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Elaboration of the Vowel Phonemes in Baluchi Makrani Dialect Based on Burquest's Model of Phonology (2001)

Abstract

The present study elaborates on vowel phonemes in Baluchi Makrani Dialect based on Burquest's model of phonology (2001). Forty individuals who took part in the interviews (25 males and 15 females aged 30 to 80) were illiterate. Out of 25 male participants, six were above 70 years of age. The field data were collected by recording free speech and purposively using enquiring answers to the questions. Most library data are related to the epical poems composed by the late Kamalan, an epical-style poet, before his death. The phonological data of the research have been recorded within the format of ".wav" in a computer and then extracted from the significant ones for further analyses. To exactly determine the acoustic specifications of the homonyms (such as aspiration and being voiced or not), spectrum diagrams have been drawn. Makrani dialect is spoken in vast areas south of Sistan and Baluchistan, Iran. Still, the type concentrated herein is the Sarbazi Dialect, a sub-dialect of the Makrani Dialect. The present study's data have been gathered from villages like Garag, Mochan, and Bandigan in the rural district of Kishkur, Sarbaz County, for such a reason as the originality of the words spoken. The investigations indicated that the dialect contains six simple vowels (monophthongs) and two combined vowels (diphthongs) in its phonemic system. This dialect also has formant diphthongs, such as /i.e./ and /ue/.

Keywords: *Vowel phonemes, Diphthongs, Baluchi Makrani dialect, Burquest's model of phonology (2001)*

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Introduction

Baluchi dialect speakers live in a vast and integrated area of land called Baluchistan, which is spread over parts of Iran, Pakistan, and Afghanistan. However, "besides Baluchistan, Baluchi is the common language in parts of Kerman, Larestan, Khorasan, and Golestan. It is also spoken in Arabic countries around the Persian Gulf (especially Oman and UAE) as well as in India, Eastern Africa, Northern America, Europe (particularly Sweden), and Australia"

Jahani (1989) believes Baluchi is one of Iran's western languages. According to him, the western Iranian languages are divided into two sets: northwestern and southwestern Iranian, with Baluchi being enumerated among the northwestern Iranian languages. However, Wolfram, (1974), believes that Baluchi cannot be considered a member of Iran's group of northwestern or southwestern languages. Hyman (1975)divided Baluchi dialects into the followings: 1) eastern Baluchi dialect, including Mari, Bugetti, Loqari, Mazari, Kasrani, and Sind Olya; 2) western Baluchi dialect, including Rakhshani Sarhaddi, Rakhshani Torkamani, Saravani, Rakhshani Afghani, Rakhshani Panjevari and Rakhshani Kalati; and, 3) southern Baluchi dialect, including Lashari and Kichi as well as Coastal and Karachi dialects.

The Dames seems to be the first person who seriously wrote things about Baluchi. Later on, other individuals like Geiger (1889), Gilbertson (1923), Barker and Mengal (1969), Collet (1986), Farrel (1989), Jahani (1989), Axenov (2003), Ahangar (2013), Sagharichi (2011), Barjasteh Delforuz (2003), Sohani (2010), and others authored articles and books about the phonemics, morphology, and syntax of this language. However, nobody has so far dealt with the phonemics of the Baluchi Makrani dialect by using phonological analytical software packages. Therefore, the present study tries to describe the phonemics of this dialect using the phonetic analysis software packages; hence it is a novelty of its type with a lot of significance.

Moreover, many of the phonological properties of such a lingual type have thus far remained intact to a large extent. Still, they may undergo alterations subject to the increasing daily influence of the other languages spoken in the peripheral regions (that is because such a type of language is neither formal nor taught through public education in any of the countries above). So, it is necessary to study and describe the phonemics of this dialect before such an incident happens thereto.

