A Constraint-based Analysis of Persian Loanwords in Saraiki

Nasir Abbas Syed

Abstract

This paper analyses Persian loanwords in Saraiki using Optimality Theory. It also attempts to determine linguistic relationship between Saraiki and Persian. Phonological changes occur in loanwords due to constraints which demand either wellformedness or faithfulness to L1, which are satisfied at the cost of faithfulness to the input. Insertion, deletion, substitution, lenition, devoicing, vowel lengthening, stress shift, etc. are observed in Persian loanwords in Saraiki. The study confirms the emergence of the unmarked in loanword grammar of Saraiki. Those marked phenomena which are acceptable in indigenous Saraiki grammar are not acceptable in loanword grammar. Such examples confirm that there are two parallel grammars for indigenous Saraiki lexicon and loanwords. On the basis of examples of substitution of unmarked sounds with their marked counterparts, it is claimed that Persian has also been getting loanwords from Saraiki which means the process of loanword adoption is bidirectional, rather than unidirectional. Overall the study negates the idea of some indigenous linguists that Saraiki is closer to Persian than Indo-Aryan languages.

Keywords: *Optimality theory, Persian, phonological processes, Saraiki*

1. Introduction

Saraiki, an Indo-Aryan language spoken in Pakistan (Shackle, 1976), has taken a large number of loanwords from Persian. The current paper analyses Persian loanwords in Saraiki in Optimality Theory (McCarthy, 2008; Prince & Smolensky, 2004). The phonological changes occur in the Persian loanwords due to the constraints which demand either well-formedness or faithfulness to L1 (Saraiki). Word-final vowel lengthening of Persian words in Saraiki is a phenomenon triggered by a wellformedness constraint. OT is the most suitable model for illustration of such conflicting constraints.

This study attempts to identify and analyze loan adaptation of Persian loanwords in Saraiki. It aims to find out relationship between Persian and Saraiki to determine whether Saraiki took words from Persian or vice versa and if there is a blood relationship between the two languages. It also tries to confirm or disapprove the claim by some indigenous linguists that Saraiki is from the family of Iranian languages.

The data for this study were collected from a Persian dictionary published in Pakistan (Latif, n.d.). Later on, the selected words were presented to an Iranian student from Tehran who was doing PhD in phonetics and phonology of Persian

at the Department of Language and Linguistics, University of Essex, Colchester, United Kingdom. Persian was his native language. He was requested to confirm the meanings of the words and transcribe the selected words according to the Persian pronunciation of these words as spoken in standard Persian using IPA symbols. The pronunciation of the Persian words given in the paper is the same as transcribed by the Persian native speaker.[1]

2. Vowel Lengthening

Saraiki does not accept short vowels word-finally, because short vowels normally do not occur in the New Indo Aryan languages (Masica, 1991, p. 13). Thus, in Saraiki, Persian words ending on short vowel [e] are produced with a long vowel [a] word-finally.

Persian	***Saraiki***	***Glosses***
/pʰæmbe/	[pʰʌbʱa]	*bandage*
/ki:se/	[kʰi:sa]	*pocket*
/tu:ʃe/	[to:ʃa]	*meals*
/xæt.ne/	[xəət.na]	*circumcision*
/xæs.te/	[xəəs.ta]	*wretched*
/da.ne/	[dana]	*grain*

These examples indicate that *HL# (no heavy syllable immediately followed by a light syllable on word boundary) is ranked higher than DEP-μ in the loanword grammar of Saraiki. *HL# is a constraint which is highly ranked in most of the world languages. This structure is dispreferred world-wide (Kager, 2010). Various languages use different techniques to change such structures to acceptable forms (Kager, 2007, p.222). Vowel lengthening and shortening are the most common repair strategies for such cases (Hays, 1995; Mester, 1991; Prince, 1990). Saraiki also exploits vowel lengthening technique in such cases. However, an important thing in this regard is that the Persian [e] changes into [a] because [a] is the most unmarked vowel. In Saraiki, all quantum vowels exist and can freely occur on word-final position. Saraiki has words like, 'kala' *black NOM*, 'kali:' *black FEM.* and 'kalu: *black VOC.* But in the above examples, the vowel that emerges in the output is low vowel [a] which is the most unmarked of the vowels. It means that the ranking *u,*i>>*a is also operative in the adaptation of the above examples. Otherwise in the grammar of Saraiki, these markedness constraints are very low ranked and are normally violated in the L1 grammar but in loanwords cases, these lower ranked constraints emerge higher and play effective role in adaptation of Persian loanwords. This is an example of the emergence of the unmarked (McCarthy & Prince, 1994) in loanword grammar. The above examples may be illustrated in the following tableau.

