Chapter-2: Historical Background of Gujarati Phonology
2.1 The Background

Our cultural heritage isn't solely alive through museums, libraries, archives and their digital portals, it's alive by well specked cultural habits practiced nowadays by the varied peoples of the planet. Language acquisition, is one amongst the key signs of development that the human-beings have journeyed since eras. Usually, linguistics study encompasses basic structures and vowel sounds however, such a study results in the reliable output of the selected language notion or dialects of that language. On the opposite hand, a reasonable study of phonological system of Gujarati dialectal system suggests that to seek out hanging similarities and distinctions inside the scheme. Again, such a study would be, globally most acceptable as English and Gujarati belong to a standard language family of the planet i.e. the natural language family.

In the 1st decade of the ordinal century, Gujarati language is itself taking new forms. This, of course, has perpetually been true; Gujarati has modified well within the 5 hundred years more or less of its use, reflective patterns of contact with different languages and therefore the ever-changing communication wants of individuals. Again, in several elements of the planet, as Gujarati has been taken within the cloth of the social life, it’s non-inheritable a momentum and vitality of its own which mirror native culture and languages.

Language Acquisition is additionally used for additional functions than ever before. Everyplace it's at the frontline of technological and scientific development, new thinking in investigation and criminal identification, new activity attribute and amusement genres. Obscurity is that the impact of this growth of a language, which is seen additionally than in communication. These produce to new-fangled terminologies, structural forms and ways that of speaking and writing.
Currently, the Gujarati language is at the instant in its world career. The amount of individuals of United Nations that speak about Gujarati as their natural language and English as a second language can exceed the amount of native speakers. The implications of this language is seeming to be so much gaining, that realizing the fact that the essential language can shift from native speakers as they become minority stakeholders in world resources.

In this situation, linguistics studies have got additional and vital recently. Momentously, the varied aspects of communication is additionally studied to distinguish linguistics aspects. It’s often been manifested that, Second learning is usually affected by the primary language of the learners; significantly observed in auditory communication even though s/he communicates within the second language. Certainly, the comparative study of descriptive linguistics and dialectology of the language, here to concrete on Gujarati descriptive linguistics, are going to be true new help in speaker identification. Wherever required, the speech sound can offer plenty of insight for the profiling through auditory communication.

2.2 Common features of the Languages of the World

It has been calculable that there are 3500 completely different languages within the world as per marked by B. A. Serebrennikov. The nature of linguistics vary in their structural setup, grammatical structure and that of lexicon. Even so, bound common features will be framed underlying the endless and engaging idiosyncrasies of the world’s Languages.

From individuals to individuals sound varieties would seem to markedly dissent, however they can also be described as a mix of a little range of distinctive options. Thus may be known the world’s languages and, consequently, could also be taken as universals. In step with linguistics, the complete accompaniment of those options contains bound twin oppositions: one, Vowel-non-vowel two, consonant - non-consonant three, interrupted - non-interrupted four, gluttonized - non-gluttonized five, strident - non-strident half dozen, voiced- unvoiced seven, compact – diffuse, and then forth.

In India, Language studies from religious text times have a really sound tradition. The Father of Indian linguistics, Bhagwan syntactician, writes within the Astadhyayi
concerning the fourteen sutras (equations) that are created from Rudra’s Damaru (musical instrument), the essential sounds of all the languages.

**fourteen sutras**


The Indian linguistic systems is influenced by several linguistic systems around the planet. Buddhist monks carried away the Indian linguistic learning to China. Even the eighth century Persian descriptive linguistics by Sibawaih entitled as Al Kitab is claimed to be influenced by the Paninian system of classifying the speech sounds.

Heinrich Philip Milton Roth - a German missionary, WHO was the primary European to compose a Sanskrit descriptive linguistics, however because of his untimely death in 1668 at Agra, his work couldn't be printed. The primary European descriptive linguistics of Sanskrit by Panlinus a Sancto Barholomaeo was written in Latin and printed at Rome in 1970. Within the field of Sanskrit learning, European country remained a negotiator between India and remainder of Europe and America. Just like the fruits of Resurgence and Humanism, the Sanskrit learning unlocked to kindle interest in linguistic investigations.

Similarly, round the same time comparative studies in linguistics were conjointly going down. A French missionary, Courdourc, created a comparative study of Sanskrit verbal forms with those in Greek, Latin and alternative connected European languages. However his work can be printed solely once Sir William Jones’ acoustics in Ancient India. The
foremost necessary year serving as a landmark for the Indo–European family is 1786, once Sir William, self-addressed the Royal Asiatic Society thus:

The Sanskrit language, no matter in its antiquity, is of an exquisite structure, a lot of good than the Greek, a lot of copious than the Latin, and a lot of finely refined than other languages of the world. As within the classification of language family, Indo–European is that the leading one. I remember Amarnath Jha quotes “J. R. Firth” which concedes the impact of Sir William Jones’ involvement: “Without the Indian grammarians and phoneticians whom he introduced and counseled to North American country, it’s unworthy to imagine our nineteenth century faculty of acoustics.”

A lot of of the nineteenth-century philologists were well-read in Sanskrit. Philologist Max Muller has properly explicit Sanskrit by stating a linguistic without knowledge of Sanskrit language is similar to astronaut without knowledge of arithmetics. He wrote enormous Lectures on the Science of Language (1873), besides his alternative foremost works on Ideological studies.

