Resyllabification of English Words by Urdu L1 Speakers

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Abstract

This paper investigates the resyllabification of English words by L1 Urdu speakers. This qualitative-exploratory research tries to explore the difference between the template/s of original words and the template/s used by the L1 speakers. For this purpose, three different TV recordings of public interviews have been taken as a sample. The results show that most of the words undergo a change when are uttered by the speakers. As every language puts some constraints and restrictions on the syllabification of words so does Urdu. Urdu has different templates from that of English. The study reveals that only CVC template remains stable. In resyllabifying process, Urdu follows templatic method of syllabification. The V and VC templates have been found the most unstable templates. The /ɒ/ sound has also been replaced with long vowel /ɑː/ and /ə/ sound with neutral and central vowel /ʌ/.

1. Introduction

The process of dividing a word into its constituent syllables is called syllabification (Bartlett, Kondrak, & Cherry, 2009) and every language has its own principles of syllabification (Hays, 2011, p. 251). Urdu has the capacity to absorb new words and has a handsome vocabulary of English words. However it has its own principles of syllabification. Contrary to English, Urdu is
right to left language and imposes some restriction on its syllabification. It does not allow more than one consonant on onset position and maximum two on coda where as English allows as many as three on either side. In English non-vocalic sounds also behave as nucleus while Urdu never permits any non-vocalic sound at this position. When foreign words like that of English are spoken by Urdu Pakistani speakers, sometimes they either delete some sound/s or add epenthesis. For example station \(/steɪʃən/\) as astation \(/əsteɪʃən/\).

This study aims to investigate the change of templatic syllabification of English loaned words and the phenomenon of deletion and insertion of epenthesis in the resyllabification process.

1.1 Statement of the Problem

The aim of this research is to study deletion or addition of some sounds in English words when spoken by Pakistani Urdu speakers and try to deduce some mechanism of re-syllabification involved in this process.

1.2 Significance of the study

This study will not only help to understand the reasons behind the re-syllabification of English words but also provide a base to the researchers. This study will be a source for the students and scholars to encourage and motivate them to step forward and research further.

1.3 Research Questions

- What kind of sounds are deleted and when epenthesis is used?
- Which templates remain stable?
1.4 Objectives of the Research

- To find the mechanism involved in the resyllabification of English words by Urdu speakers
- To know when and why do Urdu speakers sometimes insert or delete sound/s in the resyllabification of English words.
- To know what kind of loaned words (words with what syllable structure) have stability in their templates

1.5 Research Methodology

This study is qualitative and exploratory in approach. As this study aims to observe the changes made by the Pakistani Urdu L1 speakers while speaking the English words, so the best way to observe the speakers is in their natural way. For this purpose, the recordings of three different TV programs of public interviews from Karachi, Lahore and Sialkot were selected. The difference between the syllabifications was observed.

1.6 Limitations

This study revolves around the three recordings from three cities because of its limited scope and time constraints.

2. Literature Review

In the widening horizon, changes are taking places in the every aspect of life. Daily interaction of people of one region to another has not only influences their physical appearance but also their mental approach. In the same way, the lexicons of all languages undergo considerable changes. Urdu is one of the languages with the capacity of absorbing words of other languages. Urdu has its own syllabic structure and puts some restrictions in the syllabification of loaned words. Before we start to explore syllabification of Urdu words, let us have a review of syllabus structure and its theories. Kenstowicz (1994) defines syllable as “an essential concept
for understanding phonological structure” (p. 250). It is an essential unit of language but there is controversy in its proper definition. Different linguists have defined it differently (Ranjha, 2012). Ladefoged (2000) says that although everybody can identify it, nobody can define it. A syllable is the smallest possible unit of speech and every utterance definitely contains at least one syllable (Ladefoged, 2000). It has been considered comparatively easy to identify perhaps, that is why no serious attention has been paid on its definition (Ranjha, 2012). To McMahon (2002) “every speaker has an intuitive notion of how many syllables each word has. It is easy for speaker to reflect consciously on the internal structure of a syllable” (p. 105).

