Vowel Substitution: A Comparative Study of English Loans in Punjabi and Urdu

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Abstract

The present paper examines the adaptation of English loanwords in Punjabi and Urdu particularly substitution of vowels. It is a comparative study of vowel substitution in Punjabi and Urdu which concludes that both recipient languages reshape English vowels to the closest available vowels in their phonemic inventories. For the purpose of determining the substitution of vowels, two corpora have been used: questionnaire-based corpus of English loanwords in Punjabi and Urdu (Hussain, 2011), and spoken corpus based on Punjabi dramas,

films, and real life conversations (Mahmood et al., 2011). English monophthongs, diphthongs and triphthongs that are selected for analysis are /ɒ/, /ɔ:/, /ɜ:/, /eɪ/, /aɪ/, /əʊ/, /aɪə/. The paper elucidates that vowel substitution is a patterned and systematic phenomenon in Punjabi and Urdu loanword phonology, on the basis of these patterns substitution of English loanwords containing monophthongs and diphthongs that are yet to be borrowed is possible.

Keywords: Vowel substitution, Loanword adaptation, Importation, Recipient language, Donor language

1. Introduction

Languages are influenced by their neighboring languages in contact situation and this contact leads to borrowing. It is always systematic and can be bidirectional or unidirectional (depends on the degree of contact). It helps uncover the hidden linguistic systems of the languages in contact. Borrowing or incorporation of words means a recipient language has to adapt the underlying subsystems (considering phonology as a system while vowel and consonantal inventories as its subsystems) of the donor language in order to make them the part of their language, and obviously when some of the components of these subsystems (vowels or consonants) are absent in the recipient language then it has to activate its internal subsystems so that the sounds of an alien word could be modified according to the available phonetic categories. When a language remodels foreign words according to its phonological system we may refer this phenomenon 'loanword adaptation'.

Loanword adaptation has always been a debated area of research in linguistics. It is vital because of its multidimensionality; it reveals the contact of different languages, socio-psycholinguistic factors, language enrichment in terms of vocabulary, grammar, phonology, and definitely we learn about the sound and grammatical structure in ways we cannot otherwise test. Recent explorations of foreign loanwords have led to the development of new theories in loanword phonology (Theory of Constrains and Repair Strategies: Paradis & LaCharite 1997; Paradis, 1988b; Multi-scansion model: Silverman, 1992). Under the shade of loanword phonology, languages that have been previously studied are included Sesotho (Rose & Demuth, 2005), Cantonese (Silverman, 1992; Yip, 1993), Japanese (Itô & Mester, 1995; Shinohara, 2000; Kay, 1995), Fula (Paradis & LaCharite, 1997; Paradis, 1996), Punjabi and Urdu (Mahmood, Hussain, & Mahmood, 2011; Hussain, 2011), Korean (Kang, 2003), Fijian (Kenstowicz, 2007), and Selayarese (Broselow, 1999), to name just a few. Researches on these languages widened the area of loanword phonology and based on their experiments introduced new ideas and identified universal phonological constraints working behind the loanword phonology of these languages.

It has been observed that during the process of adaptation "a given input sound will be mapped onto the closest available phonetic category of donor language" (Peperkamp & Dupuox, 2003). If a sound is absent in recipient language, it is adapted to the closest available sound. For example, /ɒ/ cannot be found in Punjabi and Urdu, /a/ and /o/ are the closest sounds to English /ɒ/, this sound is always modified as /a/ or /o/ although there is variation in adapting /ɒ/ in Punjabi and Urdu (see data analysis).

2. Loanword Adaptation: Background

2.1 Importation or Adaptation

There are number of terms found in the literature of loanword phonology such as 'loanword adaptation and adoption', 'importation' etc. Loanword adaptation means that recipient language alters the phonological make-up of foreign loans e.g. 'call' /kɔːl/ is adapted as /kaːl/ in Punjabi (Hussain, 2011), contrary to this; 'adoption' refers to the assimilation of loanwords while preserving the actual pronunciation of input form (Holden, 1972 in Al-Qinai,

1421/2001).

There are differences in 'loanword adaptation' and 'importation', that is, the incorporation of words without changing their phonetics and phonology. The most important factor in 'importation' is degree of bilingualism, the more bilingual a community is the more chances of importation in a language, on the other hand monolingual speakers nativize loanwords rather than importing them (Friesner, 2009).

