

Existence of aspirated l and m in Urdu Language

Abstract: Urdu is a phonemically rich language with forty six consonantal sounds, out of which fifteen are aspirated sounds. The use of some of these aspirated sounds in Urdu language has become so uncommon that their existence is considered controversial. Such phonemes include /l^h/, /m^h/, /n^h/, /r^h/, and /ʃ^h/. This paper discusses the phonetic and phonemic existence of aspirated l and m in Urdu language.

Keywords: Aspirated, minimal pair, allophones, dissimilation, syllable, acoustic

1. INTRODUCTION

Languages are said to be living but no language has died out ever since it was made. Over the time new words are added to a language, where as the use of some get extinct.

Urdu language traces its roots from Arabic, Persian and Turkish. Unlike Arabic, Persian and Turkish, Urdu is extremely rich in aspirated sounds.

There are fifteen aspirated sounds in Urdu language. As the language developed over time the use of some of these aspirated sounds gradually decreased, making these sounds controversial. Aspirated versions of l and m are two such sounds whose existence in Urdu is considered controversial. This paper aims to explore the existence of aspirated l and m in Urdu language.

2. LITERATURE REVIEW

According to Ram Babu Saksena in 'The history of Urdu literature', Urdu by origin, is a dialect of the Western Hindi spoken for centuries in the neighborhood of Delhi and Meerut and is directly descended from *Saur Senic Prakrit*. This living dialect has formed the basis of Urdu. It retains its original and essential character in the grammar, idioms and a large number of Hindi words. They all clearly point to its Indian parentage.

Aspirated sounds are only spoken in the Indian subcontinent. Urdu being a language of the subcontinent is rich in aspirated sounds, however the existence of some aspirations is controversial

The use of aspirated l and m is disappearing in Urdu language and their existence in the present day Urdu language is confined to a few words only, however in the past aspirated l and m were used in Urdu.

Dr. Sohail Bokhari accounts for the extinction of some aspirated sounds in his book 'Lisani Muqalat', the reason for extinction being that most words containing the controversial phonemes are no more used.

In his book 'Urdu rasm-ul-khat kay bunyadi mubahis', Dr. Sohail Bokhari holds the view point that Urdu is written in the Arabic font and since Arabic does not

contain the symbols of aspirated phonemes, these phonemes are split into the voiced/ unvoiced phoneme and h.

Dr. Mehboob Alam Khan discusses the existence of aspirated l and m in word initial, medial and final positions in his book 'Urdu ka sauti nizam'. According to him the existence of aspirated l and m is as follows:

Table 1 Existence of aspirated l in:

Word initial	No word starts from l ^h
Word medial	kol ^h u, kul ^h ari, dul ^h an, tful ^h a
Word final	No word ends at l ^h

Table 2 Existence of aspirated m in:

Word initial	No word starts from m ^h
Word medial	kum ^h ar, jom ^h ur, tum ^h are, kum ^h ana
Word final	No word ends at m ^h

According to Dr. Mehboob aspirated versions of 'l' and 'm' do not exist in Sindhi, Balochi, Pashto and English whereas they exist in Punjabi. Dr Mehboob regards these consonantal sounds as unimportant as they do not occur in word initial or final where as their use in word medial is becoming extinct. Many native speakers speak *dul^han* instead of *dul^han*, *kum^har* instead of *kum^har*, *jom^hur* instead of *jom^hur* and *kum^hana* instead of *kum^hana*, whereas aspiration still exists in the words *kol^hu* and *tful^ha* though not clearly.

Most Urdu dictionaries have words containing lh and mh but the existence of aspirated l and m in the language is still dubious. The use of l^h and m^h in present day dictionaries is becoming obsolete. Similarly many native speakers do not aspirate m, while the aspirated version of l still exists in a limited number of words. The rare use of aspirated versions of l and m indicate that these phonemes are at the verge of becoming extinct and we may never find words containing l^h and m^h in the times to come.

3. METHODOLOGY

3.1 Speakers

Five male and five female native speakers of Urdu were selected for acoustic analysis. Their ages were between 18-23 and all of them were residents of Lahore. The speakers were asked to read out a set of sentences which contained words having aspirated versions of l and m.

For phonological analysis ten male and ten female speakers were chosen. They were given a set of eleven words containing l^h and m^h for syllabification.