The traditional comparison within the nineteenth century led classification of language – each kindred and typological. Adolf Von Schlegel introduced the typological classification in 1818. In flexional languages were purported to be superior to the analytical languages. The interest in kindred classification conjointly grew aspect by aspect. Robins justifiably observes as these studies were partly as a results of the stimulant derived from the study of Sanskrit by western students and therefore the demonstrator at the tip of the eighteenth century with Latin Greek and German.

Language studies in Europe during eighteenth century before there was any definite influence of Sanskrit studies on them. W. S. Allen specifies it as follows:

“In acoustics, we seldom recall on the far side names of the nineteenth century – Henry Sweet, A. J. Ellis, Alexander phonetician – except sporadically to honor a couple of lonely and half-forgotten figures of the forthwith preceding centuries.”

So meager had been the contribution of the traditional and mediaeval European phoneticians that W. S. Allen continues to state:
“Generally speaking the expressions of ancient phonetic thought within the west have very little to repay our attention or merit our respect, whereas Indian sources as ancient are infinitely a lot rewarded.”

Among the 20th century linguists Ferdinand de Saussure, linguistic scientist, J. R. Firth, Roman Jacobson and Rulon Wells conjointly seek advice from a number of the traditional Indian linguistic ideas. The affinity between Sanskrit and English languages may be a matter of heritage. In fact, the Gujarati language has emerged out of Sanskrit. It indeed is quite relevant and attention-grabbing to have some historical and phonological details of English and Gujarati language.

2.3 History of Phonology

In prehistoric India, Panini (c. 520–460 BC) a Sanskrit grammarian discussed Sanskrit phonology, named the ‘Shiva Sutras’, wherein discussion on the noteworthy concepts of the phoneme, the morpheme and the bases of the language were illustrated. The ‘Shiva Sutras’ in its fourteen initial lines describes phonemic notational system of the Astadhyayi. These clusters of phonemes assist distinctive roles in the morphology of Sanskrit, and are mentioned to throughout the writing. Ferdinand de Saussure, professor of Sanskrit and father of modern structuralism was greatly influenced by writings in Panini’s grammar of Sanskrit. Latterly, in 1876, a Polish scholar Jan Baudouin de Courtenay, and his student Mikołaj Kruszewski devised the word ‘phoneme’ and his work, though went un-reflected, and is considered to be the base of modern phonology. His contribution to the society is not limited to the theory of the phoneme, he extended his study to phonetic recalled as allophony and morphophonology. His influenced many known scientist with his phonemic studies including Ferdinand de Saussure.

In 1939, the Principles of Phonology were first published by Prince Nikolai Trubetzkoy's which is considered the basis of the Prague School of phonology. Straightly then Trubetzkoy is considered the founder of morphophonology, who was influenced by Baudouin de Courtenay, who first recognized the morphophonology. Trubetzkoy divided phonology into two main streams of research i.e. phonemics and archiphonemics; the former proved to be more nail staking than the latter. Another man Roman Jakobson, who
is considered as the most prominent linguists of the twentieth century, is recognizable figure of the Prague School.

In 1968, two scientists Noam Chomsky and Morris Halle came up with the ideas of The Sound Pattern of English, which later on became the base of Generative Phonology. He characterized that phonological segments are made up of distinctive features. These features were an expanded explanation of earlier effort made by Roman Jakobson, Gunnar Fant, and Morris Halle. The features clearly describes concepts of articulation and perception, and explains the binary values in the form of + or -. Underlying these are two levels of demonstration: fundamental representation and surface phonetic representation. Methodical phonological rules govern how underlying exemplification is transmuted into the actual pronunciation. An important theory: “The Sound Pattern of English” provided infinite stimulus on phonological theory, which led emphasis on syllable and segments of speech. Moreover, the reorganization of morphophonology into phonology, solved and created problems.

In 1969, theory of Natural Phonology was published by David Stampe. In his view, natural phonology is based on a segments of active and suppressed which interact with one another; which are language-specific. Phonological process act on typical features within prosodic segment Rather than acting on segemental length. Prosodic can be measured as a part of a syllable or as outsized as an entire sound. Phonological processes do not follow any sequence of implications, rather they all are unfolded into one another. David stampe’s wife was another well-known phonologist of Europe in that particular era, together with her came Geoffrey Pullum, Natural Phonologists from United States. Lately, it was confirmed that the principles of Natural Phonology were draw-out to morphology by Wolfgang U. Dressler, who also founded Natural Morphology.

In 1976 A new phonetical element was introduced by John Goldsmith, termed as auto segmental phonology. Sequence Phonological segments are limited to operation on operating on singular sequence of segments, known to be phonemes or feature combinations, but rather is a combination of analogous sequences of features which reside on multiple stages. Auto segmental phonology latterly progressed to Feature Geometry,
which led the standards for theories of representation as altered as Lexical Phonology and Optimality Theory.

Another Phonology, which originated in the early 1980s known to be Government Phonology laid an effort to amalgamate theoretical notions of syntactic and phonological features, is based on the concept that all languages unavoidably follow a specific set of principles and fluctuate according to the selected binary parameters. In simple words, the foundation of all languages' and their phonological structures are fundamentally the same, but there is controlled variation that leads to differences in surface realizations. Principles are held to be stable, though parameters may sometimes create some conflict at large. Projecting figures includes many but to list a few are: Jonathan Kaye, Jean Lowenstamm, Jean-Roger Vergnaud, Monik Charette, John Harris, and etc.