2.2 Approaches towards Loanword Adaptation

In literature, multiple approaches can be observed, such as whether adaptation process is perceptual, orthographical, phonetic or phonological. It is argued that loanword adaptation is perception-oriented and the primary cause of adaptation (Dupoux & Peperkamp 2002; Peperkamp & Dupoux 2003; Peperkamp, 2002). Borrowers do not have access to the phonology of donor language; as a result, foreign loans with illicit segments are misperceived or perceived to the closer available segments in the recipient language. For example, /əʊ/ is perceptually closer to /o/ in Punjabi and Urdu (Mahmood et al., 2011; Hussain, 2011). The phenomenon of 'access to the donor language' can be challenged in a way that it is not applicable to all language contact situations. Words are borrowed by bilingual speakers that have to some or the large extent access to the phonology of donor language (Haugen, 1950; Paradis & LaCharite 1997), but as proposed by Silverman (1992) that while adapting a loanword, bilinguals will not apply their knowledge of L1 and adapt or perceive the loanwords like monolingual speakers, means that Cantonese/English speakers will perceive a word like monolingual Cantonese speakers. Other view in contrast to perceptual approach is that, perception is always influenced by the phonological system of the native language (recipient language). For instance, those segments will be misperceived that will be absent from the native phonological grammar, e.g. /eɪ/ will be perceived as /e:/ in Punjabi because it is not considered to be the part of Punjabi phonemic inventory (see figure 2).

Some researchers put loanword adaptation between phonological grammar and perception (Yip, 2006). Loanword adaptation is a result of matching non-native perception within the limits of the recipient language, this idea leads to the fact that loanword adaptation is neither purely grammatical nor purely perceptual (Yip, 2006). Besides perceptual approaches to loanword adaptation, there are production-oriented approaches that set forth the idea that perception has nothing to do in loanword phonology and should be discarded; adaptations are particularly determined by production grammar (Itô & Mester 1995; Davidson & Noyer 1997; Jacobs & Gussenhoven 2000). This can be further explained that alternations to the alien words are made while produced because some segments are difficult to pronounce by the speakers of recipient language, thus deleted or repaired via epenthesis or substitution.

2.3 Vowel Substitution

Substitution is a general tendency to preserve sounds from deletion and it tries to reshape the word closer to the input form, but at the same time because some sound combinations are not allowed in the recipient language and undergo certain adaptations. In substitution, an item is replaced to the phonetically-close phonemes in the recipient language (Hock, 1991). Punjabi

and Urdu loanword phonology has recently been studied by Hussain (2011) and Mahmood et al. (2011). These two studies shed light on different adaptation strategies that are employed by Punjabi and Urdu speakers during the process of borrowing. Mahmood et al. (2011) opined that Punjabi substitutes English loans according to its phonological grammar, e.g. 'road' /rəʊd/ is adapted as /ro:d/. They further concluded that substitution is the most common repairing strategy to fix English loans.

Hafez (1996) studies adaptation of English loans into Egyptian Arabic and finds that there are two types of alterations that English loans undergo: vowel alterations and consonant alterations. For instance, /a/ is a preferred vowel where there is /o/ in loans, and /e/ is preferred where there is /i/ sound in a loan.

3. Punjabi and Urdu: Vowel inventories

Urdu and Punjabi, to a large extent, are identical in terms of vowel inventories because both languages have been in a contact with same foreign languages (Persian and Arabic). There are seventeen vowels in Urdu (eight long, three short and six nasal vowels, see Figure 1). Khan (1997) argues that in Urdu nasal vowels are mostly used in medial and at the end of a word. Nasal consonants /m/ and /n/ are an important factor in the nasalization of a vowel because oral vowels are changed into nasal if they follow or precede /m/ or /n/. Unlike English, Urdu lacks diphthongs and triphthongs (Khan, 1997; Khurshid et al., 2003). Data of the present research show that English diphthongs are modified according to the phonological constraints of Punjabi and Urdu, but sometimes English diphthongs are preserved in Urdu such as /aɪ/ (see Substitution of /aɪ/ in data analysis).
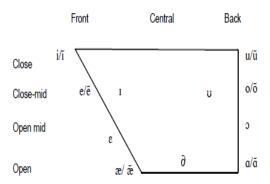