Makrani Dialect is spoken in vast regions in the south of Iran's Province of Sistan and Baluchistan and an area from the south of Pakistan's Baluchistan State to the Sind state of the same country, especially Karachi. Due to its relatively rich literature and the strong communication between the people of the region, the dialect is relatively uniform. Still, the type focused on herein is the Sarbazi Dialect, a sub-dialect of the Makrani Dialect. Sarbaz is a Sistan and Baluchistan Province county, sharing some of its border with Pakistan. The study's data have been collected from villages like Garag, Mochan, and Bandigan, a rural district of Kishkur in Sarbaz County (due to

the originality of the words used therein). Accordingly, the present study aims at clarifying the vowel phonemes in Baluchi Makrani Dialect based on Burquest's model of phonology (2001).

Study's Theoretical Foundation:

Phonology and Phonemics:

Phonology and phonemics are two sub-branches of linguistics that deal with phones from various aspects: phonology is the study of "the phones produced by the human beings and their features, especially those most frequently used in speaking; it presents a method for analyzing these phones". But, phonemics is the study or transcribing of "the descriptions, the classifications and phonetics of the languages' sound system" (Ibid). Ken Lodge (2009, p.14) realizes phonemics as the expression of semantic differences using phonetic symbols.

Mike Davenport and S. J. Hannahs (2005, p.2) believe that "since phonology and phonemics both have things to do with the phones produced in the human languages, they have much in common." In their mind, these two are essentially different in that "the phonology deals with the mere phones and this that how they are produced (generative phonology), how they are perceived (auditory phonology) and what are their physical characteristics (acoustic phonology). This is while phonemics deals with the idea that how these phones are organized within a certain language in a system" (Ibid). Furthermore, according to Karr (1993), "phonology is the study of a list of all the phones human beings are capable of producing. In contrast, phonemics investigates the sound system of the phonemes for mankind's languages". In other words, phonemics includes the study of every language's sound system and not all the phones that can be produced by the human beings' vocal tract. Thus, it can be stated that phonemics is the study of relatively few numbers of phones that cause semantic differences in a language. Put differently, phonemics deals with the phones' functions, speech structure, and system, while phonology mostly focuses on the phone's production and acoustic aspects.

The contrast in Phonemics:

Trubetzkoy believes that "these various kinds of contrast determine the internal order or structure of a phonemic set and distinguish a language from the others" (Trubetzkoy, 1931, p.71 as cited in Hyman, 2007). He divides the contrasts into bilateral and multilateral in the first step. Then, he classifies them into two sets of proportional and isolated in terms of their relationships with the whole system and three sets of private, gradual, and equipollent in terms of their relationships with one another. The last categorization by Trubetzkoy (1931) relies on the contrast's vastness of distinction (p.77). Based thereupon, he divides them into two sets of stable and neutral contrasts.

A) **Bilateral and Multilateral Contrasts:** "in the bilateral contrasts, the set of the phonetic properties shared between (but distinguishing) two opposite members-only incorporate them (Ibid, p.68). For example, /p/ and /b/ are distinctively contrasting in English and are both oral and labial stops. They are specimens of bilateral contrasts in that no other consonants are found in English, grouped under the title of oral and labial stops. /m/ does not fall in this category, for it is nasal. /v/, /f/, and /w/ cannot be grouped in this set because it is not a stop. On the other hand, there are not only /p/ and /b/ but also /p^h/ in the Thai language. Here, to classify /p/ and /b/ as the members of a bilateral contrast group, it is necessary to take another common property into account: sounds articulated in the form of oral, non-aspirated, and labial stops. On the other hand, /p^h/ and /b/ cannot be bilaterally contrasted because their shared feature is their oral, labial, and stop articulation, and /p/ is also a consonant of the oral and labial stop type. Since the properties of/p^h/ and /b/ are also shared by /p/, the contrast is multilateral for incorporating more than two members" (Hyman, 1989, p.54).

