



Phonotactics and Syllable structure of Balochi Language: A case of Makurani dialect

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ABSTRACT- As far as phonology is concerned, it is the study of sound system of a specific language like the sounds which form the phonemic inventory of a specific language. Further, phonologists are concerned with the formation of cluster and the position of sounds in a syllable, they define how some sounds are possible and others impossible in a syllable structure, this is known as phonotactics. Phonologists discover such constraints and, on the basis, they differentiate the syllable structure of one language from others. This research was aimed at exploring the syllable structures of Makurani dialect of Balochi language. In this case, the data was collected through a word list. The word list was prepared by the researcher with the help of the language speakers. In order to know the possible syllable structures, the participants were given the word list and were asked to pronounce them. Simultaneously, the data was tape-recorded and the words were syllabified in phonetic transcription. Moreover, another interesting feature of the dialect was that its phonotactic constraints do not allow /h/ as an onset phoneme. Therefore, the speakers were observed to have left the phoneme unpronounced.

Keywords: Phonotactics, Balochi Language, dialect

I. INTRODUCTION

Iranian languages, particularly the Northwestern Iranian languages, have Balochi language as one of their siblings. This language is mostly spoken in the western parts of Pakistan. Undoubtedly, it is also spoken as a second language by most of the Brahvi speaking people living in Balochistan, Pakistan. In a particular project "UCLA Language Materials Project: Balochi" Balochi language is mentioned to be a closely related language to the rest of Northwestern Iranian languages.

This section mainly focuses the phonemic inventory of Balochi language. According to B.Elena (2003) Balochi is one of the Western Iranian languages. Balochi is grouped in the same category in which Persian becomes its sister language. But, in this domain it is vital to mention that unlike Persian, Pashto is an Eastern Iranian language. Balochi is marked as having SOV (subject following an object which follows a verb in the end) word order.

There are minimum eight vowel phonemes in Balochi phonemic inventory. The phonemic inventory of Balochi language, specifically the vowels, is divided into two categories. These categories are named as short vowels and long vowels. The long vowels include: /u:/, /i:/, /e:/, /o:/ and /a:/. In the same way there are certain vowel sounds which are categorized as short ones. The vowels are: /i/, /a/ and /u/. It can be clearly seen that the short vowels of Balochi language have quality of being phonetically centralized than the long vowels. Moreover, it has also been found that Balochi spoken nearby and in Karachi- Southern Balochi- is marked to have nasal vowels. These vowels are nasalized variants of /e:/ and nasalized /a:/.

The table given below gives a clear idea of the vowels which are a part of Balochi language. These are found both in the western and the southern dialects of Balochi language.

A table of the phonemes found in the western Balochi is given in the following table. This table covers both consonants and vowel phonemes of the language. There are certain consonantal phonemes which are said to be having different place of articulation in the western Balochi when compared to their place of articulation in other languages. The following consonantal phonemes /n/, /l/, /z/, /s/ and /r/ are said to be alveolar when it comes to their place of articulation. The last of these consonants the alveolar tap /r/ is said to be dental in Southern Balochi. Similarly, the plosives /d/ and /t/ are claimed as dental plosives in both the dialects. Similarly, the following table 1.1 gives a detailed overview of the phonemic inventory of the Balochi language.

	Labial	Dental	Alveolar	Retroflex	Palatoalveolar	Palatal	Velar	Glottal
Stop	p b	t d		ʈ ɖ			k g	ʔ
Affricate					tʃ dʒ			
Fricative			s z		ʃ ʒ ^[cn 1]			h ^[cn 2]
Tap			r	ɽ ^[cn 3]				
Nasal	m		n					
Approximant	w		l			j		

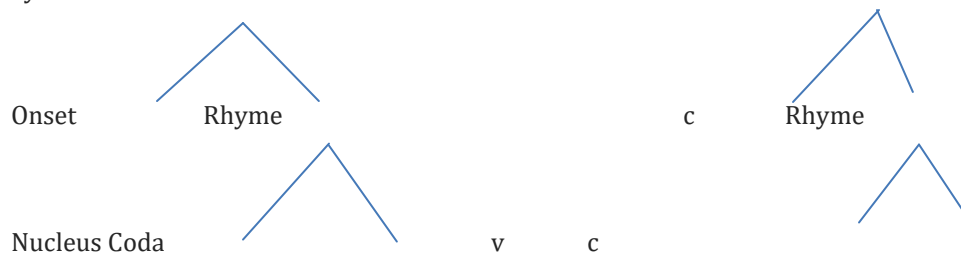
Following notes give an overview of some of the phonotactic constraints of the Balochi language.