2.1 Syllable structure

Though for a native speaker of any language, it is easy to identify how many syllables a particular utterance has yet it is not easy to give a suitable definition which can clearly define its phonetic and phonological character. To define a syllable, it is divided in its components. Every human speech consists of vowels and consonants so it is easy to discuss it with reference to universally (by most of the phonologists) accepted syllable template. A syllable is denoted by Latin symbol $\sigma$ (sigma). A syllable consists of Onset and Rhyme and rhyme is further bifurcated into Nucleus and Coda.

Figure 1 A syllable structure
An onset is a consonant/s that precedes rhyme. It is an optional part of syllable. Rhyme is further divided into two parts: nucleus (vowel) and coda (consonant/s). Nucleus is an obligatory part of a syllable (Hayes, 2011). Nucleus of syllable may be a vowel or diphthong or a vocalic part (Ladefoged, 2000) functioning as sonority peak. The coda and onset are optional parts of a syllable. Onset, nucleus and coda are also called constituents of a syllable.

2.2 Syllabification

Syllabification is an analytical procedure of grouping or dividing a syllable into its components is called. Bartlett et al. (2009) write that “technically speaking, syllables are phonological entities that can only be composed of strings of phonemes”. Citing Goldsmith (1990) as stated in Akram, 2002) calls syllable structure a process that involves a linear string of segments. Kabir (2002) writes it as an important component of any TTS (Text to speech) system. He also writes that in many languages, the pronunciation of phoneme is a function of their location in the syllable boundaries. He further says that the location in the syllable also has a strong effect on the duration of the phoneme, and is therefore a crucial piece of information for any model of segmental duration. Before we proceed further it seems more suitable to have an over look on syllabification theories or principles.

2.3 The Legality Principle
According to this principle “a syllable is not allowed to begin with a consonant cluster that is not found at the beginning of some word, or end with a cluster that is not found at the end of some word” (Goslin and Frauenfelder, 2001 as in Bartlett et al., 2009, p.309). Let’s have an example of an admiral /ˈæd.mɪ.rəl/. It can be written as /ˈæ.d.mɪ.rəl/ or /ˈædm.ɪ.rəl/ or /ˈæ.dm.ɪ.rəl/. According to this principal /dm/ is not allowed in English at the beginning of a word so syllable/s starting with /dm/ is not legal in the place of onset in English.

2.4 Maximal Onset Principle (MOP)

This rule states that maximum consonants are preferred in the onset position (Trask, 1996) allowing only one consonant in the coda position (Goldsmith, 1990, as in Akram 2002). It means that we extend a syllable’s onset (Kahn, 1976 as in Bartlett et al, 2009) leaving no consonant/s except for the final coda consonant in a word. Let’s have an example of the English word glockenspiel /ɡlɒk.ənʃpiːl/; according to MOP it will be pronounced as /ɡlɒ.κ.ənʃpiːl/ leaving only /l/ sound in the coda position of the word whereas rest of the clusters have been included in the onsets of the syllables of the word.

2.5 Maximal Coda Principle (MCP)

MOP prefers maximum consonants in the onset position whereas MCP prefers maximum in the coda, except for the word initial position, no consonant is allowed in the onset position (Akram, 2002). Let’s see an example of the English word disappointment will not be pronounced as /dɪs.ə.pɔɪnt.ənt/ but as /dɪs.ə.pɔɪntm.ənt/ and the Urdu word /ʔərz.məd/ as /ʔərzm.əd/, in these words, according to MCP, the /d/ consonant will be in the onset position of
first syllable and all the rest consonants will occupy the place of coda and in the same way
second word has glottal stop at the beginning of initial syllable. The pronunciation of English
word is not acceptable by the English speakers not does Urdu speaker use the /ɹɜrm.əd/ 
pronunciation.

