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A STUDY INVESTIGATING AND INTERPRETING SOUNDS OF PUKHTO LANGUAGE BY NATIVE AND NON-NATIVE SPEAKERS OF ENGLISH

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Abstract
This study investigated the sounds of Pukhto language by native and non-native speakers of Pukhto language. Overall, Pukhto language is a little explored language and especially comparative analysis of the sounds by its native and non-native speakers is rare. This study found that certain sounds when heard by native and non-native speakers are interpreted differently. At times the non-native speaker hears a sound, which is not present in their own language, similar to closer sound in their own language. The study can thus help language teachers in teaching a second language to the leaners with the help of their first language. The study can also be beneficial in removing biases against the non-native speakers of a language by calling their language fossilized and interlanguage if they cannot pronounce certain sounds like native speakers.

Key Words: Pukhto sounds, IPA Chart, Native and non-native speakers, Praat.

Introduction

Pukhto is one of the most spoken languages both in Pakistan and Afghanistan (Gul, Khatoon & Hassan, 2022; Siddique, 2014). In Afghanistan it is one of the two predominant languages, along with Persian, while in Pakistan it is the language of most of the people of Khyberpukhtunkhwa—or Northwest Frontier Province—province and one of the main languages in Balochistan province, along with Balochi. People in the most populated city Karachi also speak Pukhto. It is the language-of-choice of an estimated 7.5 million people in Afghanistan, and another 16 million to 17 million people in the Northwest Frontier Province of Pakistan (Tegey & Robson, 1996).

There are four major dialects of Pukhto: the Kandahar or western dialect; the Kabul or central dialect; the southern dialect of Pakistan often called as soft dialect; and the Ningrahar or eastern dialect often called as hard dialect, which includes the Northwest Frontier Province of Pakistan and is the focus of this report (Halaka, 2011). These dialects are mutually understandable especially the Ningrahar dialect which if often known is hard dialect and which is considered standard dialect in Pakistan as in Afghanistan the soft dialect is considered the standard language. The speaker of soft dialect usually understands the hard dialect in Pakistan as being the language of press and media; however, the speakers of hard dialect often fail to understand the soft dialect. People in Peshawar, Mardan, Swabi, Charsada and Malakand Division usually speak hard dialect also known as Yousafzai dialect and it is officially accepted variety in Pakistan (Dinakhel, 2020).

Although one of the important languages in the region, research on Pukhto is limited and this paper tries to create an IPA chart of hard dialect of Pukhto language. The study is conducted by Pukhto hard dialect speakers and verified by American English speakers. Henceforth, the

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paper reports sound system of Pukhto language that how it is perceived by native speakers and those who have no knowledge about Pukhto language.

Literature Review

Pukhto is part of the Indo-European family of languages, most closely related to Persian, Kurdish, Beluchi, Tajik, and Ossetian—all the languages spoken in the regions around Afghanistan. Though its orthography is a variant of the Arabic alphabet, Pashto is not an Arabic language. Pashto retains many archaic elements of the Iranian language and shares some characteristics of the Indic languages in the south, especially the retroflex consonants, which are found in the Indic, but not the Iranian languages (Tegey & Robson, 1996). There has never been a standardized system for rendering the language in the Roman alphabet, which has made it easy for people to adopt their preferred system of spelling and pronunciation. Earlier books, including H.W. Bellew's A Grammar of the Pukhto or Pushto Lanuage spells the language as Pukhto. In the West, the Pashto spelling has become the standard, although Pashto has become an acceptable variant (Tegey & Robson 1996). In northern Pakistan, the language is spelled *Pukhto* and pronounced [pʊ̈xtu]. In cultures where it is difficult to pronounce a velar fricative, speakers typically adopt the spelling *Pashto* and pronounce it [paʃtu].

The writing system for Pukhto is a variation of the Persian alphabet, which is based on Arabic. It is written from left to right, and no distinction is made between upper and lower case. The shape of an individual letter varies depending on whether it occurs in the beginning, middle, or final position of a word. The direction of the writing is right to left, and the shape of the letters vary depending on whether they occur word-initially, medially, finally, or in isolation (Rastorgueva, 1964).