In 1991, Alan Prince and Paul Smolensky at a course offered at LSA summer institute in devised Optimality Theory. This theory was considered as architecture of recent phonology in which order of importance to choose a pronunciation of a word lies on language that best fulfils a list of constraints: a lower ranked constraint can be disrupted when the a person intends to speak higher-ranked constraint. The approach was sooner accepted by morphologist: John McCarthy and Alan Prince, and became the prevailing trend in phonology. Though it conventionally goes unnoticeable, Optimality Theory was highly influenced by Natural theory of Phonology; both illustrated terms of constrictions on speakers and their production, formalized in variant ways.

Knowingly Government Phonology and its descendants have greater importance in the United Kingdom, whereas Optimality Theory of phonology is dominant in North America parts.

2.4 Historical Background of Gujarati Phonology

Gujarati is a formal national and regional language of India. It is spoken by almost 4.6 billion people of India, today it is considered to be twenty-third most commonly spoken language of the world. Some 45.5 million people speak the Gujarati as their first language, around the country. In accounting to the world. Gujarati as a language is spoken by millions of people in Tanzania, around 150,000 in Uganda, almost 100,000 in Pakistan,
nearly 50,000 in Kenya, and approximately 12,000 in Zambia. Minor clusters of Gujarati speakers are found in the United States, Australia, Bangladesh, Fiji, Canada, Malawi, Mauritius, Oman, Singapore, South Africa, the United Kingdom, and Zimbabwe. Gujarati was the native language of our Father of Nation: Mohandas Karamchand Gandhi. Gujarati as a Language was originated from ‘Apbhransh’ (Corrupt words) written by Hemchandracharya. Followed is reference3 in Bhalan’s ‘Nalakhyan’ and ‘Dashmskandh’, in which Gujarati was for the first time referred to as ‘Gurjar Bhasha’. But the orientation of Gujarat as a region can be traced from very ancient times. In many old mythical works like Aaburas (1289) by Palhan, Prabhavakcharika (1334) by Prabhachandsuru, Tribhuvandipakprabandh (second half of 15th century) by Jayshekharsuri, Kanhadeprabandh (1512) by Padmanabh and many others have referred to ‘Gujarat’ repeatedly. The famous Italian traveler, Mareo Pollo (1254 – 1324) also referred ‘Gujarat’ in his script. In short, the prints of Gujarat as a region can be traced from the time of King Mularajdev Solanki’s rein.

Basing on the source of Hemchandracharya’s ‘Apbhransh’, the language was urbanized after two to three hundred years, called as old western ‘Rajasthani’ or called as Old Gujarati Bhasha (language). This period to mention is between 1200 to 1500. In opinions by means of Dr. Tessitori, the old Gujarati and old Marawadi languages were so indistinguishable that they were entitled as old western Rajasthani. The development of Gujarati language i.e. From ‘Apbhransh’ to the present modern Gujarati language is been categorized in different phases by different sages. Sated below is the progression chart of Narsinhrao Divetiya.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Entitled</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>Apbhransh</td>
<td>Up to 11th century</td>
</tr>
<tr>
<td>Second</td>
<td>Middle Apbhransh</td>
<td>Up to 13th century</td>
</tr>
<tr>
<td>Third</td>
<td>Old Western Rajasthani</td>
<td>from 1300 to 1550</td>
</tr>
<tr>
<td>Forth</td>
<td>Old Gujarati</td>
<td>1550 to 1650</td>
</tr>
<tr>
<td>Fifth</td>
<td>Medieval Gujarati</td>
<td>1650 to 1750</td>
</tr>
</tbody>
</table>
Sixth Modern Gujarati 1750 onwards

As Gujarati is considered as derivative of Sanskrit, some similar features can easily be traced out. In fact, this periodic futuristic change in Gujarati has been properly concised by Narsinhraov Divetiya. Discussed here are phonological characteristics of each phase which are distinguishable and mentioned below:

Focal physiognomies of ‘Apbhransh’ are: always presence of / r / in consonant segment and hardly remains absent. Now and then / k / is shifted to / g /. Middle ‘Apbhransh’ is the phase of sagging locus of the Hemchandracharya’s ‘Apbhransh’ and the beginning of old Gujarati. A phonologist named Bilhan describes this state of language as censurable. It was noticed that in the old western Rajasthani, the second vowel of a diphthong goes soundless and assists the first vowel to attain more length. Nasalized sounds wherever occurs are drawn to slow and makes the earlier vowel longer.

Diphthongs / әI / and / әu / remain unaffected during this phase of time. They were affected later on, during the period of old Gujarati, wherein the said diphthongsshifted to monophthongs / e / and / әː / shifted to / u / or / ø / at the opening and central position palatal of a word, vowels / I /, / e /, and / j /, / s / was turned to / й /. Premanand, a literary of medieval times of Gujarati marked distinctive characteristics in syntax which are similar to modern Gujarati. Gujarati which is one of the main language of western Indian. With the local population of the state have been importing and trading with foreign traders for the last several years. It is seen that Gujarati language has the huge process of blending with other spoken languages, culture and society at large. No region is found to have its indigenous cultural peculiarities. It should have been the result of coming together. Rock layer and other layers of language are vibrant co-founding from region to region. Resulting to that, the modern Gujarati has its own distinctive features to its parallel languages. Gujarati is a principally Indo-Aryan language of the Indo-European language family. It also said to be closely related to some dialects of Punjabi and Hindi language.