Table 1. Vowel lengthening

/tu:ʃe/	***HL#**	***i:**	***u:**	***a**	DEP-μ
a. tu:ʃe	***!**				
b. tu:ʃi:		***!**			
c. tu:ʃu:			***!**		
d. toʃa				*	*

The candidate *a* is defeated because it violates the highest ranked constraint which does not allow a light syllable word-finally immediately preceded by a heavy syllable. The candidate b and c are defeated because they opt to substitute the word-final short vowel with [i:] and [u:] respectively which are also sub-optimal as compared to [a]. Thus, the candidate d emerges as a winner which only violates the lowest ranked constraints. This establishes the following ranking in the Saraiki loanword grammar;

*HL#, *i:, *u:>>*a, DEP-μ

In the above tableau, the substitution of [u:] with [o] is not addressed. This is an example of vowel lowering. Many examples of vowel lowering are found in this data set but they are not addressed in this study. Vowel lowering in Saraiki loanword grammar is left for detailed future investigation.

3. De-voicing

Another example of the emergence of the unmarked is substitution of voiced phonemes with voiceless ones in the loanwords. In these examples, word-final voiced obstruents of Persian words devoice in Saraiki although voiced stops also exist in Saraiki.

Persian	**Saraiki**	**Glosses**
/li:z/	[le:s]	*lubrication*
/tæb/	[ʈəəpp]	*fever*
/ʤu:ʤe/	[cu:ca]	*chicken*
/ʤer ʤer/	[cəər cəər]	*noise of tearing clothes*

In the above examples, change of voicing occurs on word-initial as well as word final position. It means such a devoicing is not position specific as we find in many languages of the world (Kager, 2010). These substitutions show that the faithfulness constraint

IDENT[VOICE] is lower ranked than the markedness constraint *VOICED[OBSTRUENT]. The following tableau establishes this ranking.

Table 2: Devoicing of obstruents

/liz/	*VOICED[OBSTRUENT]	IDENT[VOICE]
a. liz	*!	
b. les		*

The candidate a which is the most faithful to the input loses because it violates a higher ranked constraint of the markedness family *VOICED[OBSTRUENT]. The candidate b wins although it violates a constraint of the faithfulness family i.e. IDENT[VOICE]. But this is a lower ranked constraint in the loanword grammar of Saraiki. The change of long front vowel [i:] to [e] is an example of vowel lowering. A comment on vowel lowering is given in the following section. Other examples of vowel lowering are substitution of the words /gu:.ni/ *sack* /pi:ʃ/ *in front of* and /ʃu:r/ *salty land* with [go.ni:], [pesh] and [ʃor], respectively.

Let us point out that the vowel [e] is a long vowel in Saraiki. But since the vowel inventory of Saraiki does not have its shorter counterpart, we do not put length marks with it. Thus, with the substitution of [i:] to [e], the weight of the word is unchanged. An important thing in this regard is that not all voiced stops of Persian become voiceless in Saraiki. It is also not a position specific process. As the above examples show, on both onset and coda position, devoicing occurs. There may be two possible interpretations of this phenomenon. Firstly, it shows that during the course of time, Saraiki has been reranking its grammar. At a specific time, it did not accept voiced stops in loanwords and changed them into voiceless sounds but at a later stage it started accepting voiced stops in Persian loanwords. The second possibility is that the words of Saraiki and Persian which have voiced stops, were taken by Persian from Saraiki and in the Persian loanword grammar, faithfulness to the feature [voice] was ranked on an inviolable position. The former view may be supported by cyclic change theory (Ohala, 1978) which assumes that historical development do not always occur from marked to unmarked; sometimes a development results in changing an unmarked structure into a marked one; whereas the latter may be supported by the idea that the direction of change in words is from marked to unmarked (de Lacy, 2007). This issue needs further investigation.

4. Lenition

An important phenomenon observed in Saraiki words taken from Persian is that, in some cases, it does not accept labial sounds and substitutes them with labio-dental approximant [ ]. The following examples show how labial stops change into approximant.