Figure 1. Vowel inventory of Urdu (Raza et al., 2009)

Similar to Urdu, Punjabi also possesses ten vowels. Three are short vowels /ɪ, ʊ, ə/, whereas seven are long out of which /i, e, ɛ/ are front vowels and /u, o, ɔ, a/ are back vowels. Every vowel has a nasalized allophone (Campbell 1995, p.375). The nasality of a vowel largely depends upon the presence of the following nasal consonants /n, m/. If a vowel follows or precedes nasal consonant it gets nasalized (Gill & Gleason, 1962), for instance, /cə̃n/ 'moon' and /nã/ 'no'. Some available sources of Punjabi phonology claim that there are diphthongs in Punjabi (Bhatia, 2009; Gill & Gleason, 1962) and others do not mention diphthongs as the part of Punjabi vowel inventory (Karamat, 2002).
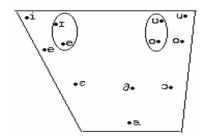
Figure 2. Vowel inventory of Punjabi (Karamat, 2002)

(Vowels in parentheses are allophonic to each other, /ɪ/ to /e/, /ʊ/ to /o/)

4. Present study

The purpose of the present study is to make comparisons between Punjabi and Urdu speakers while adapting English loanwords, particularly the way they substitute vowels. There are different types of substitutions but mainly our focus will be the substitution of vowels (monophthongs, diphthongs and triphthongs).

5. Methodology

5.1 Database

The data used in present research are based on two corpora of English loanwords studied by Hussain (2011) and Mahmood et al. (2011). The former contains 421 English items and the later is a collection of 292 English words that are collected from Punjabi dramas, films, and real life conversations. While transcribing English words in Punjabi and Urdu, the researchers have used IPA symbol /:/ with the long vowels of Punjabi and Urdu so that long vowels could easily be differentiated from short vowels (in fact you will find there is not as such symbol used in Urdu and Punjabi phonology to represent long vowels, see figure 1 and 2).

6. Data Analysis

6.1 Substitution of monophthongs

In this section we present data regarding the substitution of monophthongs and describe certain adaptation strategies that English monophthongs undergo while incorporating into Punjabi and Urdu.

6.1.1 Substitution of /ɒ/

(1) Substitution of the back vowel /ɒ/ in Punjabi

	English	Punjabi	
a.	/kɒpɪ/	/ka:pɪ/	'Copy'
b.	/bɒdɪ/	/ba:di/	'Body'
c.	/bɒs/	/bo:s/	'Boss'

(2) Substitution of the back vowel /ɒ/ in Urdu

	English	Urdu	
a.	/ʃɒt/	/ʃ**a:**t/	'Shot'
b.	/lɒrɪ/	/l**a:**rɪ/	'Lorry'

As (1) shows that /a:/ is used in Punjabi to adapt English phoneme /ɒ/. In Urdu (2), /o:/ is the most appropriate phoneme that is used to fix words having /ɒ/. It can also be observed that the phonetics of adapted phonemes is identical.

6.1.2 Substitution of /ɔ:/

Like /ɒ/, English back vowel /ɔ:/ is also adapted as /a:/ or /o:/ but there are consonantal restrictions while adapting this vowel e.g. in both Punjabi and Urdu, /ɔ:/ is adapted as /o:/ when it precedes bilabial /p/ or /b/ (see 3). If /ɔ:/ follows or precedes /k/, /l/, /ʃ/, /r/, /v/ or /f/ then the most appropriate vowel is /a:/ (see 4 and 5 below). The adaptation of /ɔ:/ with all its surrounding consonants in Punjabi and Urdu loanword phonology is presented below:

(3) Precedes bilabial /p/ or /b/

	English	Punjabi	Urdu	
a.	/bɔ:d/	/**bo:**d/	/**bo:**rd/	'Board'
b.	/pa:spɔ:t /	/pa:s**po:**t/	/pa:s**po:**rt/	'Passport'
c.	/rɪpɔ:t/	/rə**po:**t/	/rɪ**po:**rt/	'Report'