B) **Proportional and Isolated Contrast: "**if the relationship between the members of contrast is like the relationships between the members of one or several other contrasts of the same system, it is deemed as a proportional contrast, and if the relationship is just specific to the members of contrast, it is termed isolated contrast. In English, the contrast between /p/ and /b/ is proportional for they are associated in the same way that /g/, /d/, /k/ and /t/ are correlated. On the other hand, the contrast between /r/ and /i/ is isolated because their relationship is unique, meaning that no other consonants in English with such a relationship as theirs are found. A contrast's being proportional or isolated depends on the language. For instance, the relationship between /t/ and /x/, to wit stop, alveolar, fricative, soft palatal, and unvoiced, is an isolated standard of the German language because, in this language, there is no consonant /[illegible]/ that can be deployed in contrast with a consonant /d/ which is produced in the form of a voiced alveolar stop. In languages having /x/, /d/, /t/ and /[illegible]/, the relationship between /t/ and /x/ is proportional"

(Trubetzkoy, 1931, p.71 cited in Hyman, 1989, p.55).

C) **Private, Gradual, and Equipollent Contrasts:** in private contrast, one of the two members features a phonetic sign, and the other lacks it. In other words, the presence of a feature compared to its absence, such as in contrast between /b:/ and /p/ in English, makes the former a voiced sound, whereas /p/ lacks such a property. In contrast between /m:/ and /b/, the former is produced nasally while /b/ lacks such a feature. In the Thai language, /p^h/ has to be articulated in an aspirated manner but /p/ is not so. The members with signs are known as marked members, and those without signs are recognized as unmarked members" (Hyman, 1989, p.56).

"Whenever the members of a contrast feature varying degrees of a unique property, it is termed a gradual contrast" (Ibid, p.56). For example, the three vowels of /i/, /e/, and /a/ are in gradual contrasts because of possessing different degrees of a unit property, i.e., sound raising.

The third type of relationship between the members of contrast occurs when the members are found logically equipollent (Trubetzkoy, 1931 as cited in Hyman, 1989, p.56). In other words, the relationship should be so that a member could not be marked and the other unmarked; the members are also not found with degrees of a unique phonological property" (Hyman, 1989, p.56). As a specimen, sounds like /t:/ and /k/, /t/ and /p/ and /s/ and /ʃ:/ are in such contrast with one another because, in this case, the members are not in contrast with one another, such as by the presence or absence of a property as in contrast between /p/ and /b/ and not possess various degrees of a unit property as in contrast between /i/, /e/ and /a/.

D) Persisting and Non-Persisting Contrasts: Trubetzkoy distinguishes between persistent and non-persistent contrasts. A distinct and well-known specimen of the non-persistent contrasts can be found in the standard German language. While there are occasionally contrasts between unvoiced consonants like /p/, /t/, /k/, /f/ and /s/ and voiced consonants like /b/, /d/, /g/, /v/ and /z/ when used in certain words (like /ti:er/ or /di:er/), only the unvoiced set of sounds can take place in the end of the word. Although the words "rat" and "rad" differ in spelling, both are pronounced similarly /ræt/. In plural forms, there is a contrast between /t/ and /d/ in words like "rate" /reits/ and "rader" /reiderz/ because it is with the addition of the suffixes –e and –er that these consonants cannot fall in the ending part of the words. Therefore, the contrast between /t/ and /d/ finds phonetic manifestation in certain loci. Wherever /t/ is just found, the contrast is called non-persisting or neutralized. On the other hand, when two members of contrast can fall in all of the positions, the neutralization is averted, in which case the contrast is often termed persistent (cited in Hyman, pp.57-58).

In general, the systems used for describing and classifying the phonemes of a language are a) traditional description and categorization of the phonemes that are usually done through the use of the generated properties; and b) phonemes' description and categorization through the use of distinct properties (please see Burquest, (2001), Fant, (2004), Manell, (2008) and Ladefoged (2011) for more information).

Rossi (1979) compared nearly all the phonemic analyses performed on Baluchi Language until his time to specify the differences. Referring to Karr Morgenstein (1927), who has determined the common phonemes of Baluchi languages and dialects, Rossi believes that the vowel systems of all three dialects are the same, and they share vowels like /a/, /i/, /u/, /a:/, /u:/, /e;/ and /o/. Like Morgenstein, he believes the difference between the eastern and western Baluchi dialects is not so much unlike in Pashtu.