3.2 Data

A set of eleven words was chosen from various dictionaries for acoustic analysis. Speakers were given words in different sentences. The words are given below:

Table 3 Words for l^h

Words
ḍul ^h a (bridegroom)
ḍul ^h ḥn (bride)
tful ^h a (stove)
ku ^h ari (axe)
ko ^h u (oil expeller)
mḍl ^h ar (a musical mode)
so ^h wā (sixteenth)

Following are the words for m^h

Table 4 Words for m^h

Words
tum ^h ē (you)
jḍm ^h ur (masses)
ku ^h ar (potter)
ku ^h lana (to wither)

For phonological analysis the same words were used as for the acoustic analysis. In all, seven words were used for l^h and four words for m^h, all selected from various dictionaries of Urdu.

3.3 Software

All recordings were done in Praat version 4.1.12

3.4 Features Analyzed

The spectrograms of l^h and m^h were compared with l and m respectively and differences were noted. For the acoustic analysis the spectrograms of recorded sentences were analyzed for the existence of aspiration with l or m.

In the phonological analysis the speakers were asked whether a syllable boundary existed between l.h and m.h, or they mentioned these phonemes in a single syllable.

4. RESULTS

- Words containing l^h and m^h were found in dictionaries.
- From the spectrograms it was observed that l^h is still used. More than 50% speakers aspirated the words ko^hu, tful^ha.
- More than 50% native speakers took l^h in a single syllable when speaking ko^hu, tful^ha.
- Aspiration does not exist in the words ḍul^ha, mḍl^har and ku^hari. More than 50% of the speakers indicated the existence of a syllable boundary l.h.
- From the spectrograms it was observed that the phoneme m^h, does not exist in Urdu language.

- More than 50% speakers did not aspirate m when speaking the word ku^hlana.
- More than 50% of the speakers marked the existence of a syllable boundary between m.h when speaking tum^hē, jḍm^hur and ku^har.

5. DISCUSSION

5.1 Phonemic Analysis

Words containing aspirated versions of l and m were found in Noor-ul-Lughat, Farhang-e-Asifia, Feoz-ul-Lughat and Urdu Lught.

The existence of aspirated l and m is discussed below:

Table 5 Existence of aspirated l in:

Word initial	No word starts from l ^h these days but in the past such words were used eg l ^h esna, l ^h war
Word medial	ko ^h u, ku ^h ari, ḍul ^h ḥn, tful ^h a
Word final	tḍl ^h

Table 6 Existence of aspirated m in:

Word initial	No word starts from m ^h these days
Word medial	ku ^h ar, jam ^h ur, tum ^h are, ku ^h lana
Word final	No word ends at m ^h these days

Since minimal pairs of aspirated l and m exist therefore aspirated l and m exist as distinct phonemes in Urdu language. All popular dictionaries of Urdu contain words having aspirated l and m in them. It can be noticed that dictionaries of the present day contain fewer words having aspirated l and m in them whereas old Urdu dictionaries contain words which are not used anymore these days. The phonemic analysis shows that both l^h and m^h exist phonemically although their use in Urdu language is becoming extinct.

5.2 Phonological analysis

In the phonological analysis of aspirated l and m the following words were given to the speakers for syllabification. The speakers were asked about the existence of a syllable boundary between l^h and m^h. The result collected from syllabification is given below in Table 9:

Table 7 syllabification in words containing mh

Words	No. of speakers who indicated the syllable boundary m.h	No. of speakers who did not indicate the syllable boundary m.h
tum ^h ē	19	1
jḍm ^h ur	11	9
ku ^h ar	17	3

kʊm ^h lana	20	0
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Table 8 Syllabification in words containing lh

Words	No. of speakers who indicated the syllable boundary l.h	No. of speakers who did not indicate the syllable boundary l.h
ɖʊl ^h a	18	2
ɖʊl ^h ən	18	2
tʃʊl ^h a	3	17
kʊl ^h u	0	20
mɔl ^h ar	20	0
kʊl ^h ari	19	1
sʊl ^h wā	7	13

More than 50% of the speakers indicated that a syllable boundary existed between m^h, thus showing that m^h does not exist phonologically. Unlike m^h, more than 50% of the speakers indicated that a syllable boundary does not exist between l.h, thus indicating that aspirated l exists phonologically in Urdu language.

Table 9 Results of syllabification in words containing lh

Words	Aspirated (%)	Unaspirated (%)
ɖʊl ^h a	10	90
ɖʊl ^h ən	10	90
tʃʊl ^h a	85	15
kʊl ^h u	100	0
mɔl ^h ar	0	100
kʊl ^h ari	5	95
sʊl ^h wā	65	35

The results from the syllabification in words containing l^h are shown in table 9. Most speakers indicated that a syllable boundary existed between l.h when the phoneme occurred in the words ɖʊl^ha, ɖʊl^hən, mɔl^har and kʊl^hari. Unlike this case, many speakers indicated that they took the phoneme l^h, in a single syllable when speaking tʃʊl^ha, kʊl^hu and sʊl^hwā. The phonological analysis indicates that the use of l^h exists in present day Urdu but its use is decreasing.