Firstly, it has been found that the consonantal phoneme /ʒ/ is very uncommon in its appearance in lexical items. Secondly, the sound /h/ is dropped by the people speaking mainly in Karachi and its localities. Additionally, the consonantal phoneme /f/, though listed in the southern Balochi, is found in a limited number of words.

Phonotactics reveals the underlying rules and the possibilities of sounds in a language which further help in constituting the syllable structure of a language. These rules vary language to language means syllable structure and more technically the clusters of syllables either onset or coda cluster of different languages allow combination of different sounds in different languages. For example, the combination of /p/+/s/ sounds on the onset position of a syllable is concerned; English language does not permit this sequence on the onset position of its syllable. So when such sort of borrowing happens the recipient language on the basis of its phonotactics allows the sound but it is rearranged or any of its sounds are made silent while pronouncing the word. Like /p/ in the word *psychology* is not pronounced by the English, but in contrast English language allows the cluster of /s/+/p/ sounds on the onset position, e.g., *Spring, Sprite* etc. (Hammond, Michael. 2004.)

Syllable structure

Syllable



As the above mentioned figure is concerned, it is showing the internal structure of a syllable, this is the basic structure of a syllable or simply a frame on which further structures are built i.e. syllable structures of different languages on the basis of their phonotactic constraints. The constituents of a syllable are its onset which is optionally filled, rhyme which further contains coda which is also optionally filled but the counterpart of coda which is nucleus is an important constituent of a syllable which is compulsory as far as the languages of the world are concerned, hitherto no any language has syllable structure which does not fill its nucleus.

A study in this field was carried out by Abbasi and Hussain in 2012. The language which was chosen to be studied was Sindhi. The work aimed at exploring the way the loan words are syllabified in Sindhi and the possible syllable structure which Sindhi has. The study revealed that Sindhi is an open syllable language. For instance, the syllable structure of Sindhi has: onset and rhyme which is further divided into nucleus and coda. It was clearly written that syllable structures in Sindhi required a vowel as a prerequisite when it comes to syllable formation. Moreover, consonantal phonemes of Sindhi were found to have no any special role in syllable formation as these occurred on onset and not often at coda positions. Interestingly, vowels can stand as a syllable in Sindhi. As far as phonotactic constraints of Sindhi are concerned, these showed that a consonantal cluster was possible to occur on onset position in three different phonological environments. These occurred in case a consonant was followed by the following phonemes: /j/, flapped /ɾ/ and /r/. The words /kja/ which means 'did', /pɾi/ means an area where cattle are sold; /kjas/ this means 'forgive'. Moreover, there are certain nasal phonemes in Sindhi. It was mentioned by Jatio (1996) that the phonemes like /ŋ, ɲ, ɳ/ never appear at the word initial or what is known as onset of a syllable in Sindhi. According to Abbasi and Hussain (2012) Sindhi has minimum one and maximum six syllables in a word.

Hamid, et al. (2011) carried out a study of the phonemic inventory of new Persian and Balochi languages. It was mentioned in the work, on the basis of a thorough study, that Balochi still has a vast place in Iranian languages. It is remarkable thing about Balochi language that it kept its old phonemes which its contemporary languages like Medi, Old Persian, Sanskrit, Parthian and Avestian languages could not. These languages remained the languages of religions, official languages and remained the languages of the court for a certain period of time in past. Despite having such protection and leverage they could not protect themselves. With the decline of kingdoms languages started disappearing and gradually dying. As far as Old Persian is concerned, it lost its old shape when the land was conquered by the Arabs. Owing to high influence of Arabic, Persian language was immensely affected.

Balochi is marked to preserve the old Iranian phonemes. But, it is also said that the language has dropped certain sounds and adopted some of the phonemes from Lehinia and Sindhi languages. That is the reason that makes the study of Balochi vital when it comes to the study of the Old Iranian languages.

The work of the researcher is an additional work to these previous works done in the phonology of Balochi language. This has further explored phonotactic constraints and the possible syllable structures. A hypothesis that Makurani Balochi speaker does not pronounce /h/ sound when it comes on the onset position preceded by a vowel has also been proved.

Research Questions

- What are the possible syllable structures in Makurani dialect of Balochi language?
- What are the phonotactic constraints of Makurani dialect of Balochi language?

II. METHODOLOGY

In order to complete this research project in a reliable and valid way, the researcher went for snowball sampling. It was really difficult to find the required participants. That is why the participants were asked to help the researcher in finding other participants. The subjects to study were speakers of Makurani dialect of Balochi language, so the sample which was selected, were Makurani speakers residing in Turbat, Balochistan. The data was collected using a word list as a tool, the word list was provided to them and they were asked to

pronounce the words one by one simultaneously the pronunciation was tape-recorded. It was then phonetically transcribed, syllabified and in the last it was given the shape of syllable structure. The data also helped in exploring the phonotactic constraints of the dialect.