Pukhto is a principal language in Afghanistan and Pakistan (Tegey & Robson, 1996). It serves as national language in eastern and southern regions of Afghanistan, followed by the Dari language. In Pakistan, Pashto is spoken in Khyber Pukhtunkhwa, Swat and Kaghan valley. Pashto has three main dialects: the Kandahar or Western dialect, the Kabul or central dialect, and the Ningrahar or eastern dialect (Tegey & Robson, 1996). These dialects mainly vary in pronunciation but can be understood by the native speakers of Pukhto language. Pukhto is not standardized the way English or some other European languages are (Shafeev, 1964).

Pukhto is written in Perso-Arabic script which contains words borrowed from Ossete, Persian, Sanskrit, Hindi, Urdu, some Indo-Aryan languages and other regional languages of Pakistan. Though research indicates that Pukhto is considered to be very much like Persian language, but certain features of Pukhto language differ from Persian. E.g. certain consonants and vowels of Pukhto language are not found in Persian. Also, Pukhto has gender and noun case which Persian lacks. There are differences in stress pattern as well such as in Persian the emphasis is on the last syllable whereas in Pukhto language, the stress pattern may vary. This freedom of stress pattern has an important grammatical role in Pukhto as it is used to generate several meanings of the same words.

Research Methodology

In this paper we try to make the IPA chart for the Pukhto language. In order to do that we selected two native speakers of Pukhto language. We prepared a word list which included all the sounds of Pukhto language at the beginning of each word. One sound did not occur at the beginning of any word so we selected a word in which it occurred in the middle or at the end.

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We also took help in preparing the word list from other sources (MacKenzie, 1959). We recorded the word list when the native speaker was saying those words. One of the author being the native speaker pronounced each word three times and the native American English speaker, Peter, was listening to it. The entire process took place in the computer lab and Praat software was used. After the recording, Peter among the group did the annotation. Peter selected one of the three words and shared those with the researchers to confirm that he has selected the right spoken word. After that he did the annotation and shared his annotation with the researchers. The researchers analyzed the annotations done by Peter and then differences and similarities were discussed. The results of the study were obtained on the basis of analysis of those words as well as by the analysis of continuous speech by the two native speakers.

In this paper, we attempted to find out the differences in the hearing of Pukhto phonemes by the native and non-native speakers of the Pukhto language. We recorded a word list of Pukhto spoken by the native speaker. The native speakers as well as the non-native speaker of this language analyzed each word later on Praat software.

The native speakers for this project were Pakistan-born and their both parents spoke Pukhto. They started formally studying Pukhto at the age of five years. They admitted to having difficulty with some Pukhto pronunciations, some of which, they attributed to the Arabic lessons, which started when he was four or five years old. As a Muslim, Arabic lessons were required in order to understand the Holy Quran. The other reason of mispronunciation was the specific local dialectical affects, which is common to that district where they were born and grown.

The American in this study was the second generation born in the USA, and Polish was frequently spoken in his home. His maternal grandfather, who was born and raised in Poland, lived in the home and would typically speak Polish with his mother. Furthermore, his mother spoke with a blended accent. She was born in Oil City, PA, but moved to Poland with her parents around the time of the Great Depression. Through a series of historical events, she and her parents were relocated to a Siberian concentration camp, and later journeyed to Persia (Iran) and Bombay, India, where she received a college education. Following WWII, Peter's mother and her family made their way back to the United States and settled in Rochester, NY.

List of Pukhto words:

Below is the list of Pukhto words that were used in the analysis.