Study Method:

The study participants included 40 persons (25 males and 15 females ranging in age from 30 to 80) all not capable of reading and writing. Out of the 25 male participants, 6 were above 70 years of age; one of these six men was a rancher, and the other five were farmers. Amongst the other male participants, six were farmers, six were unemployed, one was a rancher, and one was a driver. The female participants that were interviewed herein were all housekeepers.

The field data were gathered by recording the participants' free speeches and purposively using questioning and writing the answers. Most of the library data were collected from amongst the epical poems composed by the late Kamalan, the epical-style poet, before his death. The phonological data of the research were mainly recorded in wav. format and inserted into a computer; then, parts were transcribed and extracted for further analysis. The research data were seminally typed in word format; next, the search section was utilized to determine

the phonological sequences and their frequency rates in the compiled lingual body. Spectral diagrams were drawn to determine the acoustic specifications of the consonants, like aspiration and being voiced or not.

Findings:

Table (1) presents the vowel sounds extracted from the lingual bodies of the Baluchi Makrani dialect.

Table 1: simple vowels (monophthongs) extracted from the lingual body of Baluchi Makrani Dialect

Posterior		**Central**		**Anterior**		
Rounded	Unrounded	Rounded	Unrounded	Rounded	Unrounded	Form of lips
/u/ & /u:/					/i/ & /i:/	Raised
/o/ & /o:/					/e/ & /e:/	Semi-raised
	/a/ & /a:/		/a/ & /a:/			Fallen

However, the investigation of the lingual data indicated that there are also two diphthongs, designated as /ie/ and /ue/, in this dialect, in addition to the monophthongs shown in table (1).

Vowel Phonemes:

In this stage, the vowel sounds of the Baluchi Makrani dialect identified based on Burquest's model of phonology (2001) have been compared and examined in the following sets:

a) Simple vowels (Monophthongs):

/i/ and /i:/: difference in the amount the sound is stretched, such as in the articulation of words like /hirr/ "throw" and /hi:r/ "push";

/i/ and /e/: difference in the extent to which the tongue is raised such as in the articulation of words like /hirr/ "throw" and /herr/ "camel calf"

/e/ and /e:/: difference in the amount the sound is stretched such as in the articulation of words like /ke:/ "who, that, what, where" and /kerr/ "at the side of";

/a/ and /e/: difference in the amount the tongue is raised such as in the articulation of words like /patt/ "plain land" and /pett/ "droplet";

/a/ and /ɑ/: difference in the posterior properties such as in the articulation of words like /har/ "donkey" and /hɑr/ "flood";

/a/ and /o/: difference in the extent to which the tongue is raised such as in words like /sar/ "consciousness" and /sor/ "method"

/o/ and /u/: difference in the extent to which the tongue is raised such as in the articulation of words like /kott/ "skirt" and /kutt/ "dice"

/u/ and /u:/: difference in the extent to which the sound is stretched such as in the articulation of words like /butt/ "shoes" and /bu:d/ "ability"

b) Diphthongs:

/ie/ and /i/: /diek/ "an old woman" and /dik/ "conact"

/ie/ and /e/: /dier/ "late" and /der/ "torn apart"

/ue/ and /u/: /suek/ "together" and /suk/ "downward"

/ue/ and /o/: /suer/ "salty" and /sor/ "method"

Comparison of Similar Vowels:

The recognition of the vowels in the Baluchi Makrani dialect is, to a large extent, dependent on the amount to which the mouth is opened as well as the point in the mouth that the tongue makes a barrier on the way of air passes: in the posterior section, in the anterior section and between the two posterior and anterior points (see also Wolf, Garnier, and Smith, 2013). The map of the vowels' articulation points can be delineated using the details of the articulation specifications and acoustic properties.

