/ in onset are both [–syllabic], /o/ and /i/ in peak share [+sonorant, –consonantal] feature, and the coda /t/ and /ɾ/ are [–syllabic], so from here, FPC can be verified. Vergnaud (1979) proposed an FPC, which states that if a node in a tree is labeled with a feature or feature complex, all segments dominated by the node in question must possess the feature or features.

Syllable Types that are permissible in Koireng

a).V

4. /i/   'yes'

```
        σ
        |
        R
        |
        N
        |
        i
```

A vowel alone can occur as a monosyllabic word without any marginal elements. Thus, it can be concluded that onset and coda are optional in Koireng.

b).VC

5. /in/ 'house'

```
        σ
        |
        R
       / \
      N   C
      |   |
      i   n
```

6. /uɾ/ 'snow'

```
        σ
        |
        R
       / \
      N   C
      |   |
      u   ɾ
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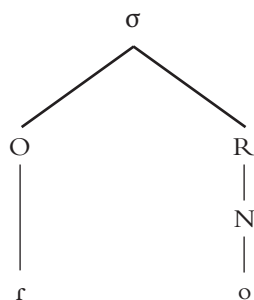
The VC syllable type is the most complex syllable found in the language. In this VC pattern, a sonorant always occupies the coda position, and the occurrence of obstruent is not acceptable in the coda position. In disyllabic words like /aɾ.tok/ 'duck', the coda of the first syllable is
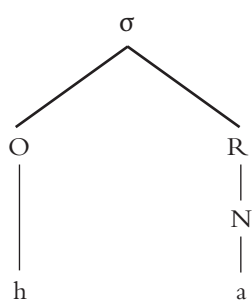
occupied by a sonorant /ɾ/; no obstruent is found to occur in this particular position. Following the analysis, the researcher claims that the VC's pattern coda position can only be occupied by sonorants.
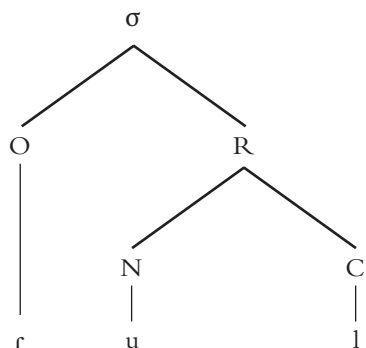
c). CV

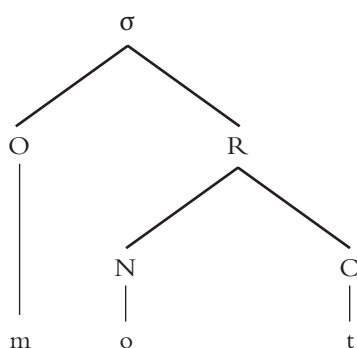7. /ɾo/   'rain'   8. / ha / 'teeth'

CV is the most common syllable type in the language. The language permits the occurrence of obstruent and sonorant in the onset position of the CV pattern. A syllable comprising of a consonant and a vowel sequence is the most primitive and historically the oldest syllable type (Malmberg,1963). There are some languages that allow only CV syllable type, for instance, the West African language Senufo (Zsiga,2013). CV is the only universal and natural type of syllable found in all languages (Jakobson, R. 1962).

d).CVC

9. / ɾul/ 'snake'   10. / m o t/ 'b a n a n a'