In Gujarat state, enormous number of dialects are spoken viz. Kathiyawari, Sorathi, Surti, Charotari, Kutchi etc. but in condition when Gujarati phonological system is studied comparatively with the other phonological systems then only standard dialects are taken to
consideration. In the present-day picture of multilingual culture, it becomes evident to take a note of unceasing development mechanism of language. One of known linguistic expert of Gujarati language, insists on working on philosophical and practical approach on the standardization of Gujarati. She evaluated in her recent work that we Gujarati people, do not have language ‘border’ such as in France to guard and nurture the language. She further added that very few states in India viz. Tamil Nadu, Bengal, Maharashtra, Karnataka, Andhra Pradesh and Kerala are sensitive and conscious about their languages and cultural heritage. She observed that a small population of Gujarat has adapted Standard Gujarati by all means, all other dialects are concoction of infused languages. However, in her opinion and recent works it is traced Ahemadabad, Mumbai, Rajkot and Bhavanagar are the parts where Gujarati is spoken very close to the standard taught Gujarati dialect.

Partaking the discussion earlier on phases of Gujarati language, herewith we mention significant researches in the last phase of Gujarati phonology. Around 1914, Tessitori penned notes on the Grammar of old western Rajasthani which referred to Apbhramsa and to specifically to Gujarati and Marwadi. The comparative study of these elutes three features of Gujarati phonology:

(i) /ɔI/ and /ɔu/ are transformed to pure vowels /e/ and /ː/.

(ii) In open syllable /I/ and /u/, are articulated as /ɔ/.

(iii) Elision of /h/ sound occurs between two vowels or after nasalized sound. Normally /h/ is not mentioned in the written script but can be heard.

Around 1873, the narration of such [h] was accepted in Narmad’s article namely ‘Narmkosh’. Not only her in 1905, Dr. Dhruv mentioned illustratively about [h] in his work Vagvyapar. He evaluated [h] sound as a found that /h:/ constitutes to breath segment which in turn is separated from its earlier and latterly vowels. R. Turner made significant contributions in Gujarati Phonology. To remark some are:

(i) /f/ is a response of labial outburst.

(ii) The response of the semi–vowel /w/ which is Bilabial; is replaced by a vowel /u/ which is an outburst of labiodental articulation
(iii) /ə/ and /à/ are produced longer in conjunction with palatal consonants /e/ and /ø:/

These were very technical and minute tabulations that were introduced in Gujarati phonology for the first time ever.

A philosopher Narsinhrao Divetiya in 1915 - 16, was invited as an expert to deliver talks as a part of at Wilson Philological lecture, which was later was published in as an article in book 1921. The significant chapters of the talk are already discussed in this chapter.

Then a hiatus came in research of phonology, there after Dr Dave came up with new reform in articulatory phonetics, his work was well recognized and was published in the journal of Gujarat Research society in 1947. Followed by was, a work titled ‘Vagvypar’ by Dr. Bhayani which came up with new ideologies. His work with new fresh ideas was briefly observed around middle of twentieth century. The ideologies presented by him can be summarized as below:

(i) He stated that, /ə/ is the weakest vowel of Gujarati

(ii) Phoneme separation is not the reason of short or long vowel in Gujarati.

(iii) Peculiarly Gujarati’s, use voiced consonants anteriorly with nasal consonants

A theory with note able impact gloomed up during 1930-60, namely Bloomfield’s structural linguistic theory. It was Pandit Prabodh who considered Gujarati phonology through this trait. Sooner a new theory of generative grammar was revolutionized by Noam Chomsky which gave a new ideology to concepts of acoustic features of phonology. It is note taking that Pandit’s work was published during the evolution period that generated a some outdated ideologies of the that time. His contribution to the field of phonology and linguistic includes his major works around 1957 on Nasalization, Murmur and Aspirations in Gujarati.

His book “Current Issues in Linguistics” is also extraordinary remarkable, a point of reference for the coming compeers. His key findings is mentioned herewith:
(i) He in 1957 mention that (/ f /, / tʰ /, / Θ /, / t h /, / k h /, / b h /, / ð /, / z /, / g /) are not phonemes. Latterly in his followed book he accepted them as phonemes.

(ii) In a vowel, with the sound / h /, it is shifted to murmur vowel; and the same /h/ sound in consonant, it is shaped to voiced affricate consonant.

So he considered that / h / has two allophones: one [h:] = murmur and second [h'] = voiced.

/ e /, / æ /, and / aː /, / ɔː /, vowels are middle phonemes.

/ ə /, / aː / are the sounds which can be nasalized and murmur.

/ m /, / n /, / nʰ / and nasal are four nasalized phonemes.

The nasal has four allophones: / n /, / nʰ /, / ə /, / ž /.

“Gujarati Phonology and Phonetics” thesis by Dr. Dave from Cornell University in around 1967 is in parallel with of Dr. Pandit theories and approaches. Dr. Pandit’s mentor Jorgensen Eli Fischer in 1967 came up with a very novel approach in the field and titled it as “Phonetic Analysis of Breathy Vowels in Gujarati”. In his work first illustrated the importance and fundamentals of the frequency, the intensity and the duration of vowels. Looking into his work Dr. Modi added:

“He precisely noted that all the Gujarati speakers do not produce murmur (Breathy Vowels) in similar fashion, though he (Jorgensen) is not a Gujarati man.”