On the other hand, in acoustic analysis, the divergent distinguishing of the vowels can be performed using the formants' positions in the spectrogram. In the spectrogram, F1 and F2 are of great importance because it is based on the positions of these two formants in the spectrogram that the elevation, the anteriority, or posteriority of a vowel can be figured out in this way that the higher the frequency of F1 in the spectrogram, the tongue is more lowered hence its distance to the palate is increased and vice versa. The formant two's frequency also reflects the tongue's posteriority or anteriority, meaning that the higher the F2, the more the tongue is stretched forward and vice versa.

Table (2) gives the numerical values of F1 and F2 formants for each vowel.

Table 2: numerical F1 and F2 values for each of the vowels in Baluchi Makrani Dialect

Vowel	**/i/**	**/e/**	**/a/**	**/ɑ/**	**/o/**	**/u/**
F1	447	511	670	670	511	447
F2	2138	1978	1564	1053	957	1058

if the numerical values of F1 and F2 are changed into negative figures considering their inverse relationships with the posterior and raised features, the F2's frequency is increased towards the left on the horizontal axis. The F1's frequency is increased downward on the vertical axis, and the traditional diagram of the vowels is exactly attained . (Figure 1):

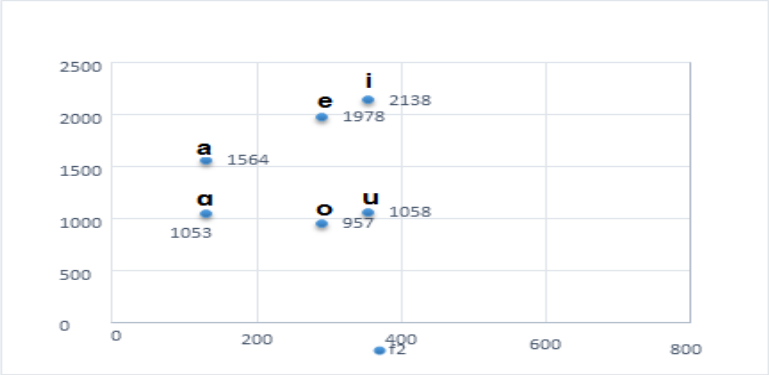

Figure (1): traditional diagram of the vowels

For further studies in this regard, please refer to Fant (2004), Manell (2008), Hagivara (2009), Ashby (2011),

The investigations of the study's lingual data indicated the existence of two diphthongs in the Baluchi Makrani Dialect as explained below:

A) /ie/: in words like /ʃier/ "lion", /bier/ "revenge", /biel/ "friend" and /hiel/ "habit"

B) /ue/: in words like /huer/ "companion", /muwr/ "termite" and "duer/ "sickness"

The investigation of the diphthong /ie/spectrograms showcases the movement of the articulation organs from the state of producing /i/ towards the state of producing /e/. In addition, the investigation of the diphthong /ue/spectrogram is expressive of the movement of the articulation organs from the state of producing /u/ towards the state of producing /e/.

In the forthcoming parts, the vowels identified in the Baluchi Makrani dialect are compared to justify their vowel identities. Table (3) compares the vowels identified in the linguistic body studied for the Baluchi Makrani dialect.

Table 3: comparison of the Baluchi Makrani dialect's vowels

Simple vowels						Diphthongs		Vowel-glide sequence	
Raised		Semi-raised		Lowered		v+v		v+g	
/i/	/u/	/e/	/o/	/a/	/ɑ/	/ie/	/ue/	/aj/	/aw/
/sirk/	/kurk/	/ser/	/sor/	/sar/	/sɑr/	/sier/	/suer/	/sajl/	/sawl/

Circus	Simple	Get cold	Method	Head	Intelligence	Satiated	Salty	Watch	Cedar
/i:/	/u:/	/e:/	/o:/	/a:/	/ɑ:/				
/si:r/	/bu:h/	/ke:/	/do:/	/ka:/ or /kapt/	/dɑ:/ or /dɑt/				
Wedding	Owl	Where, what, who, and so forth	Two	Fell	gave				

Data in table (3) show that the vowels /e/, /i/, /a/, /ɑ/, /o/ and /u/. Resultantly, these vowels can be recounted as six independent vowels. However, it was found out in an investigation of the study's data that there are no minimal pairs wherein vowels /o/, /e/, /i/ and /u/ can be placed in contrasts with their stretched or long pairs, to wit /o:/, /e:/, /i:/, /u:/, /a:/ and /ɑ:/. Therefore, it can be stated that vowel stretching has no phonemic role in the Baluchi Makrani dialect examined herein and, because /o/, /e/, /i/, and /u/ feature a more widespread distribution in comparison to their stretched pairs, it can be stated that these four vowels are the main phonemes minimal pairs will be investigated.

and their stretched pairs, i.e. /i:/, /o:/, u:/ and /e:/ are their allophones.