Persian	**Saraiki**	**Glosses**
/af. ta.be/	[əəs.ta a]	*ablution pot*
/bæh.bæh/	[ah afi]	*applaud*
/ta.be/	[t əə. a]	*iron plate*
/ser.fe/	[səər.fa]	*economical*
/xe.fe/	[xəə.fa]	*collar*

In Arabic loanwords we have substitution of [v] with [ ] in words like /af.zal/ '*superior*' and 'lafz' '*words*' changing into [əəzəəl] and [ləəz], respectively. In the above cases, [b] changes into [ ]. Like the examples of devoicing, such lenition also occurs in specific words only. Since we have only one example of substitution of [f] with [s], it will be treated as an exception. However, the substitution of [b] with the approximant [ ] is captured in the following set of constraints.

*[b]: Bilabial voiced stop is not licensed.
MAX-IO-[feature]: Do not delete a specific feature of sounds in the input.

Table 3: Lenition

/bæh/	*[b]	MAX-IO-C	IDENT -IO-[feature]
a. bæh	*!		
b. æh		*!	
c. afi			**

The candidate *a* loses because of violation of the highest ranked constraint *[b]. The candidate b also loses because it violates another higher ranked constraint MAX-IO by deleting the word-initial consonant. On the other hand, the winner candidate only violates the lowest ranked constraint IDENT-IO [feature] twice by substituting the feature [-sonorant] and [-continuant] with [+sonorant] and [+continuant] respectively.

5. Deletion

Three types of deletion have been observed in Persian loanwords of Saraiki, namely vowel shortening or mora deletion, consonant deletion and syllable deletion or haplology. All these processes are commonly observed in historical development of languages (McMahon, 2000, p. 15).Vowel shortening or mora deletion occurs to satisfy prosodic requirements of Saraiki. Consonant deletion occurs to avoid a complex structure and syllable deletion occurs either for prosodic requirements or to avoid a complex structure. Some words of Persian which are tri-syllabic are normally not acceptable for prosodic constraints of

Saraiki. In such cases, Saraiki deletes part of the words which are repeating in the original words or are not in accordance with the prosodic structure of Saraiki. Similarly, some Persian phrases lose part of their phonological material in Saraiki as the following data illustrate;

Persian	**Saraiki**	**Glosses**
/den.dan/	[dʌnd]	*teeth*
/den.da.ne/	[dʌnda]	*a cutter's edge*
/pirar sal/	[pəərar]	*before last year*
/par sal /	[pəərr]	*last year*
/ma.di:.ne/	[ma.di:]	*feminine*

The above data illustrate that the host language simplifies words of Persian which are not in accordance with the grammatical structure of Saraiki. Some consonant clusters are not acceptable in Saraiki. Therefore, words like /ʃæɾm/ '*skin*' become [cəəmm]. The wordfinal geminates indicate a compensatory measure has been adopted to maintain the weight of the prosodic word. The substitution of Persian /mærg/ *death* and /ærʤ/ *price*with Saraiki [məərr] and [əəggʰ] respectively illustrate this phenomenon. In these examples, Persian words have a consonant cluster word-finally which is not acceptable for Saraiki because *CC# is highly ranked in Saraiki. Resultantly, one of the consonants is deleted. Because of the scarcity of data, we cannot determine any generalization about these examples. In one case the obstruent [g] is deleted but in the other the sonorant [r] is deleted. Thus no generalization can be developed about it and the issue is left for further investigation. The following examples show that long vowels in the words of Persian origin are shortened in Saraiki.

Persian	**Saraiki**	**Glosses**
/xu:r. ɟi:n/	[xur. ɟi:n]	*bag*
/af.ta.be/	[əəs.ta.a]	*ablution pot*
/du:.ga:.ne/	[du.ga.na]	*twice*
/ta.ʈu:re/	[ʈʰəə.tu:.ra]	*hemlock*

Persian is a language which has a stress pattern quite different from that of Saraiki. Saraiki is a quantity sensitive free stress system language. A heavy syllable normally attracts stress in Saraiki. In case of two consecutive heavy syllables, the left syllable attracts stress. It does not accept a word of three heavy open syllables. In case if it takes a word which has three open heavy syllable, it deletes a mora in the leftmost syllable which results in vowel shortening. Vowel shortening may be expressed through the following constraints and constraint interaction.

LEFTMOST: The head foot is leftmost in a prosodic word (Kager, 2010, p. 167).
MAX-IO-μ: Do not delete a mora.

The following tableau establishes the ranking between these constraints.

Table 4: Vowel shortening

/ xu:r. ɟi:n/	LEFTMOST	MAX-IO-μ
a. xu:r. ˈɟi:n	*!	
b. xur. ˈɟi:n		*

The candidate a, which is the most faithful to the input loses because it violates the higher ranked constraint LEFTMOST. Therefore, the candidate b which only violates a lower ranked constraint emerges as a winner.