(4)   Follows or precedes /k/, /l/, /b/ or /ʃ/

	English	Punjabi	Urdu	
a.	/bɔ:l/	/**ba:**l/	/**ba:**l/	'Ball'
b.	/ʃɔ:l/	/**ʃa:**l/	/**ʃa:**l/	'Shawl'
c.	/kɔ:l/	/**ka:**l/	/**ka:**l/	'Call'

(5) Follows or precedes /k/, /r/, /v/ or /f/

	English	Punjabi	Urdu	
a.	/trænsfɔ:mə(r)/	/trans**fa:r**mər/	/trans**fa:r**mər/	'Transformer'
b.	**/**drɔ:(r)/	/də**ra:**z/	/də**ra:**z/	'Drawer'
c.	/wɔ:kə(r)/	/**va:k**ər/	/**va:k**ər/	'Walker'

The adaptation of /ɔ:/ by Punjabi and Urdu predicts that it will always be adapted as /a:/ or /o:/ but /a:/ is the most favorable vowel that is usually considered closer to /ɔ:/.

6.1.3 Substitution of /ɜ:/

Punjabi and Urdu lack English central long vowel /ɜ:/. As it is absent in Punjabi and Urdu phonology so the closest adapted phoneme is schwa /ə/ followed by /r/ sound (see 6 and 7).

(6) Substitution of /ɜ:/ in Punjabi

	English	Punjabi	
a.	/sɜ:vɪs/	/sərvɪs/	'Service'
b.	/ʃɜ:t/	/ʃərt/	'Shirt'

(7)   Substitution of /ɜ:/ in Urdu

	English	Urdu	
a.	/ɜ:bən/	/ərbən/	'Urban'
b.	/tʃɜ:tʃ/	/tʃərtʃ/	'Church'

Above examples indicate that in all contexts /ɜ:/ is adapted as /ər/ in both Punjabi and Urdu.

6.2 Substitution of Diphthongs and Triphthongs

6.2.1 Substitution of /eɪ/

As compared to English, Punjabi and Urdu do not have diphthongs (see section 3). English diphthongs are substituted either by a single phoneme or lose its second element and the first element is lengthened (see 8, 9).

(8) Substitution of the closing diphthong /eɪ/ in monosyllable words

	English	Urdu	
a.	/deɪt/	/de:t/	'Date'
b.	/weɪst/	/ve:st/	'Waist'
c.	/tʃeɪn/	/tʃẽ:n/	'Chain'

(9) Substitution of the closing diphthong /eɪ/ in monosyllable words

	English	Punjabi	
a.	/feɪl/	/fe:l/	'Fail'
b.	/geɪm/	/ge:m/	'Game'
c.	/ʃeɪk/	/ʃe:k/	'Shake'

Current data reveal that /eɪ/ is substituted equally in both Punjabi and Urdu. As it is evident from the above examples that English closing diphthong /eɪ/ is always substituted with /e:/ where second element of English diphthong is deleted and the first element is lengthened.

6.2.2 Substitution of /aɪ/

There are clear cut differences in Punjabi and Urdu while adapting English closing diphthong /aɪ/. Punjabi adapts /aɪ/ as /æ/ or rarely as /ae/, contrary to this Urdu adapts it as /ae/ or /aɪ/. It must be noted that both Urdu and Punjabi lack /aɪ/ (some sources present /aɪ/ as a diphthong of Punjabi (Bhatia, 2009) and both /aɪ/ and /ae/ as diphthongs of Urdu (Sarwar et al., 2003), but the existence of diphthongs in Urdu is still controversial and we need more studies to determine their status. Mahmood et al. (2011) argued that Punjabi can also adapt /aɪ/ as /ae/

(see 10c). The main reason behind this is that there is a close contact between Punjabi and Urdu; both languages are transmitting the phonological features to each other. Some examples are presented below to differentiate between the substitution of /aɪ/ in Punjabi and Urdu.