Table 1: Words with Consonants

Phonemes	Pukhto Words	English Gloss
ʔ	ʔam	mango
b	bya	again
p	plar	father
t (dental)	t̪a	you
ʈ (retroflex)	ʈol	all
s	sur	red color
s	samar	fruit
s	sabun	soap
d͡ʒ(post alveolar affricate)	d͡ʒaba	language
d͡z	d͡zurabay	socks
tʃ	tʃarta	where
h	halwa	dessert

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x	xar	donkey
z(dental affricate)	zamong	our
z(post alveolar affricate)	zawan	young person
z	zameer	conscience
ʒ	ʒalobay	dessert
ɖ̪ (dental)	ɖ̪alta	here
ɖ̠	ɖ̠um	singer
r	rasha	come here
ɭ̆	ɭ̆ond	blind
g	garam	hot
ʃ	ʃal	twenty
t	toti	parrot
z	zalim	cruel
ɣ	ɣum	sadness
ɳ(occurs at the end of the word) (retroflex nasal)	parɳe	leaves
m	mor	mother
n	nishta	none
f	fikr	worry
z	za	go
l	lobay	play
ɖ̂	ɖ̂awal	wall
ʈ̂	ʈ̂abiat	health
j	jao	one
w	wina	blood
h(glottal stop)	har wakht	always
k	kor	home
q	qadar	respect

Table 2: Vowels and Diphthongs

Vowels/diphthongs symbols	Pushto Words	English Gloss
ʊ	ʊgda	tall
ə	əjiba	strange
r	ror	brother
u	ubo	water
n	najor	ill
b	byɑ	then
m	mewa	fruit
ya	yaw	one
wa	wai	said
pə	pəi	milk
ɑw	ɑw	yes

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Recording of the wordlist:

The native speakers were asked to speak each word in the word list thrice in order to identify the acoustic features of the words accurately. The recording took place in Linguistics Phonetic Lab. Other details of the recording are as follows:

Language: Pukhto
Speaker: The Author
Kind of Recorder: Marantz digital recorder
Recorder Model: PMD 661 *MKII*
Kind of Mic: Lapel mic
Model of Mic: AT831b
Number of recording: 007
Total length of recording: 03:14
Length of selected file: 01:03
File name: Waveform audio
Setting: preset 2, mono

Description of the wordlist transcription

Peter, the non-native speaker of Pukhto language, transcribed the word list spoken by the native speakers. He selected the middle word out of three for transcription. Following is the description of the words heard by the native and the non-native speaker:

ʔam (mango) : The non-native speaker transcribed this word as **ʔam.** We cannot start a word with vowel so we put glottal stop in the beginning of the word. The native speaker's point of view is that there should be double *a* in this word before *m.* So he would transcribe it as **ʔaam.**

plar (father): The non-native speaker heard the last consonant sound (r) either aspirated or uvular R because they do not have trill "r" at the end of a word in their language. So he transcribed it as plaR. For the native speaker it is a simple trill (r) at the end of the word plar.

ټ: The non-native speaker transcribed this word as **ټo** and he hears a kind of "h" sound at the end of the word. The native speaker also agreed to it that there is some "h" sound at the end but that is not pronounced in Pashto language. So the pharyngeal sound was put at the end of the word and the native speaker would transcribe it as **ټʔ**

sur (red color): The non-native speaker listens *l* at the end of this word but according to the native speaker it is trill *r*.

sur (red), samar (fruit), sabun (soap): The nonnative speaker doesn't hear any difference in the consonant s in the beginning of the word. But for the native speaker these are three different phonemes. The spectrogram also shows the difference in the energy level among *s* sound (as it is evident from the spectrogram of the three words below).