Words taken for phonological analysis

	Words	Phonetic transcription	Meaning
1.	Oo	[u:]	he/she
2.	Ba	[ba:]	with
3.	Aab	[a:b]	water
4.	Peer	[pir]	old
5.	Goft	[ʔ ʔ ʔ 5ʔ]	said
6.	Saerd	[sʔʔ ʔ ʔ]	ʔ ʔ ʔ ʔ
7.	Do	[dʔʔ]	to
8.	Troo	[tʔru:]	aunt
9.	Sraah	[sra:h]	upon
10.	Draeht	[dra:htʔ]	tree
11.	ʔ ʔ ʔ	ʔʔʔ ʔʔ	ʔ ʔ ʔ ʔ ʔ
12.	ʔ ʔ ʔ ʔ	ʔʔaʔʔ	ʔ ʔ ʔ ʔ ʔ
13.	ʔ ʔ ʔ ʔ	ʔʔʔʔ ʔʔ	ʔ ʔ ʔ
14.	Kupt	[kʔ ʔ ʔʔ]	ʔ ʔ ʔ ʔ ʔ ʔ ʔ ʔ ʔ
15.	ʔ ʔ ʔ ʔ ʔ	ʔʔ ʔ ʔ	ʔ ʔ ʔ ʔ
16.	ʔ ʔ ʔ ʔ	ʔprʔ]	patch
17.	Sunt	[Sʔ ʔ ʔ]	ʔ ʔ ʔ ʔ
18.	Graan	[gra:n]	expensive
19.	ʔ ʔ ʔ ʔ ʔ	ʔʔ ʔ ʔ ʔʔ	ʔ ʔ ʔ ʔ ʔ
20.	ʔ ʔ ʔ ʔ ʔ ʔ	ʔʔʔʔ ʔ ʔʔʔ	ʔ ʔ ʔ ʔ
21.	ʔ ʔ ʔ ʔ ʔ ʔ ʔ	ʔʔ ʔ ʔ ʔʔ	ʔ ʔ ʔ ʔ ʔ ʔ ʔ
22.	ʔ ʔ ʔ ʔ	ʔʔʔʔ ʔʔ]	T ʔ ʔ ʔ
23.	ʔ ʔ ʔ ʔ ʔ	ʔʔ ʔʔʔʔʔʔ	ʔ ʔ ʔ ʔ ʔ ʔ ʔ ʔ ʔ
24.	ʔ ʔ ʔ ʔ ʔ	ʔʔ ʔʔʔ ʔʔ	ʔ ʔ ʔ
25.	ʔ ʔ ʔ ʔ ʔ	ʔʔ ʔʔʔ ʔʔ	ʔ ʔ ʔ
26.	ʔ ʔ ʔ ʔ ʔ	ʔʔ ʔ ʔʔʔ	ʔ ʔ ʔ ʔ ʔ ʔ ʔ ʔ
27.	*(H)araab	[ʔra:b]	bad
28.	ʔ ʔ ʔ ʔ ʔ ʔ	ʔʔʔ ʔʔʔʔ	ʔ ʔ ʔ ʔ ʔ ʔ
29.	ʔ ʔ ʔ ʔ ʔ	ʔʔ ʔ ʔʔ	ʔ ʔ ʔ ʔ ʔ ʔ ʔ ʔ
30.	ʔ ʔ ʔ	ʔʔ ʔʔ	ʔ ʔ ʔ ʔ

III. RESULTS AND DISCUSSION

	Words	Phonetic transcription	Meaning
1.	Oo	[u:]	he/she
	v		
2.	Ba	[ba:]	with
	ʔ ʔ		
3.	Aab	[a:b]	water