In the CVC pattern, the pre-nuclear, 'C' can be occupied by all the obstruents and sonorants sounds found in the language. But the post-nuclear 'C' is restricted to certain sounds. Obstruents /p, t, k/, and sonorants /m, n, ŋ, ɾ, j, l, w/ are the segments that can occur in the post-nuclear position.

Of all the syllable types, V and VC are the least common syllables, and CV is the most common type. Koireng does not permit complex onset and complex coda. All the obstruent and sonorant sounds of Koireng can occur in the onset positions of words. The only obstruent sounds that can occur in coda positions are /p, t, k/. Sonorant sounds in the word-final positions are nasals /m, n, ŋ/, tap /ɾ/, and approximants /j, l, w/. Koireng has both open and closed syllables.

Canonical Syllable Structure

$(C_1)V(C_2)$ is the canonical syllable structure of Koireng, where the nucleus (V) is obligatory, and the marginal elements, i.e., onset(C_1) and coda(C_2), are optional.

C1 = [- syllabic, +obstruent, +sonorant, +approximant]

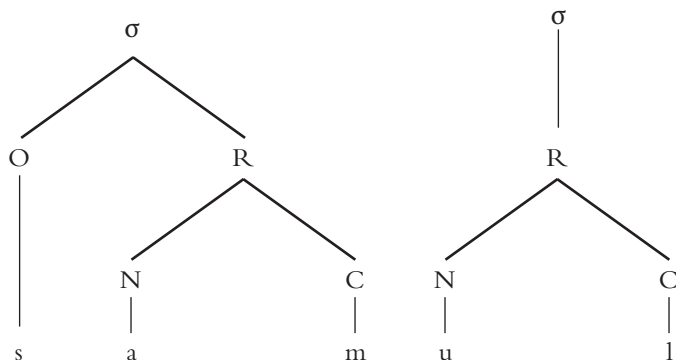C2 = [-syllabic, ±sonorant], i.e., /p, t, k, m, n, ŋ, ɾ, j, l, w/.

The language does not permit complex onset and complex coda.
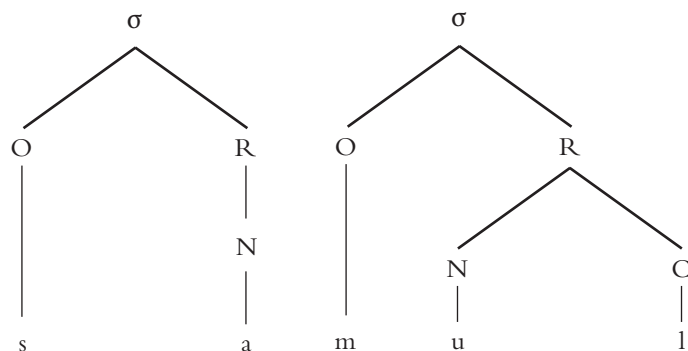
Syllabification in Koireng

Onset Principle

If there is an intervocalic consonant in an utterance, the question arises whether it will be treated as the onset of the first syllable rather than the coda of the second syllable. If we made the intervocalic /m/ of an utterance /samul/, as the coda of the first syllable, then it is ungrammatical as there is no word as /sam.ul/ in the language. If we made this segment /m/ as the onset of the following syllable, it is grammatical as there is the word /sa.mul/, which means wool. This indicates that every consonant in the language has the potential to become an onset first and only become a coda as a last resort. So, the "Onset Principle" holds true in this language. Example 11.a) with an asterisk mark shows the unacceptable syllable structure in Koireng, while 11.b) shows the acceptable form.
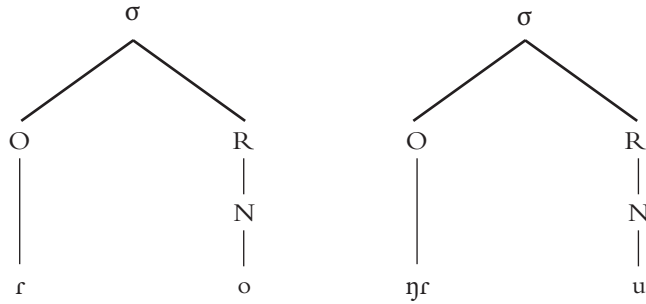
11. a) ⋆ / sam.ul /

b) / sa.mul / 'wool'