These data also showcase that two diphthongs /ie/ and /ue/ contrast with one another and their similar monophthongs. Thus, each of these vowels is envisioned as an independent phoneme.

Investigation of the Vowels' Phonetic Texture:

In this stage, the phonetic texture of the vowels with no

Table 4: **Investigation of the Vowels' Phonetic Texture**

Initial position	Middle position	Ending position
phonetic position of the phones /i/ and /i:/		
/imɑn/ "faith"	/bi:r/ "attack	/pasi:/ "sheep"

/i:sɑ / “Jesus”	/sirk/ “shield”	/mardomi:/ “humanity”
/i:ngo/ “this side”	/hi:kk/ “pig”	/hɑni:/ “female name”
	/si:kh/ “skewer”	/tʃokki:/ “childish”
	/hi:rr/ “throw”	/mazani/ “adulthood”
	/ʃi:r/ “lion	/kas ɑ ni/ “childhood” or “smallness”
phonetic texture of the two vowels /u/ and /u:/		
/u:ngo/	/lu:r/ “sandstorm”	/habaru:/ “talkative”
	Bu:h/ “owl”	/petu:/ “step-father”
	/butt/ “shoe”	/mɑtu:/ “step-mother”
	/hu:r/ “fairy”	/brɑtu/ “childish”
	/kurr/ “gigantic”	/goh ɑ ru/ “adulthood” or “largeness”
	/bu:d/ “ability”	/bangu:/ “the person calling for prayers in a loud voice”
phonetic texture of the two vowels /e/ and /e:/		
/etʃ/ “put”	/raset/ “attack”	/rase:/ “arrived”
/espiet/ “white”	/retk/ “poured”	/bare:/ “cut (p.t.)”
/elm/ “knowledge”	/gept/ “took”	/mange:/ “I took”
/eʃk/ “love”	/sest/ “was torn apart”	/ke:/ “where, when, and so forth”
/ed/ “here”	/metk/ “sucked”	

Phonetic texture of the two phones /o/ and /o:/		
/omr/ “life”	/bort/ “won”	/bo:/ “won”
/ord/ “second as a unit of time”	/sotk/ “lost”	/ʃo:/ “went”
	/hoʃk/ “dry”	/do:/ “two”

	/hord/ “small”	Ballo/ “grandmother”
	/lokk/ “short”	/pi:ro:/ “elder”
	tʃokk/ “child”	B ɑ no:/ “childhood” or “smallness”
phonetic texture of the vowels /a/ and /a:/		
/ars/ “tear”	/rapt/ “attack”	/ra:/ “went”
/aps/ “horse”	/kapt/ “shield”	/ka:/ “fell”
/agl/ “intellect”	/jat/ “pig”	/ja:/ “hit (p.t.)”
/angat/ “still”	/ʃart/ “skewer”	/ʃa:/ “okay”
onetic texture of the vowels / ɑ / and / ɑ /		
/ɑ sk/ “deer”	/bɑ rt/ “attack”	/bɑ :/ “takes”
/ɑ rt/ “flour”	/wɑ rt/ “garlic”	/wɑ :/ “eats”
/ɑ p/ “water”	/hɑ k/ “pig”	/tʃɑ :/ “look”
/ɑ s/ “fire”	/sɑ tk/ “skewer”	/sɑ :/ “soul”
/ɑ tk/ “came”	/hirr/ “throw”	/mɑ :/ “we”