Table 10 Results of syllabification in words containing mh

Words	Aspirated (%)	Unaspirated (%)
tʊm ^h ē	5	95
kʊm ^h ar	45	55
kʊm ^h lana	0	100
jɔm ^h ur	15	85

The results obtained from the syllabification in m^h are shown in Table 10. These results clearly indicate that use of m^h has become extinct and whenever the phoneme m^h occurs in a word, it gets replaced by the two phonemes m and h.

The phonological analysis clearly indicates that a limited use of l^h exists even today in the Urdu language where as the use of m^h has become extinct and is no longer

used by the native speakers of Urdu who are residents of Lahore.

5.3 Acoustic Analysis

In the acoustic analysis the spectrograms were examined and the average duration of aspiration was calculated in l^h. It was found that on the average the duration of aspiration in l was 83ms and the duration of unaspiration was 37 ms.

In the case of m^h it was observed that more than 50% of the speakers dissimilated or deleted it, where as in the case of l^h more than 50% speakers did not dissimilate or delete the aspiration.

5.3.1 Spectrograms of l^h and l

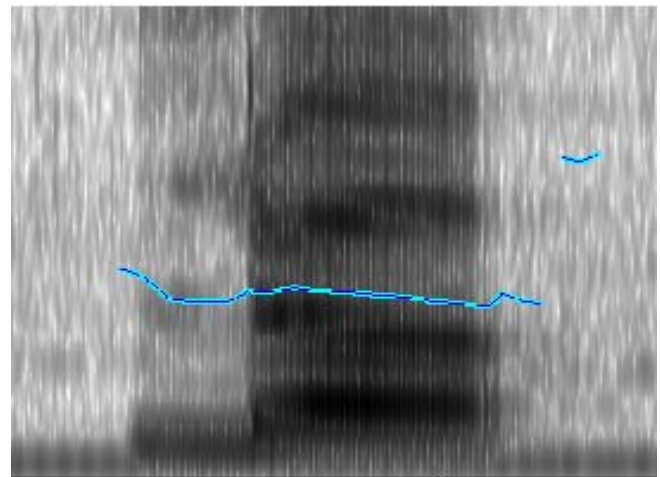


Figure 1- Spectrogram of l

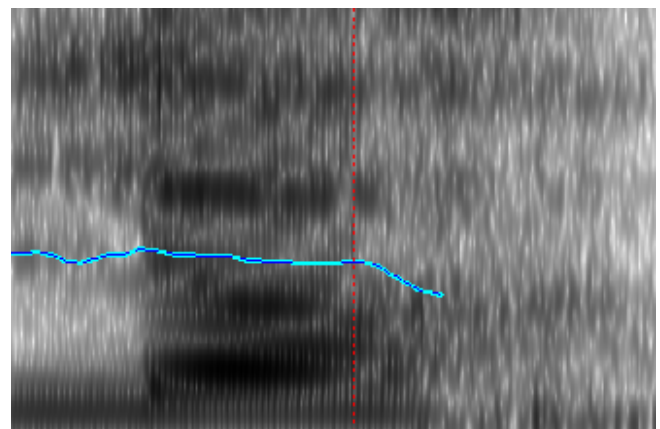
Figure 2- Spectrogram of l^h

Figure 1 and 2 show the spectrograms of both, aspirated and unaspirated versions of l. In Figure 2 we can clearly see the aspiration above the formants where as the spectrogram for unaspirated l does not show any aspiration and breathy formants.

In the acoustic analysis, the spectrograms obtained from the native speakers were compared with the

spectrograms of l and l^h and the existence of aspiration and breathy formants was noted.