    Koireng priorities its onset. This tendency to place a consonant into an onset whenever possible is known as a priority of onset (Zsiga, 2013). A CVCV string will generally be syllabified as CV.CV, rather than CVC.V even in languages that allow more complex syllables.
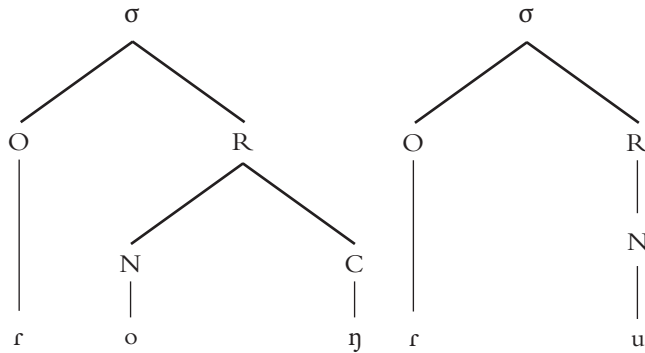
Maximum Onset Principle (MOP)

In an utterance like / roŋru / 'backbone', the /ŋr/ sequence cannot be in the coda of the preceding syllable because /ŋ/ (a nasal) is less sonorous than /ɾ/ (a liquid). Since there is rising sonority between the two consonants, the /ŋɾ/ sequence could constitute the onset of the following syllable, as shown below in the tree diagram.

12. a) ⋆ /ɾo.ŋɾu /

Alternatively, the sequence could be split between the two syllables: /ŋ/ would be in the coda of the preceding syllable, and /ɾ/ in the onset of the following syllable, as shown in 12.b).
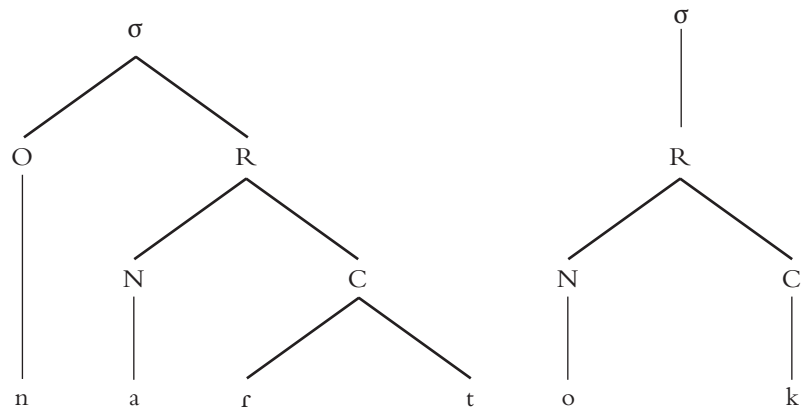
b) /ɾoŋ.ɾu/ 'backbone'

Two medial consonant sequences can form the onset of a syllable if and only if it forms the onset of a word. There is no word that starts with the /ŋɾ/ sequence in this language. Therefore, we cannot place / ŋɾ/ in the onset of the following syllable. Instead, it will be divided into legitimate coda and the onset of the preceding and following syllables, respectively. Thus, we can conclude that Koireng maximizes its onsets, and the above example 12 (b) shows the correct structure.

Sonority Sequencing Principle (SSP)
In the syllabication of certain utterances, for instance, 'naɾtok,' the intervocalic /ɾt/ sequence cannot be an onset of the following syllable,
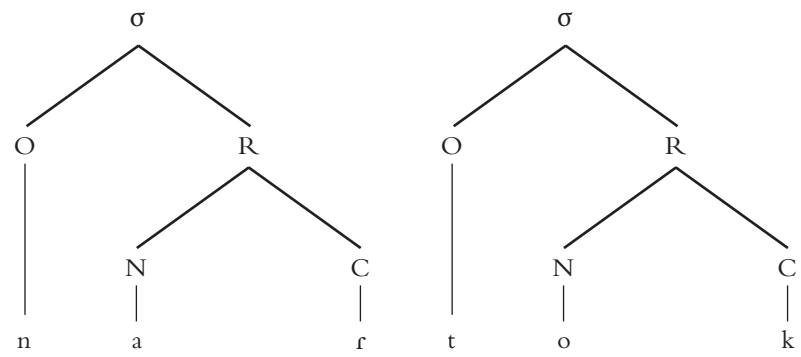
but it can be the coda of the preceding syllable as /ɾ/ is more sonorous than /t/. The tree structure will be as follows.

13. a) ⋆ /naɾt.ok

σ

O   R

N   C   N   C

n   a   ɾ   t   o   k

σ

R

However, the language in the study does not permit cluster sequence. Therefore, /ɾ/ will be treated as the coda of the first syllable and /t/ as the onset of the second syllable, as shown in example 13. (b).

b) /naɾ.tok / 'snore'

σ   σ

O   R   O   R

N   C   N   C

n   a   ɾ   t   o   k

In Koireng, the most sonorous sound i.e., the vowels, always occupy the nucleus and the marginal elements i.e., onset and coda are occupied by less sonorous sounds. Thus, the language follows SSP.