2.6 Sonority Sequence Principle (SSP)

This is the principle followed by most of the languages of the world. According to this
principle, syllabification will be done on the sonority based sounds. The sonority will rise to the
nucleus and will fall to the coda position making a bell shape (Bartlett et al., 2009)). According
to Crystal (2003, as in Bartlett, 2009) the sound sonority is based on its pitch, loudness and
duration. While uttering a vowel, the vocal tract is more open than consonant. For example
/ədva:n.tiʃ/ will be syllabified as /əd.va:n.tiʃ/ because /ə/ is more sonorant than /d/ in the coda of
first syllable. Again /aː/ is more sonorant than /v/ and /n/. In case of consonant clusters, the
proceeding consonant will be more sonorant than following one. For example, /dɪs.ə.pɔɪnt.mənt/
is consists of four syllables. The third and forth syllable have of /nt/ where /n/ is more sonorant
than /t/ sound. If we syllabify it as /dɪs.ə.pɔɪnt.mənt/, it will be wrong as sonority sequence order
has been reversed.

Figure 2 Sonority hierarchy adopted from Goldsmith, 1990, p. 111)

Vowels

Low vowels

Mid vowels
High vowels

Glides

 Liquids

Nasals

Obstruent

 Fricatives

Affricatives

Stops

According to Goldsmith, this is “necessary condition for basic syllabification and is universally accepted with few exceptions”.

2.7 Templatic Syllabification

Templatic syllabification is another method of syllabifying a word. It means to divide a word into syllables on the basis of its templates. According to Hogg and McCully (1987), a syllable template is an abstract tree structure which provides a base to fit all syllables onto it, in order to be recognized as acceptable syllables in a particular language. CV is considered to be the most common and basic type of syllable (Napoli, 1996). The earlier studies reveal that the syllabic templates of any language are the best and easiest way to understand of the phonological properties of that language. The templatic syllabification permits a simpler and
more successful analysis of a language. “Templatic syllabification may need some revision” (Kenstowics, 1994, p. 276) but it still stands valid for elementary syllable inventory like Arabic, Urdu and Punjabi. Urdu has four CVC, CVV, CVCC, CVVC templates found at every position in a word i.e. word initial, middle and final position; CV at word initial and middle; CVVCC at word final position; and V, VC, VV, VCC, VVC are derived templates.

2.7.1 **Nucleus Projection Method.** According to this method, nuclei of a string are searched and then consonants are attached to these nuclei. Then MOP and SSP are applied respectively to the transcribed string. For example /dɨltʃəsp/ (interesting) is comprised of two syllables as it has two vowels to work as Nucleus i.e. /ɨ/ and /ə/. According to MOP, /ltʃ/ should take place of onset of second syllable leaving the coda of first syllable vacant thus:

Figure 3 Nucleus Projection Syllabification Method
On applying SSP, we find that /lʧ/ cluster violates it as /l/ is more sonorant than /ʧ/ and according to SSP, it should vice versa. So /l/ takes place of coda in first syllable to make it acceptable.

Figure 4 Nucleus Projection Syllabification Method

2.7.2 **Templatic syllabification method.** Another method for syllabification, perhaps more suitable for Urdu (Ranjha, 2012), is templatic syllabification. Urdu is right-to-left language i.e. its templatic syllabification takes from right-to-left after it is transcribed. Let’s once again take the above given example of /dɪlʧǝsp/ (interesting) with CVCCVCC templatic structure and can be syllabified as CV.CCVCC or CVC.CVCC. The first best possible template in the right side is CVCC leaving CVC for the first syllable as CCVCC is not possible in Urdu. In the same way
another complex word is /guzfrican/ with CVVVCCCVV templatic structure having cluster of three consonants. It may be syllabified CV.CV.CCCVV or CVC.CVCC.CV or CV.CVCCC.CV. According to templatic syllabification, the best possible template on the right side is CVV. The next available template is CVVCC because Urdu prefers one consonant in the onset and there remains only one CV to constitute the first syllable of the given word. Hence the correct syllabification of /guzfrican/ is CV.CVCCC.CV.

