

ARTICULATORY ANALYSIS OF THE /a/ VOWEL PRODUCED BY MALAYALIS IN INDIAN ENGLISH: AN ORTHOGRAPHIC COMPARATIVE STUDY BETWEEN MALAYALAM & ENGLISH

Abstract

This research paper shows the psychological lengthening of the /a/ sound to /a:/ among Malayalam speakers. The paper looks into the articulation of the proper nouns written in English orthography, in Indian English. Using the theoretical framework of the Exemplar model, assuming that we have access to phonetically and contextually rich memories of our previous language experiences when it comes to speech production and perception. This research paper scrutinizes the lengthening of the vowel, /a/, in which position, whether only in proper noun, what could be the argument for the same.

Keywords: Exemplar Model, Vowel lengthening, Orthographic Mapping, Inherent vowel, Extra short vowel.

Author

Anupama. T
Ph.D. Linguistics & Phonetics
The English and Foreign Languages
University
Hyderabad, India.
anupamaphdlandp21@efluniversity.ac.in

I. INTRODUCTION

This exploration paper as its title indicates examines the production of the vowel /a/ in Indian English by the Malayalam-speaking community and the eventual lengthening of the vowel to /a:/ in proper nouns and trying to understand the possible reason for the same by comparing the orthography of Malayalam and English. This research study was conducted among the Malayalam-speaking community of The English and Foreign Languages University (EFLU), Hyderabad; to understand how orthographic mapping of /a/ sound happens, resulting in its production leading to the lengthening and realizing as /a:/ when reading out the proper nouns written using English orthography. A word list was given to the participants and asked to read it out loud, the articulation of each sound and the word as a whole were observed to deduct the orthographic mapping of the word by the participants. According to Ethnologue, the Malayalam script is used to write the Malayalam language of Kerala state. In Kerala, it is also commonly used to write Sanskrit literature. The Malayalam script, which originally descended from Brahmi, is a Vatteluttu alphabet that has been expanded with symbols from the Grantha alphabet to represent Indo-Aryan loanwords. It has incorporated Tamil, Sanskrit, Arabic, and English vocabulary throughout its history. Due to printing issues, Malayalam underwent an orthographic change in the 1970s and 1980s. Malayalam orthography is regarded as having a phonemic structure. It implies that the language's phonemes and graphemes are mutually exclusive. However, there is some variation in how closely graphemes and phonemes coincide.

Graphemes' pronunciation can change depending on where they are in a word—beginning, middle, or end—and how close they are to other Graphemes. Like all alphabets written in the Brahmi script, the consonants in Malayalam are arranged according to the location and mode of articulation. The vocal tract allows unobstructed airflow from the lungs above the larynx while articulating vowels. Consonants, however, are articulated by velum, tongue, teeth, lips, and other articulators that wholly or partially block airflow. Though in this study the words provided are having English orthographic symbols, the words are proper nouns, and how the relation of Malayalam orthography has a link with the articulation of the words is inspected.

II. METHODOLOGY

The methodology followed in this research is the variationist idea of providing a word list to the participants to understand how they would articulate and produce the sound. The Malayali students were considered in this study from The English and Foreign Languages University, Hyderabad. Thirty students from the university whose mother tongue is Malayalam are considered in the study. Equal distribution of male and female participants was included. The participants were between the ages of 18 to 30. A list of words was given to the participants. The list of words includes different categories of words, both Indian-origin and foreign words were included.

The words given in the word list are as follows:

- Abound, Chandigarh, Arav, Appreciation, Abundant, Bandage, Bar, Adorable, Pilathara, Komali, Abaya, Warangal, Camera, Samanya, Walnut, Attingal, Bajpur, Malavika, Parvita, Malur, Sausar, Mat, Xavier, Vanaja, Zahara.

- A total of 25 words were given to read out loud which mainly contains proper nouns with the alphabet 'a' in different positions. Whether the sound /a/ is articulated as /a:/ was observed closely. The participants were given time to come up with their pronunciation of the word, no prompt was given to the participants.

III. LITERATURE REVIEW

The magnitude of orthographic effects on second language (L2) speech production in seasoned L2 speakers is still little understood, despite a recent rapid increase in research on the topic (Bassetti, Hayes-Harb & Escudero, 2015). The majority of research to date has examined how novices' or new languages' orthographies affect speech production (Browning, 2004; Rafat, 2011). (Davidson, 2010; Hayes-Harb, Nicol, & Barker, 2010; Pytlyk, 2011; Young-Scholten, Akita, & Cross, 1999). When experienced L2 speakers are studied, research focuses mostly on how they create innovative words and pseudowords (Escudero, Hayes-Harb, & Mitterer, 2008; Escudero & Wanrooij, 2010). Descriptive studies, which frequently look into beginner learners, and experimental research both focus on the early stages of L2 learning. This is because using artificial languages or pseudowords enables researchers to control confounding variables and to address the acquisition of a wider variety of phonemes. However, relying too heavily on novices, unfamiliar languages, and pseudowords could lead to an overestimation of the effects of orthography on phonology. As an illustration, earlier research on bilinguals discovered orthographic effects with L2 pseudowords but not with known words (Piske, Flege, MacKay, & Meador, 2002). Additionally, several research simply looked at one feature of L2 speech production, such as spirantization (Zampini, 1994), flaps (Vokic, 2011), or word-final voiceless consonants, to determine how orthographic influences on that aspect of speech production (Young-Scholten, 2002). Therefore, research on various orthographic impacts on real-world production by experienced learners is necessary.