6. Insertion

Vowel and consonant insertion is observed in the following data.

Persian	**Saraiki**	**Glosses**
/tuxm/	[tux.xum]	*seed*
/zæxm/	[zəəx.xəəm]	*injure*
/fikr/	[fik.kir]	*worry*
/sʌdr/	[səəd.d̪ə̪ər]	*president*

In the above examples, clusters of consonant which are not acceptable for Saraiki are broken using vowel epenthesis. This confirms that *COMPLEX-CC is also higher ranked than DEP-V. However, another important phenomenon in this regard is that the epenthetic vowel is harmonious to the vowel in the original word. This is an example of vowel harmony in loanwords. In Saraiki, we have words having different vowels but in loanwords it only inserts those vowels which are harmonious to the vowels already there. This is also an example of the emergence of the unmarked. The principle of economy is also strictly observed in insertion. This shows that the constraints V-HARM and C-HARM which demand vowel and consonant harmony respectively are also higher ranked. The following tableau confirms this ranking. Another important thing is that the consonant also geminates in the word. This is because after insertion of a vowel, the word gets Iambic foot which is more marked than a trochaic foot (Johnson & Reimers, 2010). Although iambic feet are acceptable in indigenous Saraiki words, it does not accept such words in loans.

It may be pointed out that the word /sʌdr/ is of Arabic origin. Actually, there are hundreds of words of Arabic which came into Pakistani languages via Persian.

Besides, Saraiki treats both Persian and Arabic loanwords in the same way. (For a detailed study of adaptation of Arabic loanwords in Saraiki please see (Syed & Aldaihani, 2014)). The following tableau shows how Saraiki adapts Persian loanwords with consonant clusters on word-final position.

Table 5: Insertion

/tuxm/	*COMPLEX-CC	HARM-V/C	*IAMB	DEP-V/C
a. tuxm̩	*!			
b. tuxam̩		*!	*!	*
c. tu.xum̩			*!	*
d. tux.xum̩				**

The candidate a, is defeated for violation of *COMPLEX-CC and b is rejected for violating HARM-V which demands vowel harmony in a prosodic word. It also violates *IAMB. The candidate c is also not optimal because it is iambic which is dispreferred for the constraint *IAMB. Thus the candidate d is accepted, although it violates DEP-IO twice, once for vowel insertion and second time for consonant insertion, but DEP-IO is lower ranked.

There is some similarity between the above data and those in section 4. In both type of data sets, the Persian words end on a consonant cluster but the host language treats both sets of data in two different ways. In the former, deletion of consonant occurs while in the latter insertion occurs. The reason for this is that in the former cluster of consonants, a sonorant precedes an obstruent but in the latter, an obstruent precedes a sonorant. Normally languages protect margins and obstruent consonants. Therefore, it is difficult to delete either of the consonants on coda cluster. Thus, instead of deletion, insertion technique is applied here. An alternative analysis of this situation may be invoked from auto-segmental phonology (Goldsmith, 1990) that a V and a C place is empty in these words. Thus, the nearest vowel and consonant spread and occupy the empty slots. Since the current study presents a constraint based analysis of loanword adaptation, it does not go to detailed analysis of these examples according to the paradigms of autosegmental phonology or feature geometry (Clements & Hume, 1995; McCarthy, 1988; Rice & Avery, 1993).

7. Stress shift in loanwords

Faithfulness to L1 (Saraiki) stress motivates changes in the stress pattern of Persian words in Saraiki. Examples given below illustrate changes in stress pattern of the loanwords.

Persian	**Saraiki**	**Glosses**
/gu:.ˈni/	[ˈgo.ni:]	*sack*
/tæ̪bl.ˈʧi/	[ʈə̪.ˈbəəl.ci:]	*drum beater*
/de.ha̪.ˈti/ ̪	[de.ˈɦa:.ti:] ̪	*villager*
/amu:ˈxte/ ̪	[ˈmux.ta] ̪	*yesterday's lesson*

The languages of the world are classified into fixed and free stress languages (Davenport & Hannahs, 2010; Roca & Johnson, 2007). Saraiki is a quantity sensitive free stress language. In bisyllabic words of Saraiki, stress lies on penultimate heavy syllable because left syllable is prominent in Saraiki if two consecutive syllables have equal weight. If the two syllables have different weight, then stress goes to the heavier syllable. It shows that weight-to-stress principle is highly ranked in Saraiki grammar. But on the other hand, Persian is a stress-fixed language in which normally stress lies on ultimate syllables (Vafaei, Sadeghpour, & Hassani, 2013). In Saraiki, Persian loanwords change according to the prosodic requirements of Saraiki. In other words LEFTMOST is higher ranked than IDENT^{STRESS} in the loanword grammar of Saraiki speakers as the following tableau confirms.