(10) Substitution of the closing diphthong /aɪ/ in Punjabi

	English	Punjabi	
a.	/laɪn/	/læn/	'Line'
b.	/saɪd/	/sæd/	'Side'
c.	/faɪnl/	/faenəl/	'Final'

(11) Comparison of the substitution of /aɪ/ in Punjabi and Urdu

	English	Punjabi	Urdu	
a.	/saɪkl/	/sækəl/	/saekəl/	'Cycle'
b.	/taɪm/	/tæm/	/tãɪm/	'Time'
c.	/saɪn/	/sæn/	/sãɪn/	'Sign'

The examples show that the most common ways to deal with /aɪ/ in Urdu are /aɪ/ and /ae/, it means that Urdu can preserve English diphthongs and shows faithfulness in terms of adapting this phoneme but the similar glide is not retained in Urdu as this diphthong has in English. Quite different from Urdu, Punjabi adapts /aɪ/ as /æ/ that is itself not the part of Punjabi phonemic inventory and is only found in English loanwords. The substituted phoneme /æ/ in Punjabi is only found in loanwords because available phonemic inventories do not consider this phoneme as part of Punjabi (Bhatia, 2009; Karamat, 2002; Campbell 1995).

6.2.3 Substitution of /əʊ/

Like other English diphthongs analyzed above, /əʊ/ is also repaired with singleton phoneme. As this diphthong is also not found in phonemic inventories of Urdu and Punjabi thus undergoes certain modifications according to the phonological constraints of the recipient languages (see 12, 13):

(12) Repairing /əʊ/ in Urdu

	English	Urdu	
a.	/həʊtəl/	/ho:təl/	'Hotel'
b.	/kəʊtʃ/	/ko:tʃ/	'Coach'
c.	/kəʊn/	/kõ:n/	'Cone'

(13) Repairing /əʊ/ in Punjabi

	English	Punjabi	
a.	/rəʊd/	/ro:d/	'Road'
b.	/fəʊn/	/fũ:n/	'Phone'
c.	/kəʊtʃ/	/ko:tʃ	'Coach'

Examples in 12 and 13 indicate that /oː/ is a very common phoneme used to substitute English diphthong /əʊ/ in Urdu and Punjabi and with its allophonic version /õ̃ː/ where it follows nasal consonants in Urdu or Punjabi and gets nasalized. There is another fact behind the adaptation of /əʊ/, words where this sound occur usually they possess 'o' in orthography, so it is also noted that Punjabi and Urdu speakers focus more on the grapheme rather than the actual sound that is pronounced behind that grapheme. So this phenomenon can also explore the area of that how orthography influences in reshaping output forms in Punjabi and Urdu loanword phonology, not only the orthography of the donor language, but also the orthography of the recipient languages should be taken into consideration.

6.2.4 Substitution of /aɪə/

Preservation of English triphthongs is also a difficult phenomenon to be tackled by Urdu and Punjabi as both languages do not have triphthongs (Khurshid et al., 2003). English triphthongs undergo certain adjustments, see the following examples:

(14) Substitution of /aɪə/ in Urdu

	English	Urdu	
a.	/faɪə(r)/	/f**ae**r/	'Fire'
b.	/waɪələs/	/v**aer**les/	'Wireless'

(15) Substitution of /aɪə/ in Punjabi

	English	Punjabi	
a.	/faɪə(r)/	/f**ae**r/	'Fire'
b.	/daɪərɪ/	/d**ae**rɪ/	'Diary'

According to the above examples English triphthong /aɪə/ is always substituted with /ae/ in Urdu and /æ/ in Punjabi. The addition of /r/ can also be observed, although it is optional in English but it is pronounced in Punjabi and Urdu because speakers are used to produce /r/ sound whether word-medially or word-finally and this changes open syllable of an English word into a closed syllable (Hussain, 2011; Mahmood et al., 2011).

7. Conclusion

The present research concludes that vowel substitution is the most appropriate repairing strategy used to preserve maximum information of English loans in Punjabi and Urdu. It is also found that similarities are more significant than differences in both recipient languages. The only difference of vowel substitution in Punjabi and Urdu is the adaptation of /aɪ/. Punjabi favors /æ/ while adapting this diphthong or in rare cases as /ae/, but Urdu always adapts it as /ae/ or /aɪ/. There is a need to conduct more research in Punjabi and Urdu loanword phonology especially on the role of orthography and perception. This research also concludes that, on the basis of available vowel substitution patterns, it is possible to make predictions regarding the upcoming English words where similar substitution of vowels may be observed.

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