IV. DESCRIPTION OF VOWELS

Vowels are spoken sounds made by the vocal tract when there is only a small amount of constriction in the oral or pharyngeal cavities (Jones, 1934; Olive, Greenwood, and Coleman, 1993; Shriberg and Kent, 1995). Consonants often have shorter durations than vowels, which are typically voiced sounds. Vowels can be classified according to several articulatory characteristics, such as front, central, and back, which are based on the relative positions of the tongue in the oral cavity; high, mid, and low, which are based on the tongue height; spread, rounded, and unrounded, which are based on the shape of the lips; closed and open, which are based on the degree of vocal tract opening; nasal and oral, which are based on the position of the soft palate; Based on how long they last, vowels can also be classified as short or long. Monophthongs and diphthongs are additional categories for vowels (mono in Greek means one and phthongos indicates voice/sound) (di means two). Diphthongs (/aɪ/ in kite) are combinations of two sounds, whereas monophthongs (/i/ in sit) are single sounds.

V. MALAYALAM SCRIPT

The earliest known example of Malayalam written in Vattezhuthu is around 830 AD. The Grantha alphabet, a script for Sanskrit, gave rise to the contemporary Malayalam script.

Grantha and Vattezhuthu both derive from the Brahmi script. The alphabetic script used in Malayalam is called abugida. Consonant-vowel sequences are thus represented as a unit, with vowel notation acting as a supplementary element. Each unit is based on a consonant or conjunct letter. Vowel notations that alter consonants take the form of vowel signs or diacritical marks. Vowels only have a separate life at the beginning of words. The Brahmic family of scripts from South and Southeast Asia shares this common trait. The intricately shaped ligatures created by the consonants and conjuncts with signed vowel forms give the script its distinctiveness. A string of two more consonants is used to create conjunctions. The constituent consonants of the conjunct grapheme typically blend smoothly in shape.

1. Characteristics Of Malayalam Script: The modern Malayalam script includes numerous numerals, measurement units, and other symbols along with 18 vowels and 39 consonants. Some have an antiquated nature. The general characteristics of the script from its inception can be summarised as follows:

- The fundamental building blocks of Malayalam script are vowels and consonants.
- You must use the initial vowel form of a vowel if it occurs at the beginning of a word.
- Vowels can exist on their own in their most basic form, known as an independent vowel. In Malayalam, vowels include /a/, /a:/, /u/, /u:/, etc.,
- Consonants usually have an inherent a-sound (/a/) unless they are distinguished by a separate dependent vowel or "cut off" with a specific marker, such as a little crescent-shaped sign, like the symbol. In Malayalam, consonants include /ka/, /ṭa/, /ga/, /ḍa/, etc.,
- Use dependent vowels when combining consonants and vowels. You can alter a consonant's natural a-sound by adding a dependent vowel marker to denote the new vowel.
- Any vowel sound linked with a consonant other than /a/ is represented as the consonant's signed form. The vowel marks can be placed about a consonant either left, right, or both. Some signals change the basic grapheme's shape. Examples of consonants that have vowel marks are /ki/, /gu/, /ḍ^he/, /ḍ^o/, etc.
- In the script, the unique character virama (schwa) denotes the removal of inherent /a/ in a consonant. Consonant with the virama sign would be ka^{v} /kə/. In addition to removing the natural /a/ sound after a consonant, virama also indicates that no vowel sound follows.
/ka/ + /ə/ = /k/
- Virama is used to join a series of consonants to create a conjunct.
/ka/ + /ə/ + /ṭa/ → /kṭa/
/ga/ + /ə/ + /ḍa/ → /gḍa/
- Every conjunct can be connected to another consonant using virama to construct a longer conjunct.
/gḍa/ + /ə/ + /ḍ^ha/ → /gḍḍ^ha/
- Every conjunct can be changed by adding a vowel sign to create a new ligature, as in:
/gḍa/ + /ə/ + /ḍ^ha/ + /u/ → /gḍḍ^hu/
- Conjuncts are formed by consonants, some of which have signed agreements.
/ka/ + /ə/ + /ra/ → /kra/
/ka/ + /ə/ + /la/ → /kla/

/ka/ +/ə/ + /ja/ → /kja/

/ka/ +/ə/+ /va/ → /kva/

/ra/ +/ə/ + /ka/ →/rka/

- Some consonants have a special grapheme called chillu (consonant cluster in coda position) that represents them in their purest form.

/kk/, /ll/, /ŋŋ/, /ɳɳ/, /ll/, /rr/

- 2. Vowels In Malayalam:** A phone refers to certain phoneme occurrences in spoken language. A phoneme is a language's smallest unit of meaningfully unique sound. The phoneme set differs significantly between languages. Around 150 phones are defined by the International Phonetic Alphabet (IPA) across all languages. There are about 44 phonemes in English. A 50-member phoneme set in Malayalam is made up of 11 vowel phonemes, 2 diphthongs, and 37 consonant phonemes.