5.3.2 Spectrograms of m and m^h :

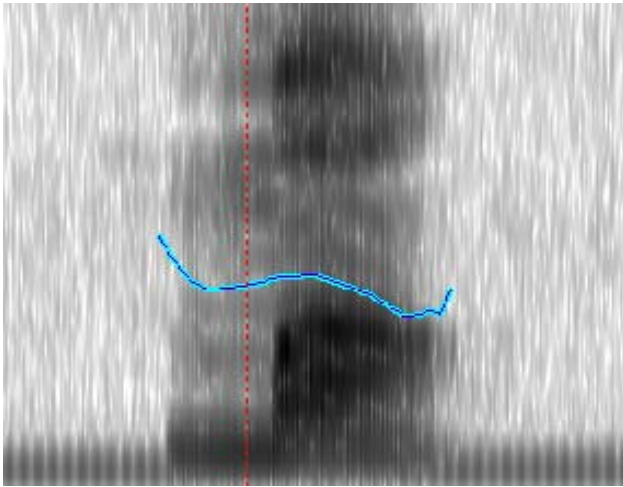


Figure 3- Spectrogram of m

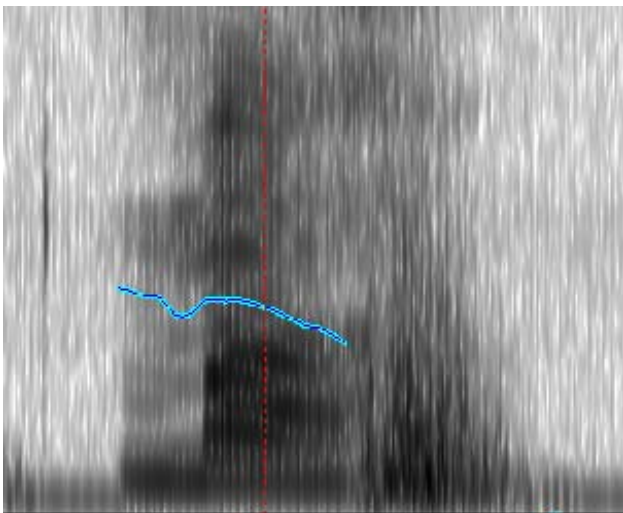


Figure 4- Spectrogram of m^h

Figures 3 and 4 show the spectrograms of both aspirated and unaspirated m . The high amplitude voicing traces of formants can be clearly seen.

During the acoustic analysis, the spectrograms of the native speakers were compared with the spectrograms of both m and m^h and differences were noted. Most spectrograms from the speakers showed no aspirations and this accounted for the non existence of aspirated m in Urdu Language.

5.3.3 Spectrograms of words containing l^h .

Figures 5 and 6 show the spectrograms for the words $tʃul^h a$ and $dul^h a$. Both these words are minimal pairs of each other. The spectrogram in figure 5 shows clear aspiration indicating the existence of aspirated l where as

the spectrogram in figure 6 shows the l sound followed by h . The absence of aspiration in Figure 6 indicates that the phoneme l^h is becoming extinct in Urdu language.