Around 1978, Dr. Vyas’s research in the prosodic phonology method of Firth, and treated murmurs as h-prosody came into existence. During this spell came a time that more foreign philologists were attracted to theory and work carried out here especially Pandit’s work towards murmur. Then after, following the said ideologies three researcher’s namely Langniser, Loders and Schiefer from Munikh, organization of phonology presented their work on “the Acoustic study of Murmured and Tight Phonation in Gujarati Dialects”.

Moving further, around twentieth century came new wave of Scientific and fundamental approaches given by Dr. Bharati Modi, P. J. Mistry and Babu Suthar. Dr. Modi’s underwrote on “Some Problems of Gujarati Phonology” provided significant and authentic approaches to Gujarati phonology. Her work also includes some novel articles on
“Laryngeal Dimensions in Gujarati phonology” in 1989, “Voice Quality and Moulding of Phonologies: Substantial Evidence” in 1991, “The Phonetics and Phonology of Mid-vowels” in 1994 etc.. One of her books “Standardization of Gujarati” in 1995 is the greatest work on phonology. Coherently, P. J. Mistry’s work on Gujarati Phonology is well admired and can be studied on International Phonetic Association’s website. Mistry’s penned work on ‘Gujarati’ and ‘Gujarati Phonology’ has found a place in the International Encyclopedia of Linguistics and An Encyclopedia of the World’s Major Languages. Then came, Babu Suthar’s work on ‘Gujarati’ in George Cardona’s which is well attributed contribution to the Indo- Aryan Languages. He also devised online dictionary on Gujarati English Dictionary, his draft includes pages on phonology and grammar.

2.5 Gujarati Vowel System

In this section of the chapter, discussion on the vowel system of Gujarati phonology is well addressed. Gujarati phonology, has no systematic or we can say well drafted standards. It has been observed, every Gujarati philologist have specified diverse views on features and accent of Gujarati phonology. Over then, each of the philologist worked in Gujarati phonology scripted that there are eight (8) pure vowels and six (6) diphthongs. The eight pure vowels of Gujarati are: /ә/, /ɑ/, /ɪ/, /u/, /ɛ/, /æ/, /ɛ/. The six diphthongs of Gujarati to mention are: /aɪ/, /oɪ/, /au/, /uɪ/, /əɪ/, /əu/. Jayant Kothari in his previous work stated, the description of only six vowel as mentioned below:

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper</td>
<td>i</td>
<td>u</td>
<td></td>
</tr>
<tr>
<td>Middle</td>
<td></td>
<td>ə</td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>æ</td>
<td>a</td>
<td>ə</td>
</tr>
</tbody>
</table>
Dr. Bharati Modi work’s on dialects specified about the two major dialectal belts of Gujarati specifically i. Tight phonation dialect area and ii. Murmured dialect area. She clearly specified that the region around Ahmedabad to Baroda, Bhavnagar to Rajkot and upto Southern parts of Gujarat produces eight pure vowels whereas regions of southern Gujarat bordering on to Mumbai and including Jamnagar produces six vowels.

![Diagram showing approximate divisions of six/eight vowel areas]

Likewise, Babu Suthar’s work has listed eight vowels in his latest Gujarati-English Learner’s Dictionary as mentioned:

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>Close</td>
<td>i</td>
<td></td>
<td>u</td>
</tr>
<tr>
<td>Close-mid</td>
<td>e</td>
<td>ə</td>
<td>o</td>
</tr>
<tr>
<td>Open-mid</td>
<td>ɛ</td>
<td></td>
<td>ɔ</td>
</tr>
<tr>
<td>Open</td>
<td>a</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2.5.1 Front Vowels of Gujarati:

The foregoing discussions on Gujarati vowel system highlights certain peculiarities which stated in this section. Gujarati phonology at first glance clearly accepts four vowels: /i, e, æ, a/, whereas accepted only two front vowels: /i, e/. It also mentioned that, /ɛ/ is not accepted as vowel by many researchers. Such discussion will addressed later in this chapter. Following that an effort is been made to clearly define articulation of each vowel of Gujarati phonology:

2.5.1.1 [i]

Gujarati phonology describes only one phoneme /i/ contrary to English phonology /i:/ and /I/. It is also noted from earlier discussion and studies that the Gujarati people tend to produce the vowel /i/ as a replacement for /i:/ and /I/ of English vowel i.e. they do not distinguish between long /i:/ and short /I/ even in their speeches. For example,

<table>
<thead>
<tr>
<th>The Word</th>
<th>Pronounced According to English Phonology</th>
<th>Pronounced According to Gujarati Phonology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reach</td>
<td>/riːtʃ/</td>
<td>/r̥i tʃ/</td>
</tr>
<tr>
<td>Win</td>
<td>/wɪn/</td>
<td>/vɪn/</td>
</tr>
</tbody>
</table>

As per the discussion made by Vyas in his thesis, he stated that, “/i/ is produced with the back part of the tongue raised towards the upper molars. The lips are loosely (slightly) spread; without having more movement that is found in pronouncing English /i:/”.

Moreover, also mention that /i/ is not in the close and front position like the English /i:/ and not even near the center like the short English /I/ but it is in between; front and center (slightly near to front) and close and half close position.
This is not be addressed as the people of Gujarat cannot articulate /i:/, they can do when they intent to. In their normal mode of speaking, vowel / i: / usually remains absent and only / i / as mentioned earlier, is frequently encountered.