The data investigation in Table (4) indicated that these two sounds have not appeared in identical textures. Hence they are in a supplementary distribution concerning one another. Thus, it can be stated that these two phones stem from a single phoneme with an allophonic relationship being established between them. Because/i/ is more widely spread in contrast to /i:/, /i/ can be assumed as the main phoneme meaning that:

/i/→[i:] / ___[r&h]##

/i/→[i]/ elsewhere

Table (4) data indicated that these two sounds have appeared in various textures. Therefore, it can be stated that these two sounds stem from a single phoneme and are in a supplementary distribution concerning one another. There is an allophonic relationship between them. Because /u/ enjoys a wider distribution as compared to /u:/; the former should be viewed as the main phoneme meaning that:

/u/ → [u:] / ___[C]## & ___##

/u/ → [u]/ elsewhere

The investigation of the data in Table (4) indicated that these two phones have not appeared in an identical texture, meaning that:

/e/→[e:] / __##

/e/→[e]/ elsewhere

Therefore, these two vowels are in a supplementary distribution concerning one another. Thus, it can be

stated that the two phones are two kinds of single phonemes and that there is an allophonic relationship between them. Because /e/ enjoys a wider distribution in contrast to /e:/; the former should be the main phoneme.

The data investigation in Table (4) indicated that these two phones had not been applied in an identical texture; thus, it can be stated that these two vowels are two types of a single phoneme and that there is an allophonic relationship between them. Because /o/ enjoys a larger distribution than /o:/; it can be stated that /o/ is the main phoneme.

/o/→[o:] / ___##

/o/→[o]/ elsewhere

The investigation of the data in Table (4) indicated that these two phones had not been applied in an identical texture; thus, it can be stated that these two vowels are two types of a single phoneme and that there is an allophonic relationship between them. Because /a/ enjoys a larger distribution than /a:/; it can be stated that /a/ is the main phoneme.

/a/ → [a:] / ___##

/a/ → [a]/ elsewhere

The investigation of the data in Table (4) indicated that /ɑ / appears in the ending part of the words and /ɑ :/ in the other positions. Thus, these two vowels are in a supplementary distribution in contrast to one another; hence it can be stated that these two vowels are two types of a single phoneme and that there is an allophonic relationship between them. Because /ɑ / enjoys a larger distribution than / ɑ :/, it can be accordingly stated that /ɑ / is the main phoneme.

/ɑ/→[ɑ:] / ___##

/ɑ/→[ɑ]/ elsewhere

The investigation of the present study's data indicated that vowel stretching is a compensatory action in this dialect, and it most often occurs at the end of the sentences following the ellipsis of a consonant or a consonant cluster.

Conclusion:

The present study aimed at elaborating on the vowel phonemes in the Baluchi Makrani dialect based on Burquest's model of phonology (2001). The investigations indicated that the dialect possesses six monophthongs and two diphthongs in its phonemic system. The dialect's vowel phonemes can also be summarized as shown in table (5).

Table 5: distinctive features of the vowels in Baluchi Makrani Dialect

Phone	**Main category's specifications**			**Articulation position specifications**					**Articulation method's specifications**						**Laryngeal specifications**			
	Syllabic	Consonance	Resonance	posterior	Laminal	Anterior	Raised	Lowered	Nasal	Continuous	Rounded	Sharp	Lateral	Persisting	Vowel	Expanded	Closed
/i/	+	-	+	+	0	-	+	-	-	+	-	0	0	-	+	0	0
/e/	+	-	+	+	0	-	-	-	-	+	-	0	0	-	+	0	0

/a/	+	-	+	+	0	-	-	+	-	+	-	0	0	-	+	0	0
/ɑ/	+	-	+	-	0	+	-	+	-	+	-	0	0	+	+	0	0
/o/	+	-	+	-	0	+	-	-	-	+	+	0	0	+	+	0	0
/u/	+	-	+	-	0	+	+	-	-	+	+	0	0	+	+	0	0

As was mentioned, there are also two diphthongs in this dialect, namely /ie,/ and /ue/.

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