2 2

4. Peer
Cvc

[pir]

old

5. Goft

[ʔ ʔ ʔ ʔ ʔ ʔ ʔ ʔ
cvcc

said

6. Saerd
Cvcc

[sʔ ʔ ʔ ʔ

ʔ ʔ ʔ ʔ

7. Do
Cv

[dʔo]

to

8. Troo
Ccv

[tʔru:]

aunt

9. Sraah
Cvcv

[sra:h]

upon

10. Draeht
Cvcc

[dra:htʔ]

tree

11. ʔ ʔ ʔ
ʔ ʔ ʔ

ʔ ʔ ʔ ʔ ʔ ʔ

ʔ ʔ ʔ ʔ ʔ ʔ

12. ʔ ʔ ʔ ʔ
ʔ ʔ ʔ

ʔ ʔ a ʔ ʔ ʔ

ʔ ʔ ʔ ʔ ʔ ʔ

13. ʔ ʔ ʔ ʔ
ʔ ʔ ʔ ʔ

ʔ ʔ ʔ ʔ ʔ

ʔ ʔ ʔ

14. Kupt
Cvcc

[kʔ ʔ ʔ ʔ

ʔ ʔ ʔ ʔ ʔ ʔ ʔ ʔ

15. ʔ ʔ ʔ ʔ ʔ
ʔ ʔ ʔ

ʔ ʔ ʔ ʔ

ʔ ʔ ʔ ʔ

16. ʔ ʔ ʔ ʔ
ʔ ʔ ʔ

ʔprʔ]

patch

17. Sunt
Cvcc

[Sʔ ʔ ʔ

ʔ ʔ ʔ ʔ

18. Graan
Cvcv

[gra:n]

expensive

19. ʔ ʔ ʔ ʔ ʔ
ʔ ʔ ʔ ʔ

ʔ ʔ ʔ ʔ] ʔ ʔ

ʔ ʔ ʔ ʔ ʔ

20. ʔ ʔ ʔ ʔ ʔ ʔ
ʔ ʔ ʔ ʔ ʔ

ʔ ʔ ʔ ʔ ʔ ʔ ʔ ʔ

ʔ ʔ ʔ ʔ

21. ʔ ʔ ʔ ʔ ʔ ʔ ʔ
ʔ ʔ ʔ ʔ

ʔ ʔ ʔ ʔ] ʔ ʔ ʔ

ʔ ʔ ʔ ʔ ʔ ʔ ʔ

22. ʔ ʔ ʔ ʔ

ʔ ʔ ʔ ʔ]

time

□ □ □ □

23. □ □ □ □ □ □
□ □ □ □

□ □ □ □ □ □

□ □ □ □ □ □ □ □

24. □ □ □ □ □ □
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25. □ □ □ □ □ □
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26. □ □ □ □ □ □
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□ □ □ □ □ □ □ □

27. * (H)araab
vc.vc

[əra:b]

bad

28. □ □ □ □ □ □ □ □
□ □ □ □ □ □

□ ə □] □ □ □

□ □ □ □ □ □ □ □

29. □ □ □ □ □ □
□ □ □ □ □ □

□ ə □] □ □

□ □ □ □ □ □ □ □

30. □ □ □ □

□ □] □ □ □

□ □ □ □ □ □

Vc

Possible syllable structures

[u:]

σ

v

u:

[ba:]

σ

rhyme

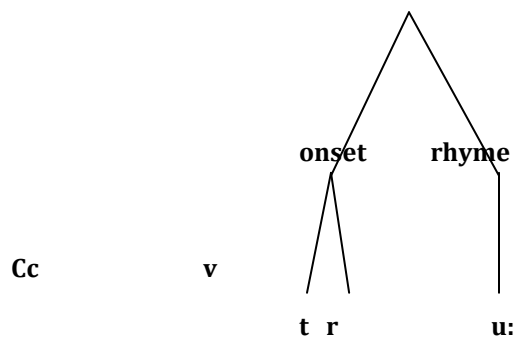
C

v

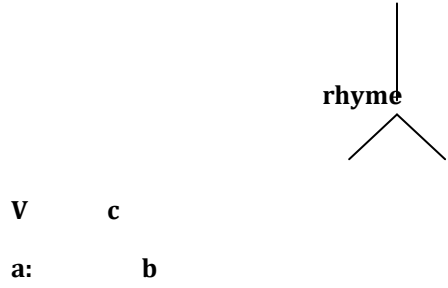
b

a:

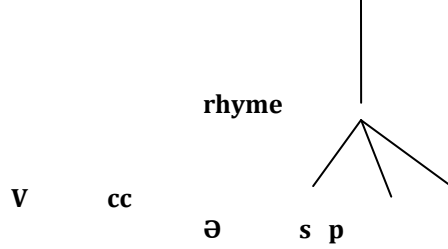
[tʃru:]



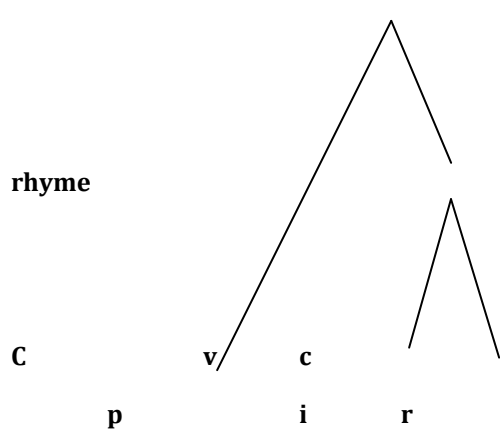
[a:b]