2.5.1.2 [e] and [ɛ ]

According to Gimsons’ Pronunciations of English, English phonology comprises of two basic second and third vowel as / e / and / æ /. Their articulation manner in English as below:

/ e /:

For the short Received Pronunciation / e /, the front of the lingual is upstretched between the close-mid and open-mid positions; the lips are wide spread apart and are slightly wider apart than for / I /; more pressure of the tongue is applied then in the case of / I /, the margins of the lips coming in contact with the upper molars

/ æ /:

For / æ /, The mouth is opens more wider than for usually for / e /; the front portion of the tongue is upstretched to a halfway between open and mid-open position, with
the lips making a contact with back upper molars; in such condition lips are impartially open.

The figure below explicates the manner of articulation of both the vowels.

(English /e/ and /æ/)

Thus it is noteworthy that, Gujarati speakers when compared to English speakers articulates / e / and / ë /. On the other hand, / e / is produced frequently, in comparison with the vowel / ë /. In Gujarati as well as English phonology, both the vowels like / e / and / ë / are accepted as the lower front vowels as mentioned by Jayant Kothari. He also mention that, the people of Gujarat frequently pronounce only one vowel / e / in their day-to-day English as well as in Gujarati communication. R. Turner also made some observations on the use of vowels by Gujarati, he mentioned that when a palatal consonants are pronounced / e / is gradually shifted to / æ /. In addition, / e / and / æ / were mentioned as middle phonemes by Prabodh Pandit in his recent work. In studies conferred by Dr. Bharati Modi and Dr Babu suthar they preferred / e / as close- mid vowel sound and / ë / as the open- mid vowel.

Usually to pronounce the vowel / e /, the forward-facing part of tongue comes in contact the upper molars and is positioned between half close and half open position, though
reasonably more towards half close position. Simultaneously Lips are observed to be loosely spread.

(Gujarati vowel / e/)

The backward vowels /æ/ or say /ɛ/, though recognized and mentioned altogether in Gujarati phonological system, but found to be absent in conversation of Gujarati speakers. In previous studies, it is marked Gujaratis don’t pronounce /æ/ with clarity. Rather it pronounced in by them only with consciousness’s. For example in the words stated below Gujarati speakers do not pronounce /e/ and /æ/ with peculiarly when required.

<table>
<thead>
<tr>
<th>The Word</th>
<th>Pronounced According to English Phonology</th>
<th>Pronounced According to Gujarati Phonology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bat</td>
<td>/ b æ t/</td>
<td>/ bet /</td>
</tr>
<tr>
<td>Pen</td>
<td>/ pen /</td>
<td>/pen /</td>
</tr>
</tbody>
</table>

2.5.2 Central Vowels

When talking about English phonology, they use three distinctive phonemes /ә/, /3:/ and /^/ whereas in Gujarati phonology only one phoneme /ә/ is used. Understood as [ә] and
[^], the two being used comprehensively in Gujarati Phonology. As per the references, the articulation manner described is as:

/[^]/:

The shortly pronounced /[^]/ is articulated with a some space between the jaws and lips open simultaneously; with consciously no separation between tongue and molars, the tongue is raised from the center to full open position.

/ɔ:/

The pronunciation of /ɔ:/ is articulated with neutral lip position with tongue moving upwards in between open mid and close mid has a very high rate of recurrence of occurrence in unaccented syllables. It has coherent quality of a central vowel.
In discussion to above, it is clear that Gujarati phonology system comprises of only one vowel /ə/ instead of /ə/, /ɜ:/ and /ʌ/ vowels of English. The reason may be, the phoneme /ʌ/ is very much twisted or accented syllables, while Gujarati speakers are not accosted to such accented syllable length.

As per discussion, by one of the Gujarati Phonologist, he stated vowel /ə/ as the weakest of Gujarati phonological system. Dr. Bhiyani also confirmed that Gujaratis do not have this habit of making the pronunciation of /r/ silent, if it is not followed by a vowel. In such cases, they do not utter /r/ and which accounts to shortened the length of vowels.

Therefore, the articulation of the vowel /ɜ:/ is mostly goes unrecognized.

The articulation manner of /ə/ is shown in the figure below:

<table>
<thead>
<tr>
<th>The Word</th>
<th>Pronounced According to English Phonology</th>
<th>Pronounced by people of Gujarati Phonology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luck</td>
<td>/lʌk/</td>
<td>/lək/</td>
</tr>
<tr>
<td>Purse</td>
<td>/pɜːs/</td>
<td>/pərs/</td>
</tr>
</tbody>
</table>
From the above examples it is seen that Gujarati speaker do not pronounce / ā /, / ə / and / o / with difference.

Thus, the vowel / ə / is the only clearly defined central vowel of Gujarati phonological system.

### 2.5.3 Back Vowels

For English phonology, four principal vowels in the backward position are [a, ɔ, o, u], whereas Gujarati phonology constitute to have three back positioned vowel as / a, ɔ, u /.

The production of the above mentioned vowels in terms of articulation is described as below:

#### 2.5.3.1 [a]

The foremost back vowel of Gujarati phonology vowel / a / is considered to be centre lower vowel by Jayant Kothari, while the Babu Suthar mentions it to be an open-front vowel.