Every language has its own system of syllabification. The best way of defining an Urdu syllable is to describe it according to its templatic form. A syllable templatic is formulated in terms of sequence of consonants and vowels (Nazar, 2002). Urdu is moraic language where a mora is defined as a short syllable and it functions as a weight unit (WU) and a unit of timing (Ladefoged, 2000). According to a moraic concept, a consonant and vowel in Urdu are monomoraic and are denoted with C and V respectively. Whereas a long vowel is a bi-moraic and is donated as VV. When a word from any other language like English is borrowed its structure is re-syllabified according to templatic method. But it has been observed that sometimes a borrowed word is merely re-syllabified by adding /ə/ or other vowel and other times a complete templatic is added. The aim of this study is to try to find if there is some specific mechanism involved in it or there are special sounds which invoke some addition or deletion to be part of this language. For example hospital /hɒspɪtl/ becomes /hosp.täl/, Canada /kæn.ə.də/ becomes /ka.nə.də/, office /ɒf.ɪs/ becomes /ə.fɪs/, etc. Before proceeding further, let’s have a look on the different templatic structures possible in Urdu and English.

Table 1
**Templates Found in Urdu**

<table>
<thead>
<tr>
<th>Syllable Template</th>
<th>Position allowed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVC</td>
<td>All three positions (word initial, middle and final)</td>
</tr>
<tr>
<td>CVV</td>
<td>All</td>
</tr>
<tr>
<td>CVCC</td>
<td>All</td>
</tr>
<tr>
<td>CVVC</td>
<td>All</td>
</tr>
<tr>
<td>CVVCC</td>
<td>Final</td>
</tr>
<tr>
<td>CV</td>
<td>Initial and Middle</td>
</tr>
<tr>
<td>V</td>
<td>Derived</td>
</tr>
<tr>
<td>VC</td>
<td>Derived</td>
</tr>
<tr>
<td>VV</td>
<td>Derived</td>
</tr>
<tr>
<td>VCC</td>
<td>Derived</td>
</tr>
<tr>
<td>VVC</td>
<td>Derived</td>
</tr>
</tbody>
</table>

**Table 2**

**Templates Found in English**

<table>
<thead>
<tr>
<th>V</th>
<th>CV</th>
<th>CCV</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCCV</td>
<td>VC</td>
<td>VCC</td>
</tr>
<tr>
<td>VCCC</td>
<td>CVC</td>
<td>CVCC</td>
</tr>
<tr>
<td>CVCCC</td>
<td>CVCC</td>
<td>CCVC</td>
</tr>
<tr>
<td>CCVCC</td>
<td>CCVCC</td>
<td>CCCVC</td>
</tr>
<tr>
<td>CCCVCC</td>
<td>CCCVCC</td>
<td></td>
</tr>
</tbody>
</table>

As we have seen above, there is lot of difference between the templatic structures of the two languages. When a word from English is borrowed, it is resyllabified according to its templatic structure. There are seven (Usman, Ali, & Masood, n.d.) rules which apply to the resyllabification of English words when used in Urdu. The current study aims to do some further exploration regarding the resyllabification of English words and changes in their templates.
3. Research Methodology

The present study is qualitative and explorative in approach. In order to analyze the resyllabification of English words, three different recordings of two television channels with interview of public from Karachi, Lahore and Sialkot were observed. The rationale behind the selection of television programs was to observe the usage of words in natural atmosphere. Had the recording been done after intimating the participants or had the written words been given to them, the result would have been unauthentic as this would have made the speakers conscious. The English words spoken by the different speakers were transcribed by the researcher and observed the difference in their syllabification and templatic forms of the original words and the spoken by Pakistani speakers. Twenty three English words having one to three syllables were used by the Urdu speakers.

4. Results and Discussion

The study aimed to know what kind of changes take place when the English words are spoken by Pakistani speakers or what kind of sounds are deleted and to check the stability of templates of English syllables.

4.1 Consonants

4.1.2 Monosyllabic words with CVC templates The syllables with CVC structure were found stable. In some cases, a vowel was replaced with long vowel (VV) making it CVVC. For example, /ʃel/ (CVC) became /ʃeɪl/ (CVVC). The diphthongs were also replaced with long vowel. However, most of the words with CVC templates were found stable.

\[
\# CV(\text{diphthong})C \longrightarrow \# CVVC \quad \text{Rule 1}
\]
4.1.3 Bisyllabic words As Urdu is right to left language and its syllabification follows the templatic method. As mentioned above, the best possible template comes on the utmost right side. The words with CVC.VC were changed to CV.CVC templates. For example, /sɪv.ʌl/ was uttered as /sɪ.vʌl/ and /kɪl.ər/ as /kɪ.lər/.