The vowels are created by stimulating a vocal tract shape that is largely fixed with quasi-periodic air pulses brought on by vocal cord vibration. By altering the lip and tongue's form and position, a variation in sound is produced. Diphthongs are thought of as a mixture of vowels that occur when a smooth transition between vowel configurations occurs. There are 11 monophthongs and 2 diphthongs in Malayalam. The 10 vowels are divided into four front vowels ([i], [i:], [e], [e:]), two center vowels ([a], [a:]), and four rear vowels ([u], [u:], [o], [o:]) based on how they are pronounced. The often-used semivowel (/ə/) should ideally be regarded as either a distinct phoneme or an allophonic variant of /u/.

- 3. Vikarma / Schwa:** Many Malayalam words end in a unique vowel type that we'll refer to as the echo vowel (also called a schwa). Consider it a unique dependent vowel that resembles a half-u sound. Echo vowels don't have a beginning form. A little crescent located above and to the right of a fundamental consonant (◌̣) serves as the indicator. The echo vowel is just another vowel sound that appears towards the end of a word, which is where it most usually appears.

The inherent final a-sound in a consonant is nevertheless removed using the same symbol in the contemporary Malayalam script. As a general rule, the echo vowel should be treated as a half-u vowel sound if it occurs at the end of a word; otherwise, it should be treated as a consonant cluster if it occurs amid a word. The difference should be demonstrated with a few straightforward instances and transliteration.

There is another approach to eliminate the consonant's natural a-sound. It's known as a chillakshara or chillu letter in Malayalam, which is the consonant cluster in the coda position of a syllable usually found at the end of a word. For popular words with consonant endings, a vertical line is created to show that the a-sound is eliminated. Although the echo vowel functions similarly in theory, it is preferable to handle it as a vowel in practice. The chillu letter is necessary when words finish in one of the following consonants. They have the same impact when employed in the middle of words as well. The echo vowel and a chillu marker are consequently not the same, although being connected.

VI. RESULTS

The following results were concluded after the introspection of the articulation of the word list provided in the research study:

- Though the majority of the participants were not accurate about the pronunciation of the English words, it was fair enough as per the Indian English accent.
- While articulating the proper nouns of Indian English origin, the speakers tend to elongate the /a/ vowel to /a:/.
- For proper nouns like that of the place name, for instance, ‘Chandigarh’ the /a/ sound was mispronounced as /a:/.
- In the case of the proper noun, like the name of a place, for example, ‘Pilathara’ in the second syllable onset positioned /a/ sound was articulated as /a:/ accurately though in the orthography there was only one a; nevertheless, in the subsequent /a/ sound were not produced as /a:/.
- It is observed that the vowel lengthening happens in both onset and nuclei positions in a syllable while not in a coda position.
- Participants for whom the set of words was not novel, had articulated the proper nouns correctly without fail.

VII. RESULT ANALYSIS

From the result of the study, it was concluded that the probable reason for the vowel lengthening of /a/ to /a:/ by the Malayalam speakers in the Indian English of the proper nouns could be due to the inherent /a/ sound in the consonant of the Malayalam orthographical script. As per the Malayalam script, the consonant has an inherent /a/ sound unless specified otherwise with the marking of the vikarma/ or the schwa sound. Hence, in Malayalam orthography, an /a:/ sound (ഓ, ഐ in Malayalam orthography) is inserted when a consonant needs to have the dependent vowel /a:/. Whereas in English orthography there isn't any inherent /a/ sound in its consonants and thus when required the alphabet A used to achieve this goal. Thus, when the Malayali adapt to the Indian English orthography, they automatically presume an /a:/ sound when a consonant is succeeded with an alphabet A in the Indian English orthography of the proper nouns. Due to the influence of the L1 (Mother tongue) influence of Malayalam orthography in the orthography mapping of the L2, Indian English, the Malayalam speakers assume the vowel lengthening of /a/ to /a:/.

The apparent reason for the absence of vowel lengthening of the /a/ sound to /a:/ in the coda position or word ending can be attributed to the fact that in Malayalam orthography, the word doesn't end with a vowel grapheme; though it can end in a /a/ vowel sound, where the vowel sound should be attributed to the inherent /a/ sound in the consonant and as discussed, the inherent /a/ sound is removed with the help of vikarma.

VIII. LIMITATION

Major limitations to this work are that the data sample is collected only from one single university with limited participants and assuming that to be the articulatory pattern of

the whole of the Malayali community. Another limitation of the survey is the restricted age of the participants, as participants outside the specified range are neglected.

IX. CONCLUSION

In this research work titled, “Articulatory analysis of the /a/ vowel produced by Malayalis in Indian English: an orthographic comparative study between Malayalam & English”, we conclude that the Malayali community tends to vowel lengthens/a/ to /a:/ in this context of Indian English proper noun. This could be attributed to the issue of the difference between the orthography of Malayalam and English and the influence of L1 on L2.

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