Table 6: Stress shift in loanwords

/ gu:.ˈni /	LEFTMOST	IDENT-IO ^{STRESS}
a. gu:.ˈni	*!	
b. goni		*

The candidate *a* violates a higher ranked constraint and is defeated. The laurels go to the candidate b since it satisfies the higher ranked constraint at the cost of violation of a lower ranked faithfulness constraint. Let us recall that [o] is a long vowel in Saraiki. Therefore, the weight of the word is the same in the input and output in this example. In the example of the word /tæ̪bl.ˈʧi/ which becomes [ʈə̪.ˈbəəl.ci:], a cluster of [bl] which is not acceptable in Saraiki is changed to [bəəl]. It is another example of vowel insertion to break a cluster. Such cases are discussed in the previous section. The substitution of [u:] to [o] is an example of vowel lowering which is left for future investigation.

8. Miscellaneous Examples

Besides the above differences in adaptations of words, there is a lot of similarity between the two languages. For example, the similarity between Saraiki and Persian is so strong that both languages have common onomatopoeic and exclamatory expressions. The following are examples of onomatopoeic words which are almost common in Saraiki and Persian.

Persian	**Saraiki**	**Glosses**
ʃer ʃer	ʃəər ʃəər	*noise of water falling*
cex	cəəx	*noise to shoo away a dog*
fe.be.ha	fa.be.ɦa	*that's fine*
bæh.bæh	aɦ aɦ	*applaud*
qet̪qet̪	kuɽ kuɽ	*hen's noise*
xor xor	xəər xəər	*noise of snorting*
ʤer ʤer	cəər cəər	*noise of tearing clothes*
be. ʤa	bəəɟa	*correct*

The following are examples of vocatives or address words in both languages which show that both languages have been closely related in the past.

Persian	*Saraiki*	*Glosses*
a a*call* o o	*s/he* to̪ tũ̪*you* a˜ o˜	*s/he*

These do not seem to be merely loanwords. Such words as pronouns or onomatopoeic words are normally not taken as loanwords. These examples show that there is a very close blood relationship between the two languages. Some phonological phenomena are peculiar to Saraiki or its very closer relatives. For example, there is a heavy nasalization in Saraiki (Syed, 2009, 2012). Saraiki nasalises words taken from other languages. The following examples show how nasalization has been added to Persian words in Saraiki.

Persian	**Saraiki**	**Glosses**
kah	kãɦ	grass/bush
paʧe	pa.cã	margins of pants
o	ũ:	s/he

Another important feature of the Indo-Aryan family of languages is retroflection. Saraiki also has some retroflex sounds in its phonemic inventory (Varma, 1936). The above examples show that it is not only that words of Persian have been substituted with the closer retroflex sounds of Saraiki; rather [n] has also been substituted with retroflex nasal consonants although alveolar nasal [n] also exists in Saraiki. The following set of examples clearly establishes this.

Persian	**Saraiki**	**Glosses**
dol.la̪	ɗo. ɽa	*two-fold*
bon	buɳ	*origin*
ʧi:ne	ci:ɳa	*small pieces of rice*
dane̪	da̪ɳa	*grain*

A very prominent characteristic of Saraiki is its implosive sounds. Saraiki has implosive consonants at all places of articulation (Syed, 2013). Palatalization, nasalization and aspiration/breathy voicing are also very frequent in Saraiki (Shackle, 1976). Saraiki has some words which are almost identical to the corresponding Persian words except for the difference that Saraiki has implosives, nasalized, palatalized or aspirated phonemes corresponding to simple explosives of Persian. The following are some examples of such words.