\# CVC.VC(C) $\longrightarrow$ CV.CV(C)C Rule 2

If a bisyllabic word has .CVC cluster in the end, a long vowel may be added in the first syllable. For example, /pə.lɪːs/ is uttered as /pəː.lɪːs/.

If a bisyllabic word has CVC.CVC cluster, it remains stable. In some cases, a vowel or diphthong may be replaced with a long vowel.

\# CVC.CVC $\longrightarrow$ CV(V).CV(V).C Rule 3

In RP, /t/r/ sound in the coda position is not uttered; however, Urdu speakers utter the /t/r/ sound. For example, /wɜː.kə(r) is uttered as /wʌkr/ and /tʊ(r).gɪə/ as /təːr.gʌt/.

\# CV(r).CV(r) $\longrightarrow$ CVr.CVr Rule 4

4.1.4 Trisyllabic words The behavior of Urdu speakers towards trisyllabic is of mixed nature.

If a trisyllable ends with .CVC, last template remains stable; however, some changes occur in the preceding templates. For example, /hɒs.piː.tɒl/ becomes /hɑːs.piː.təl/.

In case of ending with .CVC.VC(C), the last template becomes .CV.CVC(C). For example, /kɒz.met.ɪk/ becomes /kɑːs.me.tɪk/. This is again the repetition of CRule 3 and VRule 1.
If a trisyllabic word ends with .CCVC, as CC is not allowed on the onset position, so an epenthesis is added between the two consonants i.e. .CVCVC. For example, /mɪ.nstər/ becomes /mɑ:n.ɪstər/.

\[ \text{# CCVC(C) } \xrightarrow{\text{}} \text{# CVCVC(C)} \quad \text{Rule 5} \]

In some cases, trisyllabic word is reduced to bisyllabic word, if there is a syllable with VC proceeded by a syllable ending with VCC. For example, /dif.ə.ʌns/ (CVC.VC.VCC) is pronounced as /dif.ʌns/ (CVC.CVCC) and /gʌ.ʌn.ment/ (CVC.VC.CVCC) as /gɔ:rm.ent/.

\[ .\text{VC.VCC } \xrightarrow{\text{}} \text{.CVCC (vowel is omitted)} \quad \text{Rule 6} \]

\[ .\text{VC.CVCC } \xrightarrow{\text{}} \text{VC is Omitted} \quad \text{Rule 7} \]

Some trisyllabic words remain trisyllabic but some internal changes take place. If there is single vowel in the middle position and have C in the preceding syllable, it will either become .CV(C) or V will be omitted. For example, /pəl.ə.si/ (CVC.V.CV) becomes /pə.li:si/ (CV.CV.V.CV) and /mɪ.nstər/ (CVC.V.CVCC) becomes /mɑ:n.ɪstər/ (CV.CV.CVC). As mentioned earlier, Urdu is right to left language, so it prefers CVC or CVV in the last or next to last syllable.

\[ \text{# CVC.V.CV } \xrightarrow{\text{}} \text{CV.CV(V).CVV} \quad \text{Rule 8} \]

In case of .V.CCVC(C), the first consonant of final syllable will become coda of the preceding syllable as Urdu prefers only one consonant in the onset position. For example, /mɪ.nstər/ (CVC.V.CVCC) becomes /mɑ:n.ɪstər/ (CV.CV.CVC).

\[ \text{# CVC.V.CCVC } \xrightarrow{\text{}} \text{CV.CVC.CVC} \quad \text{Rule 9} \]
If there is .VC. in the middle of trisyllabic word proceeded by CVC and followed by a syllable with CC cluster on its coda position, it is omitted completely making the word bisyllabic. For example, /gʌv.ən.ment/ is uttered as /gɔ:ment/ and /dif.ər.əns/ as /dif.rans/.