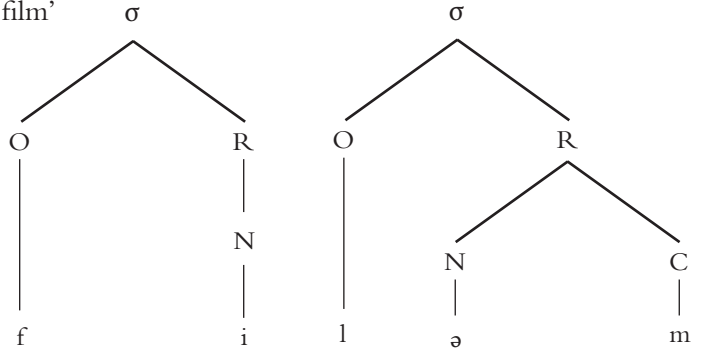
The syllable is frequently regarded as a unit that arranges spoken sounds according to their intrinsic sonority (Blevins,2006). For over a century, linguists have realized that the SSP governs onset and coda construction (Kenstowicz 1994:254– 255). SSP states that onset increases

in sonority as they approach the nucleus, and coda decreases in sonority as they get further away from the nucleus.
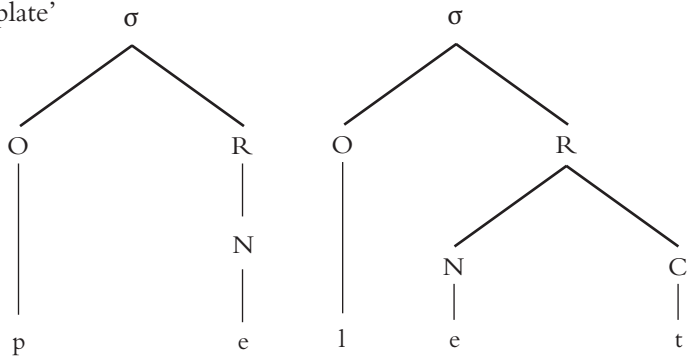
Loan Word Syllabification

When we bring foreign words with foreign forms in any language, the language reorganizes itself by applying phonological rules. A vowel can be inserted to change an unacceptable onset/coda. In Koireng, /i/, /e/, or /ə/ is added to restructure the onset/ coda as in 14, 15, and 16.
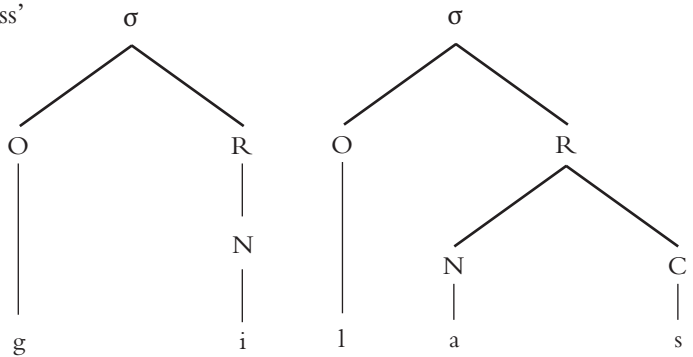
14.   / fi.ləm / 'film'

15.   / pe.let /   'plate'

16.   / gi.las /   'glass'

The above examples show that the language does not have clusters, and clusters in loan words are nativized after vowel epenthesis is done.

Conclusion

There are 26 phonemes in Koireng, of which 20 are consonants, and 6 are vowels. /i, e, ə, a, u, o/ are the six vowels in the language. All the vowels can occur in words' initial, medial, and final positions. The 20 consonants in the language are / p, b, t, d, c, k, pʰ, tʰ, kʰ, m, n, ŋ, ɾ, s, z, h, w, ʋ, j, l /, out of which 12 are obstruents, and 8 are sonorants. All the sonorants and obstruents can occur in the onset. Obstruents that are permitted in the coda position are /p,t,k/. Sonorants that can occur in the coda position are /m, n, ŋ, ɾ, j, l, w/. Onset and coda are optional, and the nucleus is obligatory in the language.

In Koireng, there are four core syllable types, i.e., V, VC, CV, and CVC. Among these, CV is the most common syllable type in Koireng, while V and VC are the least common. In the VC pattern, the position of 'C' can only be occupied by sonorants. The language does not permit obstruents to occur in the 'C' position of the VC pattern. Koireng syllable works on MOP and follows SSP.

There is no complex onset and complex coda in the language. Clusters in loanwords are nativized after vowel epenthesis is done.

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