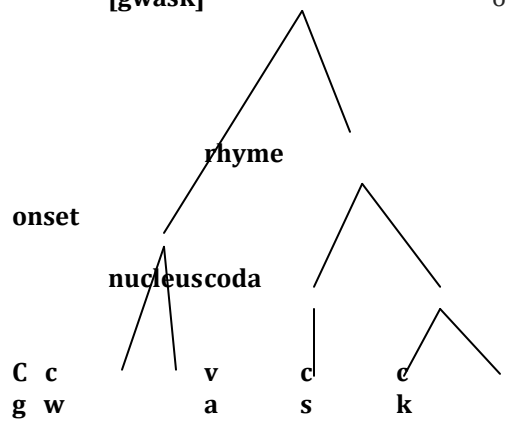
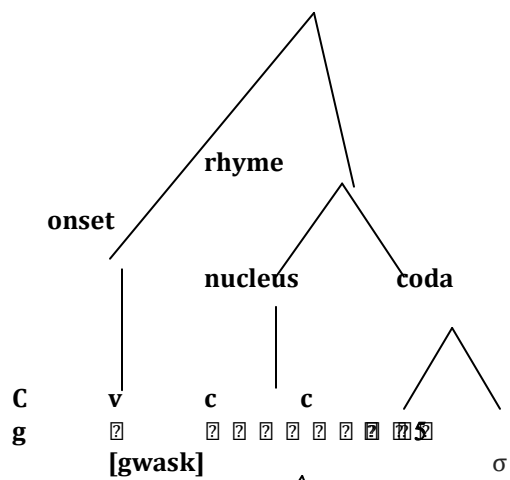
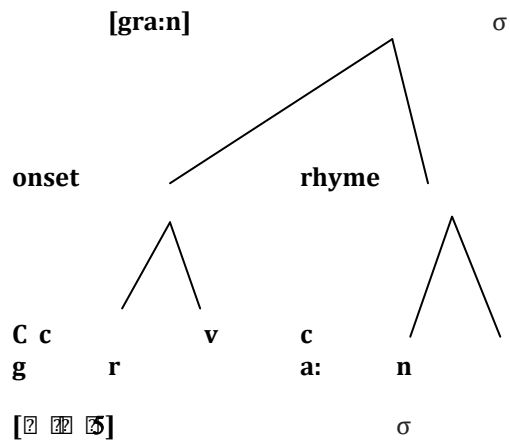


[θsp]



pir] σ





Phonotactic constraints

Possible Onset clusters

- | | |
|-------------------|-------------|
| [t5ru:] | t5+r |
| [sra:h] | s+r |
| [d5ra:ht5] | d5+r |

[prθ]	p+r
[gra:n]	g+r
g r a : n	g+r
g r a : n	g+r
g r a : n	g+r
g r a : n	g+r
g r a : n	g+r

Possible Coda clusters

[r θ 5]	r+θ5
r θ 5	r+θ5
[sθ 5]	s+θ5
s θ 5	s+θ5
[dra:ht5]	h+t5
d r a : h t 5	h+t5
d r a : h t 5	h+t5
[k θ 5]	k+θ5
k θ 5	k+θ5
[S θ 5]	S+θ5
S θ 5	S+θ5
[r θ 5]	r+θ5
r θ 5	r+θ5
[r θ 5]	r+θ5
r θ 5	r+θ5
[r θ 5]	r+θ5
r θ 5	r+θ5

Nonoccurrence of /h/ sound on the onset position preceded by a vowel

- (H)araab** **[θra:b]** **bad**

vc.vc
- g r a : n g r a : n g r a : n

g r a : n g r a : n g r a : n
- g r a : n g r a : n g r a : n

g r a : n g r a : n g r a : n

Vc

The above-mentioned data reveals that whenever /h/ sound comes at the onset position preceded by a vowel it is never pronounced by Makurani Balochi speakers.

IV. CONCLUSION

It is being concluded that in *Makurani* dialect of *Balochi* language there are about nine possible syllable structures and the language is highly rich with the cluster possibilities as both at the onset as well as at the coda a cluster of two consonants is possible. As far as the hypothesis is concerned, it has been proved in the analysis that *Balochi* speakers particularly that of *Makurani* dialect, do not pronounce /h/ sound occurring at the onset position preceded by a vowel.

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