# CVC.VC.(C)VCC ⟷ CV(V)C.CVCC Rule 10

### 4.2 Vowels

#### 4.2.1 Open syllable
As in Urdu, a vowel in an open syllable is always long so open syllables with diphthongs with CV templates were replaced with CVV templates. For example, /noc/ (CV) was uttered as /no/ (CVV). As Urdu is moraic language where a mora is a time unit equal to a short vowel and long vowel is equal to two vowels. So diphthong (still controversial whether Urdu has diphthong or not) and long vowels are considered bi-moraic (VV). The speakers changed /ov/ with long vowel /o/.

# CV(diphthong) ⟷ # CVV Rule 11

#### 4.2.2 Open back vowel
local speakers prefer fully open and back vowel /ɑː/ to not fully back vowel /ɒ/

\[
/ɒ/ \xrightarrow{} /ɑː/
\]  Rule 12

#### 4.2.3 Neutral vowel /ʌ/
Urdu, basically, is not a stressed language, so the weakest vowel /a/ is replaced with central and neutral vowel /ʌ/.

(vowel rule)
4.2.4 Trisyllabic words Some trisyllabic words remain trisyllabic but some internal changes take place. If there is single vowel in the middle position and have C in the preceding syllable, it will either become .CV(C) or V will be omitted. For example, /ppl.ə.si/ (CVC.CV) becomes /pəː.ɪː.si/ (CV.CV.CV) and /mɪn.ɪstr/ (CVC.V.CCVC) becomes /məː.ɪstr/ (CV(C).CVC,CVC).

Rule 14

If, in a trisyllabic word, there is /ə/ sound with any consonant (VC) in the middle position of a word and there is CVC template in the initial position and (C)VCC cluster in the final position, then /ə/ sound along with consonant thus making the word a bisyllabic word.

\[
\text{CVC.CV.}(C)\text{VCC} \rightarrow .\text{VC. Omitted}
\]

Rule 15

Conclusion

The current study reveals that the words of English undergo different changes when they are spoken by the Pakistani speakers. Urdu has different templatic system than English. English has as many as seventeen templates whereas Urdu has only six templates. Though eleven templates have been mentioned by different researchers yet my study reveals that two derived templates V and VC are not used by Pakistani Urdu speakers. The other three templates also need confirmation. The other results show that CVC template has been found the most stable template. In case of diphthongs, a long vowel has been used by the Urdu speakers. Urdu is right to left language and follows templatic method of syllabification so it resyllabifies the English words
accordingly. Urdu is also strict to CC clusters on the onset position; therefore, it either adds vowel in between the two clusters, if it is in the word initial position, or shifts initial consonant to the coda of the preceding syllable. The study also reveals that VC template in the middle position is least stable and /ə/ sound is also not preferred by the local speakers. The local Urdu speakers prefers open fully back vowel /ɑ/ sound to /ɒ/ sound and central vowel /ʌ/ to /ə/ sound which is least preferred. This study revolves around the three TV recordings of public interviews, so the results need to be confirmed by taking a larger sample.

Reference


**Appendix**

(English words used by the Urdu L1 speakers during their interviews)

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Word</th>
<th>English transcription</th>
<th>Template</th>
<th>Urdu Transcription</th>
<th>Template</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No</td>
<td>/no/</td>
<td>CV</td>
<td>/no/</td>
<td>CVV</td>
</tr>
<tr>
<td>2</td>
<td>Go</td>
<td>/go/</td>
<td>CV</td>
<td>/go/</td>
<td>CVV</td>
</tr>
<tr>
<td>3</td>
<td>Area</td>
<td>/eə.rɪː.ə/</td>
<td>V.CV</td>
<td>/ʔɪː.rɪː.ja/</td>
<td>CV.CV.CV.CVV</td>
</tr>
<tr>
<td>4</td>
<td>Police</td>
<td>/pə.ˈlɪː.s/</td>
<td>CV.CVC</td>
<td>/pə.ˈlɪː.s/</td>
<td>CVV.CVVS</td>
</tr>
<tr>
<td>5</td>
<td>Shell</td>
<td>/ʃeɪl/</td>
<td>CVC</td>
<td>/ʃeɪl/</td>
<td>CVVC</td>
</tr>
<tr>
<td></td>
<td>Road</td>
<td>Media</td>
<td>Fail</td>
<td>Killer</td>
<td>People</td>
</tr>
<tr>
<td>---</td>
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