The examples stated below gives a clarified notion that Gujaratis don’t pronounce / a: / and wherein / a: / is distinctively replaced by / a /.

<table>
<thead>
<tr>
<th>The Word</th>
<th>Pronounced According to English Phonology</th>
<th>Pronounced According to Gujarati Phonology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last</td>
<td>/ la: st/</td>
<td>/ last /</td>
</tr>
</tbody>
</table>

#### 2.5.3.2 [ɔ] and [o]

In further discussion about the cardinal vowels / ɔ / and / o /, Jayant Kothari and Babu Suthar again hold different opinions, the former accepts only cardinal vowel for Gujarati phonology whereas latter says Gujarati phonology has existence of both the vowels distinctively. Babu Suthar also describes / ɔ / as the back- open mid vowel while Jayant Kothari states this as a back- lower vowel. Regardless, it is observed that Gujarati are
frequently using both the cardinal vowels distinctively in their English speech. Of course, to mention some wherein English speech is not used in their daily affair, in such cases without being much conscious, the articulation of the said vowels is not so distinctive. Thus, we consider /ɔ/ to be back vowel of Gujarati system, slightly higher in pitch than Indian English and the lips are rounded. The length of the vowel is much shorter in correspondence and the manner of production is as shown below:

![Diagram](image)

(Gujarati phonology vowel /ɔ/)

Herein, stated are some examples in which the recorded words under Gujarati Phonology do not produce /æ/ and /ɔː/ with clarity.

<table>
<thead>
<tr>
<th>The Word</th>
<th>Pronounced According to English Phonology</th>
<th>Pronounced According to Gujarati Phonology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Box</td>
<td>/bâks/</td>
<td>/bâks/</td>
</tr>
<tr>
<td>All</td>
<td>/ɔːɭ/</td>
<td>/al/</td>
</tr>
</tbody>
</table>
2.5.3.3 /u/

As known that Gujaratis, have difficulty in producing accented vowels thus in Gujarati Phonology, they only produce the phoneme /u/ and /u:/ which is distinctively produced in English Phonology is replaced by /u/ in Gujarati.

In Gujarati phonology, the phoneme /u/ is produced at back in turn the back vowel /I/ is placed at the front. During articulation of the vowel /u/, no simultaneous contact is observed in between the tongue and the upper molars. The positioned of the lips is closely rounded and not so tensed as compared to /u:/.

In continuation with earlier discussions, the examples here clearly signifies that Gujarati speakers do not pronounce /u/ and /u:/ with distinction.

<table>
<thead>
<tr>
<th>The Word</th>
<th>Pronounced According to English Phonology</th>
<th>Pronounced According to Gujarati Phonology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Book</td>
<td>/Buk/</td>
<td>/buk/</td>
</tr>
<tr>
<td>Zoo</td>
<td>/Zu:/</td>
<td>/Zu:/</td>
</tr>
</tbody>
</table>
2.5.4 Diphthongs

The slippage of the vowel in a syllable segment is considered as Diphthongs. Diphthongs are conjugation of two vowels, its pronunciation requires much amount of energy. Most of the stress is utilized to pronounce first vowel. In the Gujarati Phonology or for the beginners of speaking English, the greatest difficulty is to pronounce diphthongs properly, with its proper placements. In English pronunciations eight diphthongs are considered though Bansal accepts six diphthongs in his book- Spoken English of India where in Gujarati only six diphthongs are listed in reference to Vyas’ work. Though six diphthongs are listed in Gujarati pronunciation system, but when spoken most them are not pronounced with clear distinction. While pronouncing the first vowel, the utterance is very much clear but in line to glide from first vowel to second vowel usually their tongue slips, and the vowels are uttered as semivowels viz. /j/ or /w/ or mostly only first vowel is pronounced.

2.5.4.1 /ɪ/ Ended Diphthongs

Mostly used in English pronunciation are three /ɪ/ ended diphthongs - /eɪ/, /aɪ/, and /ɔɪ/. These three /ɪ/ ended diphthongs are not properly fashioned according to Gujarati phonology. When pronounced Instead of - /eɪ/, /aɪ/, and /ɔɪ/, they are pronounced as /ej/, /aj/ and /ɔj/. This happens because their tongue slips while pronouncing two vowel segment in conjugation diphthongs. As discussed earlier also in Gujarati pronunciation, mostly the second vowel is pronounced a semi-vowel. Thus in turn the second vowel of the diphthongs /ɪ/ is not properly produced by them. The reason is the first vowel length is longer than the second vowel, so in glide to pronounce second vowel they end up in pronouncing /j/ instead of /ɪ/ in speeches. This shift or glides of speech is observed in recorded speeches of most of the dialects of Gujarati. For proper understanding, the table given below illustrates examples of the differences:

<table>
<thead>
<tr>
<th>The Word</th>
<th>Pronounced According to English Phonology</th>
<th>Pronounced According to Gujarati Phonology</th>
</tr>
</thead>
</table>


2.5.4.2 /u/ Ended Diphthongs

In English phonology, two /u/ ended diphthongs: /au/ and /әu/ are considered; and in Gujarati phonological system, only one diphthong /au/ is pronounced properly.

Usually /әu/, is not pronounced with clarity. As a matter, they pronounce /ә/ instead of /u:/ as seen in English pronunciation’s. For an example, the word ‘close’ is pronounced as /klәuz/ by frequent English speaker. But by Gujaratis’, it is pronounced as /klәz/ or may be as /klo:z/.