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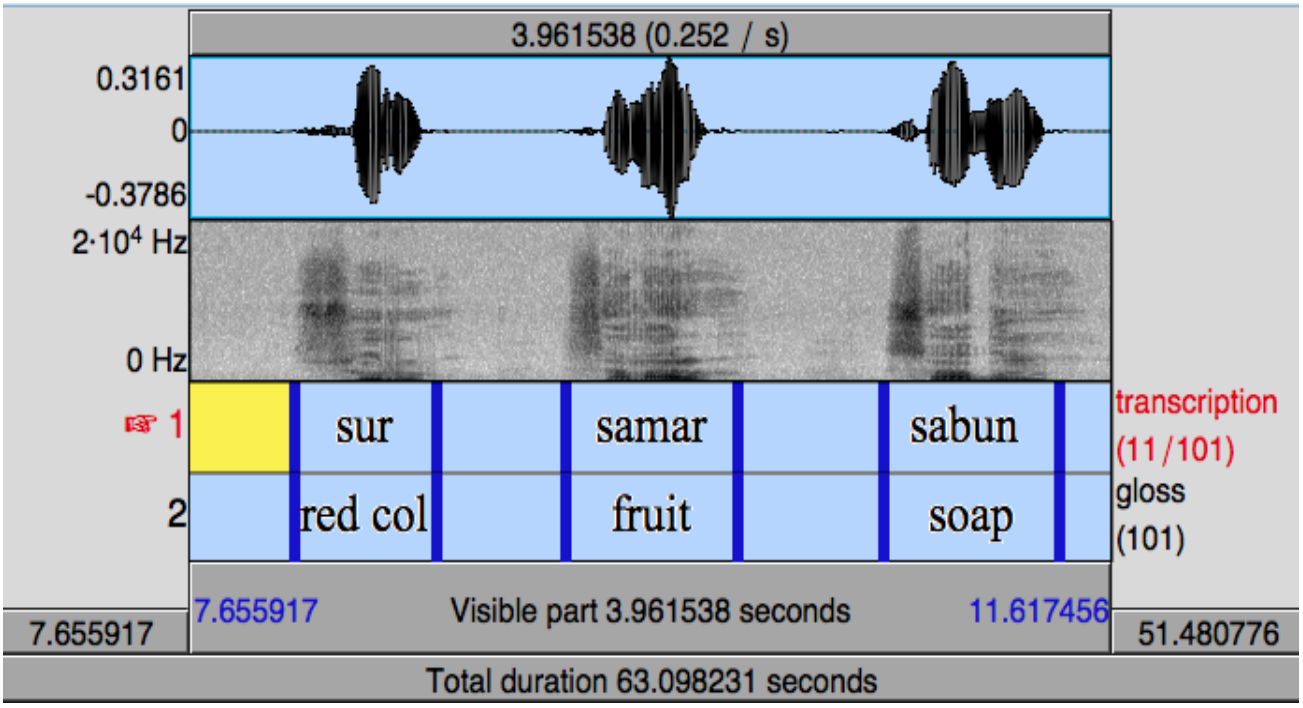

d͡ʒaba (language), d͡zurabay (socks): Both the native and non-native speakers agreed that the consonant sounds in the beginning of the words are slightly different as the first one is post-alveolar affricate whereas the other is dental affricate.

tʃerta (where), halwa (dessert), xar (donkey): Both native and non-native speakers agreed with the transcription of these words.

zamong (our), zewan (young person), zamir (conscience): The initial *z* sound in these three words is different for the native speaker. For the non-native speaker *zamon* and *zamir* are same but zewan is different from the other two. The spectrogram also shows that *z* sound in *zamong* and *zamir* appear somewhat same but it has different energy level in the word *zewan*.