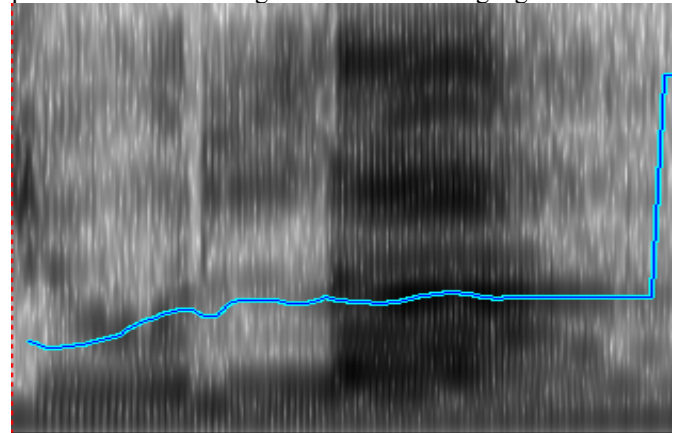


Figure 5- Spectrogram for $tʃul^h a$

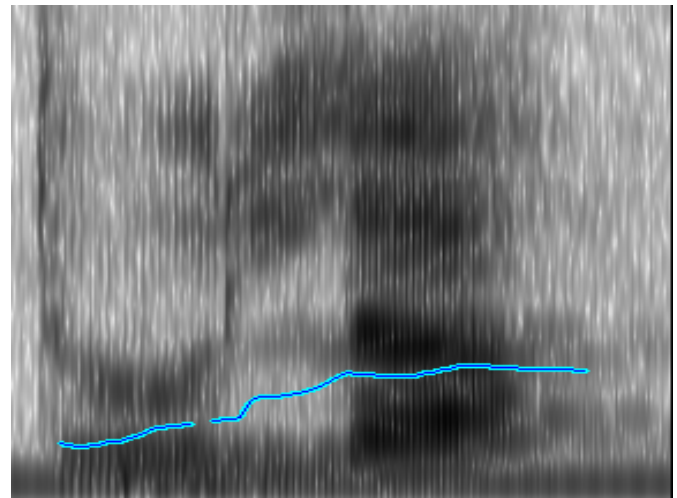


Figure 6- Spectrogram for $dul^h a$

5.3.4 Spectrograms of words containing m^h

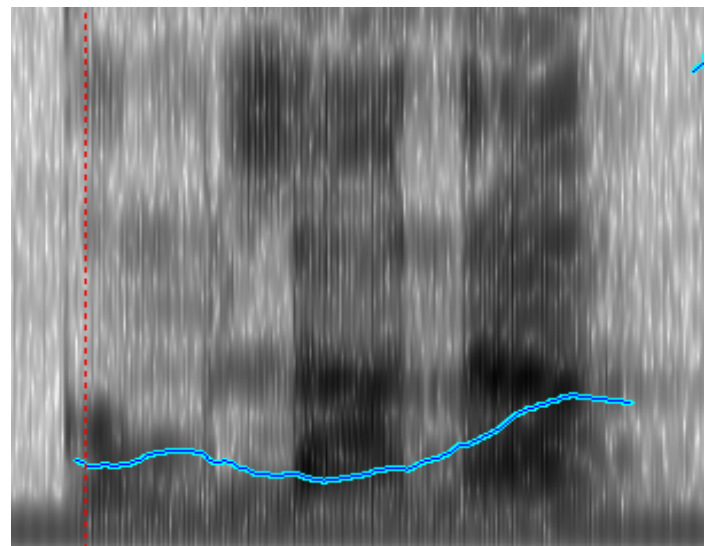


Figure 7- Spectrogram for $kum^h lana$

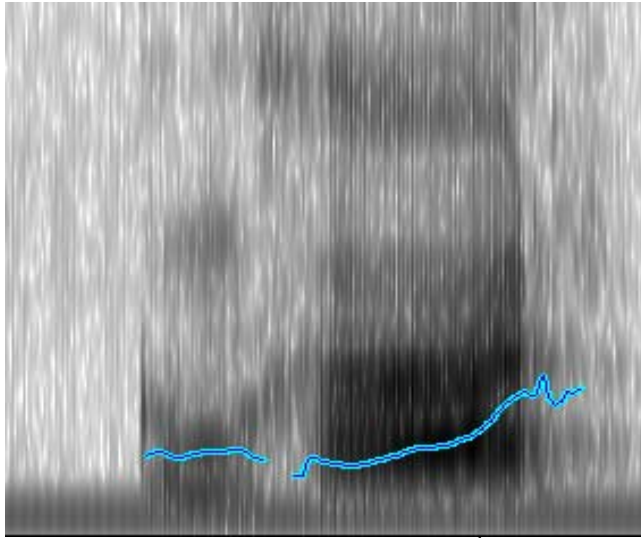


Figure 8- Spectrogram for kum^har

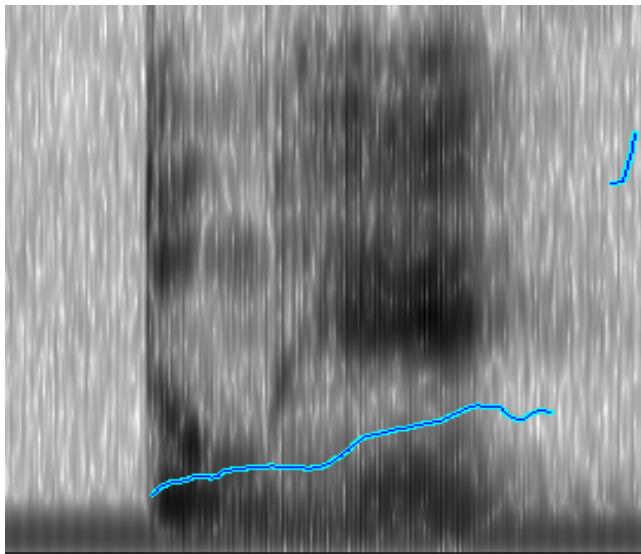


Figure 9- Spectrogram for tum^hē

The absence of aspiration in figure 7, 8 and 9 indicate that the use of the phoneme m^h has become extinct and it is not used anymore in the Urdu language.

6. CONCLUSION

Many controversies exist about the existence of some aspirated sounds in Urdu Language. In order to resolve the controversy of the existence of aspirated l and m in Urdu language experiments were conducted and data was collected from native speakers. The results from these experiments were analyzed both phonetically and phonemically. The phonemic analysis showed that words containing both these phonemes exist in dictionaries. The phonetic analysis revealed the results that aspiration in words containing m^h gets dissimilated or deleted, whereas in the case of l^h the dissimilation occurs due to a syllable boundary between l.h. The use of aspirated l is gradually decreasing whereas the phoneme m^h does not exist any

more in the language. Urdu language like all other languages is changing and the trend of the limited use of l^h indicates that this phoneme is about to get extinct.

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