The diphthong /au/ is distinctly pronounced in Gujarati phonological system, when it has to be placed at the center of the word. Usually when at the end position, the second vowel /u/ is reflected as semi-vowel /v/. Consequently, instead of /au/, /av/ is pronounced, when to uttered at end position of the word. In the table given below, the example clarifies the discussions:

<table>
<thead>
<tr>
<th>The Word</th>
<th>Pronounced According to English Phonology</th>
<th>Pronounced According to Gujarati Phonology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Now</td>
<td>/nau/</td>
<td>/nau/</td>
</tr>
<tr>
<td>About</td>
<td>/әbaut/</td>
<td>/әbaut/</td>
</tr>
</tbody>
</table>

2.5.4.3 /ә/ ending diphthongs

In Gujarati pronunciations, /ә/ ending diphthongs of English: /әә/, /әә/ and /әә/ are condensed and turned into monophthong. Moreover, the /әә/ diphthong is replaced with /
Ij /; the second vowel /ə/ of the diphthong is shifted with the semi-vowel /j/. Hence it observed that Gujarati speakers are enable to pronounce, the diphthong /Iə/ with clarity.

Again, in the case of /εə/ diphthong as per the habits of Gujarati speakers, the diphthong is turned into a monophthong. As said earlier also, /ə/ of the diphthong is not uttered with required energy by them, so there in the vowel /ε/ is only heard.

Coming to the third diphthong /uə/ of the phonology, in this regard it is observed that, mostly this diphthong is pronounced with proper energy and clarity. Occasionally is some dialects of Gujarati, the diphthong is made shorter and only /u/ monophthong is pronounced instead of /uə/.

A well-known Gujarati Phonologist Harivallabh Bhayani, stated that the vowel /ə/ known as schwa is the shortest and the weakest vowel in Gujarati Phonology. This may be a reason that the second vowel /ə/ of the diphthong is not uttered and the vowel is begin neglected during everyday speech habits in these three /ə/ ended diphthongs.

<table>
<thead>
<tr>
<th>The Word</th>
<th>Pronounced According to English Phonology</th>
<th>Pronounced According to Gujarati Phonology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hair</td>
<td>/heə/</td>
<td>/her/</td>
</tr>
<tr>
<td>Rarely</td>
<td>/reəlI/</td>
<td>/rerI/</td>
</tr>
<tr>
<td>Poor</td>
<td>/puə/</td>
<td>/puər/</td>
</tr>
</tbody>
</table>

### 2.5.5 Triphthongs

A triphthong is a conjugation of three vowel together in a sequence. When pronounced properly, it takes a glide from one vowel to another and then to the third vowel without any interruption. Thus triphthongs are considered as complex sounds of spoken languages and are very difficult to recognize. For an example, an enunciation of the word ‘hour’ begins with a vowel quality similar to /ə:/ that goes on to a glide towards the back close rounded area (for which the special symbol is used /ʊ/), and then ends with a mid-central vowel
(schwa, /ə/). /əʊə/ is the symbol to represent the way ‘hour‘ is pronounced, but Peter Roach adds though symbolically it represents three vowels but it is not always pronounced in similar fashion.

It is really note taking that till date no Gujarati philologist has noted the production of the triphthong. The reason accounts that Gujarati Speakers are not familiar to produce long vowels. Hence forth, there is no system of triphthongs in Gujarati phonology and thus it is not been examined here also. Peter Roach notifies that other languages of the world face same problems while studying and pronouncing triphthong, the statement penned in his studies, as per the mentioned reference is noted below:

“The principal cause of difficulty for the foreign learner is that in present-day English the extent of the vowel movement is very small, except in very careful pronunciation. Because of this, the middle of the three vowel qualities of the triphthong (that is, the /l/ or /u/) part can hardly be heard and the resulting sound is difficult to distinguish from some of the diphthongs and long vowels. To add to the difficulty, there is also the problem of whether a triphthong is felt to contain one or two syllables.”

For better understanding, the explicit words such as ‘fire’ /fələ/ or ‘hour’ /aʊə/ are likely heard to produce only one syllable, whereas ‘player’ /pleɪə/ or ‘slower’ /sləʊə/ are probably heard to produce two syllables. As discuss earlier, the Gujarati speakers are also not habituated to make /r/ silent if not followed by vowel. This may be one of the reason why the triphthong recognized in Gujarati phonology.

Concisely speaking, Gujarati phonological system comprises of 6 monophthongs, 2 diphthongs and no triphthongs in comparison with English Phonological system that comprises of 12 monophthongs, 8 diphthongs and 5 triphthongs. In general it concludes that Gujarati Speakers are not tent to produce long vowels.
References


15. Ibid, p.101
16. Ibid, p.103
17. Ibid, p. 24
18. Ibid, p. 25
19. Ibid, p.116
20. Ibid, p.117
21. Ibid, p.106
22. Ibid, p.114
23. Ibid, p. 128
24. Ibid, p. 120
25. Ibid, p. 122
26. Ibid, p.123
27. Ibid, p. 125
28. Ibid, p. 131
29. Ibid, p. 133
30. Ibid, p.17
35. Suthar B. Gujarati – English Learners’ Dictionary: Second Draft, Philadelphia: A Nirman Foundation Project, Department of South Asia Studies, University of Pennsylvania, p. 8