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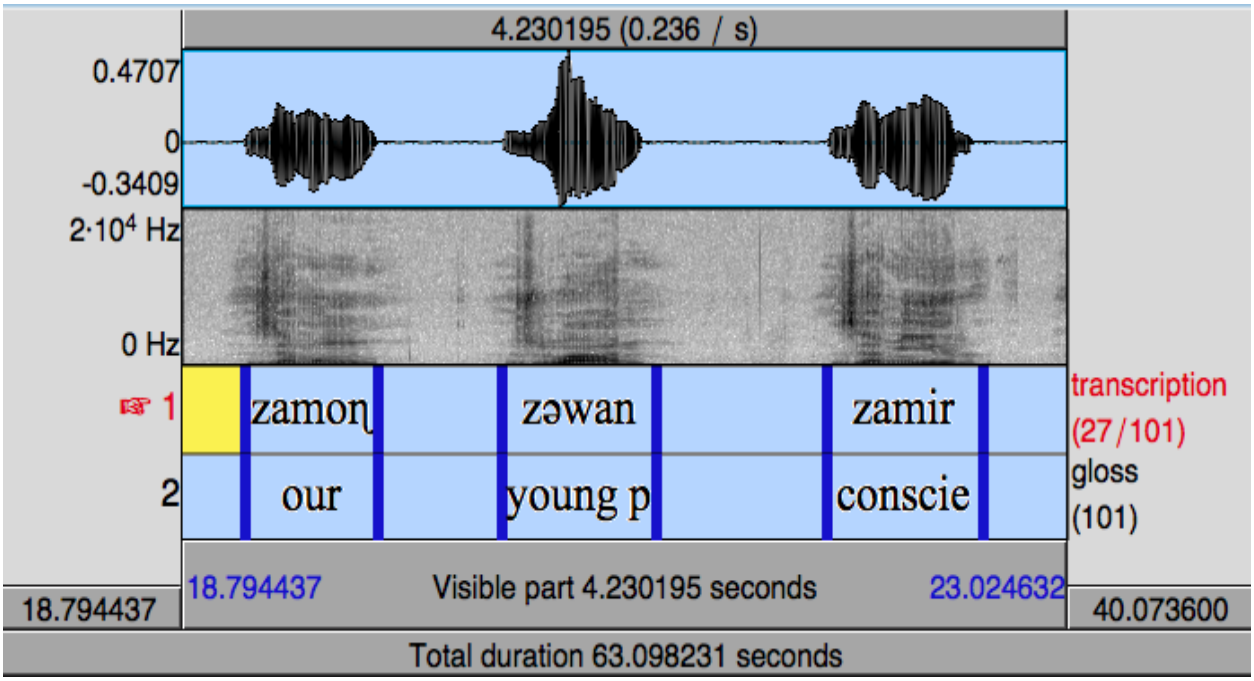

ʒalobai (dessert): Both the native and non-native speakers agree with the transcription of this word.

ɖalta (here): The non-native speaker hears the *t* sound after l but for the native speaker its dental *t̪*.
ɖum (singer): For the nonnative speaker the first consonant is retroflex plosive whereas the native speaker cannot distinguish between retroflex *d*.
garam (hot): The nonnative speaker hears retroflex plosive *ɖ* sound after the first vowel *a* but for the native speaker it is trill r.
rasha (come here), ɭond (blind), ʃal (twenty) ʈoʈi (parrot): Both the native and non-native speakers agreed with the transcription of these words

zalim (cruel): For the native speaker *z* sound in the beginning of this word is different from z sounds in the words *zamong*, *zewan*, and *zamir*. However, the non-native speaker cannot differentiate it from *z* sounds in other words. As compared to the other words starting with *z*, the spectrogram shows that the energy level of the *z* sound is different in *zalim.*

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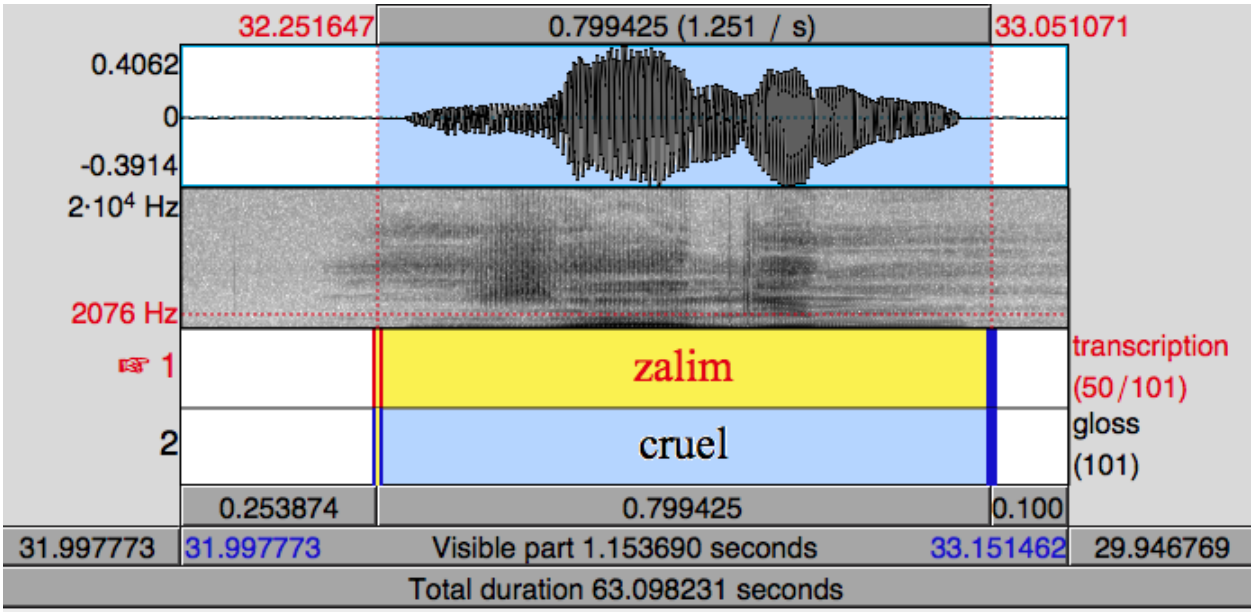