Persian	**Saraiki**	**Glosses**
ʧob	coɓ	*stick*
dol.la̤	ɗo.ɽa	*two-fold*
saq	saɠ	*a plant*
som	sumbʱ	*hoof*
ɟa	ɟaɦ	*place*
i:na:	innʱa:	*they*
ta.pa̤	ʈʰapʲa̰	*dung*

In Persian, plosives are phonetically aspirated. But in Saraiki, aspiration contrast is phonemic. However, Saraiki maintains aspiration in Persian loanwords wherever possible. Persian words like /ʧaper/ *(hut)* is pronounced as [cʰəəp.pəər] which makes minimal pair with [cəəp.pəər] '*small chip of wood*'. In cases where retention of aspiration results in words homonymous with the already existing words of Saraiki, some features of the loanwords change. Persian word /kah/ ('*straw*') is such a word which changes into [gʰa]/[kaɦ̃] because the word [kʰa] already exists in Saraiki. In cases like these, simple structure of Persian words changes into an even more marked output to satisfy semantic constraints. Another interpretation of this, as already pointed out, is that the direction of adoption of loanwords is from Saraiki to Persian. In both cases, a very close social contact existed between the two languages in the past. The following words which are used in both languages exactly with the same pronunciation illustrate this.

Words	**Glosses**
bəə.ra̤t	*remuneration*
ta:ʂ	*round tray*
ma:de̤	*mother*
te.nu:ɽ	*oven*
ɟæd	*forefather*
domb	*fat of a lamb*
nas	*nostril*

9. Morphological Similarity

Persian remained official language of the sub-continent of Pakistan and India for almost a millennium. Hundreds of words of Persian are part of lexicon of Pakistani languages. Some of these words, like those listed above, are pronounced similarly in both the donor and the host language. There seems to exist deeper relations between Persian and Saraiki in that Saraiki, like Persian, has pronominal suffixes. A comparison of the following examples of Persian and Saraiki illustrate this;

Persian inflexion	**Glosses**
ræftæn̪	*to go*
ræft̪	*s/he went*
ræftan̪d̪	*They went*
ræfti̪	*you (sing.) went*
ræfti:d̪	*You (plural) went*
ræftæm̪	*I went*
ræfti:m̪	*we went*

Saraiki Inflection	**Glosses**
kʰa	*eat*
kʰada̪	*ate*
kʰadim̪	*I have eaten*
kʰad̠ ã̪	*I eat*
kʰad̠ in̪	*they eat*
kʰadis̪	*has s/he eaten*
kʰadise̪	*we have eaten*

As the above examples show, both languages have pronominal suffixes for morphological modifications. On account of such similarities in morphological structure of Saraiki and Persian, some indigenous researchers claim that there is a very close relationship between Persian and Saraiki which is more than merely taking loanwords (Abdul-Haq, 1967, pp. 267-268). They claim that Saraiki is closer to Iranian family than to Indo-Aryan family. However, a closer and deeper analysis shows that such similarity is a result of phonotactics of Saraiki at surface level. But a careful analysis of underlying representation shows that Saraiki is more similar to the languages of the Indo-Aryan family than Persian. According to our view, Saraiki pronominal suffixes are results of deletion and coalescence. The following comparison between Urdu and Saraiki confirms this.

Urdu	**Saraiki**	**Meanings**
ata hæ̰	anda ɦe □□ ande	he comes
ate hæ̰̃	ande ɦin □□ andin	they come
ata hõ̰	anda ɦa˜ □□ anda, andõ̃	I come

If we analyse carefully, in the above examples, [h/ɦ] occurs on the onset of the second word of the phonological phrase. [h/ɦ] deletion is a very common phenomenon in the world literature. This is because [h/ɦ] is a weak sound perceptually and articulatorily (Ladefoged & Maddieson, 1996). On account of its articulatory as well as perceptual weakness [h/ɦ] deletion is common in many languages of the world (Hulst & Weijer, 1991; Mielke, 2002). The same occurs in Saraiki in the above examples and the vowels coalesce and/or elide which become pronominal suffixes at the surface. Sometimes in a careful speech in Saraiki, the word 'ande' is also pronounced as 'anda ɦe' etc. This confirms that the pronominal suffixes are a result of [h/ɦ] deletion and coalescence of vowels.

10. Conclusion

In this paper, a constraint-based analysis of Persian loanwords has been presented. The data show that Saraiki has a very closer relationship with Persian. It has adopted hundreds of words from Persian. However, some words show that rather the direction of loaning is in reverse order i.e. Persian has adopted some words from Saraiki or both languages adopted those words from some other language and treated them according to their own grammatical constraints. Despite all these, a very close analysis of syntactic structure of some constructions negates the view point that Saraiki is more closely related to Persian than the languages of the Indo-Aryan family. Some of the issues like vowel lowering could not be addressed in this study. They are left for further investigation.

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