ɣum (sadness), parainָ (leaves), mor (mother), nishta (none), fikr (worry), za (go): There is no conflict on the transcription of these words between the native and non-native speakers.

ɖewal (wall): The non native speaker hears a diphthong after the *ɖ* sound but for the native speaker it is a monophthong.

jaʊ (one): There is difference in the hearing of diphthong in this word. The non-native speaker hears *o* after *j* but for the native speaker it's *a*.

ʔar wakht (always): Both agree with the glottal stop in the beginning of the word

kor (house), qadar (respect): For the non-native speaker the initial consonant in both words is same i.e. *k* but for the native speaker they are different. The spectrogram also shows the difference.

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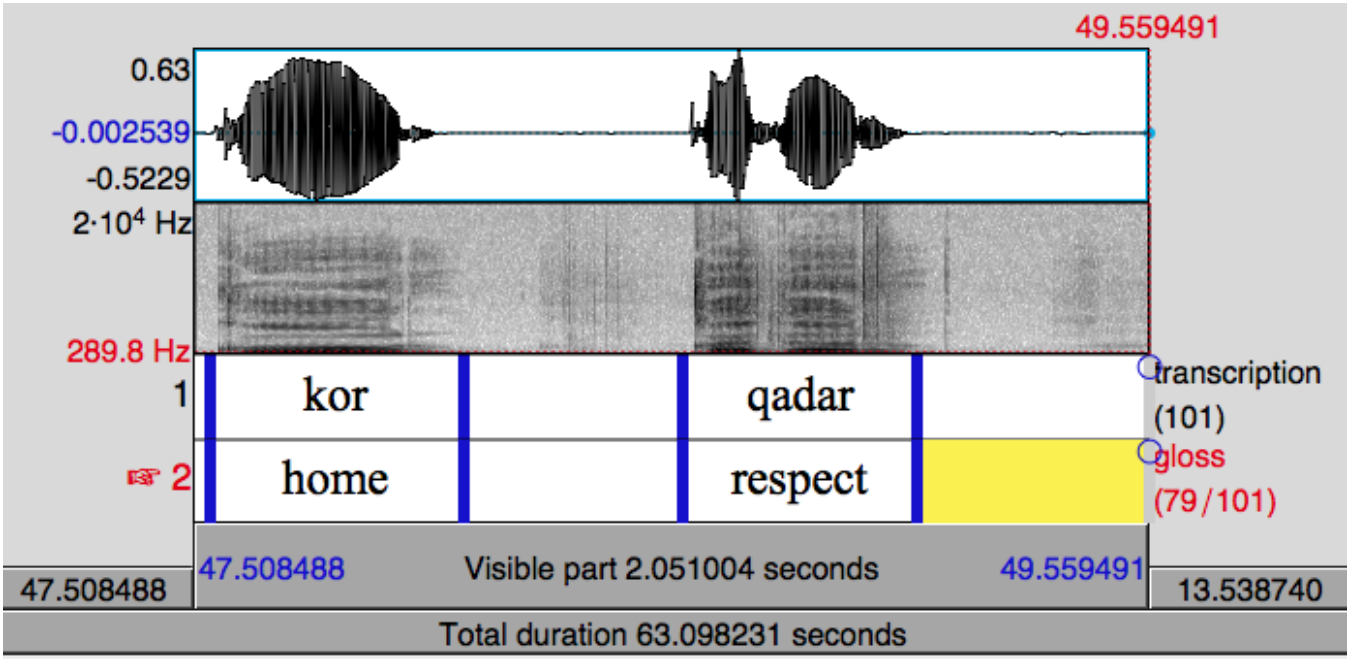

ʊʔdo (tall), ʔəjiba (strange), ror (brother), ubo (water), najor (ill), byɑ (then), wai (said), pəi (milk), ɑw (yes): No dissent was found on the transcription of these words between the native and non-native speakers

mewa (fruit): For the native speaker, there is monophthong *e* after the consonant *m* but for the non-native speaker it is a diphthong.

Findings and Discussion

From the data analysis we found that speakers of a language find it difficult the sounds in another language if those sounds are not there in his/her mother tongue. For example Peter the native English speakers found it hard to differentiate between the dental d, t and the English d t sounds. For the native speakers of English it was very easy to differentiate. Similarly, Peter was not able to differentiate the retlofex ɖ ʈ in the data. The same was the case about those different z sounds which have been discussed in the descritoin. For the native speakers of pukhto the initial sounds in the words like zamong (ours), zawan (young person), and zameer (conscious). For the native speakers all these three sounds were different. Peter realized that he find zawan (young person) different from other two, but we all three were not able to really describe the differences in these sounds, although we were able to observe the differences in spectrogram. Similarly the differences between the s sounds. For the native speakers the initial sound in the words sur (red), samar (fruit), sabun (soap) as discussed early.

Another interesting finding was about the changing of the sound in the target to the nearest sound in one mother tongue. Peter when described the dental d in connected speech into b. But when Pukhto speakers learn English language so because we do not have the dental fricatives ð and θ then we changed them into the dental d and t, which were the nearest sounds to

English fricatives ð and θ. There is a need of further research on this conversion of the target language sound into the nearest mother tongue language sound.

Another important finding was that though Pukhto is one of the important language spoken in both Pakistan and Afghanistan, but much work has not been done it so for. Probably we have not search all the resources, but still as compared to other languages little work has been done on Pukhto language.

There are some interesting sounds in Pukhto language which we are not able to describe, because of our limited knowledge and experience in the field and because of the time and resources restrictions. But these are interesting sounds to be explored by an expert phonetician by involving more native speakers and over a long time.

References

Dinakhel, M. A. (2020). Comparison of two dialects of Pashto, spoken in Afghanistan and Pakistan: Kandahar dialect and Yusufzai dialect. *Central Asia Journal, 86,* 127-139

Gul, N., Khatoon, S., & Hassan, S. S. (2022). An Investigation into the Role of Language in A MacKenzie, D. N. (1959). Standard Pashto. *Bulletin of the School of Oriental and African Studies, University of London, 22* (1) 231-235

Regional Connectivity in Afghanistan and Pakistan. *University of Chitral Journal of Linguistics & Literature, 6*(I), 341-348.

Rastorgueva, V. S. (1964). A short sketch of the grammar of Persian. Indiana University Mouton

Siddique, A. (2014). *The Pashtun question: The unresolved key to the future of Pakistan and Afghanistan*. Hurst & Company.

Shafeev, D. A. (1964). *A Short Grammatical Outline of Pashto.* Translated from the Russian by Herbert H. Paper. The Hague: Mouton & Co.

Tegey, H., & Robson, B. (1996). *A Reference Grammar of Pashto*. Center for Applied Linguistics, Washington DC.