

Analysis of Shibboleths in Two Major Dialects of Telugu: A Phonetic Analysis

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Abstract— Speech not just gives the linguistic information but is often remarkable source of indexical information as well. There are several cues in speech which give away the cultural, religious, socio, economic and geographical information of the speaker. This identification is robustly facilitated through a speech feature often referred to as ‘shibboleth’: a sound, word or phrase that is typical of a speech community. This paper tries to identify the shibboleths, at the level of sounds, of two dialects of Telugu language (Telangana and Andhra). This has relevance to forensic speaker identification (identifying the criminals based on their phonetic features of speech) and LADO (linguistic analysis for the determination of origin) in the case of asylum seekers. Results indicate that there are several shibboleths at the phonetic level that can be used reliably to distinguish the speakers of one dialect from the other.

Keywords— Telugu, Telangana dialect, Andhra dialect, Shibboleth, LADO, Forensic speaker identification.

I. INTRODUCTION

Identifying who is ‘one of us’ or ‘not one of us’ has always been immensely important in human societies. All societies have made use of diagnostics for identifying people who were part of the ingroup. Language perhaps provides the richest scope for such diagnostics [1]. Honikman [2] discusses in the context of language teaching that a learner can put all possible effort into learning the individual vowels and consonants of the target language, and still sound quite unlike a native speaker. In other words, there are remnant segmental and suprasegmental features that always give away the nativity of an individual. These can be termed ‘shibboleths’ of the speaker.

A shibboleth is a sound, word, phrase, custom, etc., used only by a particular group of people, that can be used to prove if someone is a real member of that group. One of the earliest usage of shibboleths can be found in the Bible [3] where Gileadites used the word ‘shibboleth’ as password to distinguish between themselves and Ephramites as the latter could not pronounce the initial sound /ʃ/ and often substituted it with /s/. Getting the initial sound right meant life or death for the speaker!

II. LITERATURE REVIEW

Interestingly, shibboleths at the phonetic level can be used to identify sect, religion, region, ethnicity etc. A stark example where shibboleths can be used to identify religious sect can be drawn from Bagri (a language spoken in the North western region of India). For example, in Bagri, /s/ becomes /h/ particularly in the speech of Bishnoi (a religious sect), while the people from other sects retain it.

Example:

<u>Other Bagri speakers</u>		<u>Bishnoi Sect</u>
/saɖək/ ‘street’	becomes	/haɖək/
/si: ra:/ ‘Halva’	becomes	/hi:ra:/
/sanɔf/ ‘happiness’	becomes	/hantɔ:f/

Shibboleths also reflect regional differences. For instance, in the state of Kerala (a southern state in India), a region called the Malabar which is Muslim majority in population, have shibboleths that function as both regional and religious identity markers in the Malayalam language. For instance, standard Malayalam /ɽ/ is often pronounced /j/ in the Malabar region.

Example:

<u>Standard Malayalam</u>		<u>Malabar variety</u>
/ma:ʃa/ ‘rain’	becomes	/maja/
/pu:ʃa/ ‘river’	becomes	/puja/
/pa:ʃam/ ‘fruit’	becomes	/pajam/

Likewise, shibboleths also have their bearing on the ethnicity of speakers. Spanish is spoken both by Spaniards and Latin Americans; however, the usage of /ə/ by the Spaniards and not by the Latin Americans can be deemed to be a shibboleth [4].

Example:

<u>Spaniards</u>		<u>Latin Americans</u>
/gra:əia:s/ ‘thanks’	becomes	/gra:sia:s/
/a:əe/ ‘she does’	becomes	/a:se/
/pare:əe/ ‘looks like’	becomes	/pare:se/

Within Latin America, the people of Uruguay and Argentina use /ʃ/ instead of the standard /j/ [5].

Example:

<u>Standard variety</u>		<u>Variety used in Uruguay and Argentina</u>
/jja:mar/ ‘to call’	becomes	/ʃʃa:ma:r/
/ka:jje/ ‘street’	becomes	/ka:ʃʃe/
/po:jjo/ ‘chicken’	becomes	/po:ʃʃo/

Thus, shibboleths, over the years proved to be great identity markers of people belonging to different regions, religions, ethnic backgrounds etc.

Of relevance to this study is the way speech changes as a function of geographical location. This phenomenon has long been studied in the linguistic discipline of dialectology [6]. It can be quite useful in a forensic speaker identification scenario if phonetic features can be associated with regional backgrounds. There are indeed well-known cases where dialectological information has been used forensically to good effect [7]. In addition to the forensic use, the application of dialectology has also grown in prominence in Language Analysis for the Determination of Origin (LADO). It is the analysis of language to test the claim of the individual as belonging to a particular community and geographical region. The topic of LADO is sensitive as it deals with matters of life and death for

individual refugees, and for nations to prevent fraudulent immigration. It involves the analysis of spoken language samples by linguists and educated native speakers with the latter working under the guidance and supervision of the former [1].

III. CURRENT STUDY

Since the focus of this paper is on identifying the shibboleths at the level of sounds/phonemes in the two major dialects of Telugu language, a brief description of the linguistic background of Telugu language is hereby presented.

Telugu (a popular South Indian language) was the state’s official language of the erstwhile united Andhra Pradesh which was bifurcated into Andhra Pradesh and Telangana in 2014 [8], owing to cultural, economic, geographic and language related differences. This may be attributed to the fact that they were ruled by different rulers and their proximity to other states and language communities. Telangana was predominantly ruled by the Nizams for a long time which has a strong influence on its language, cuisine, to name a few. The region of Andhra was mostly ruled by Hindu Kings for which reason the language did not come under any foreign influence. In addition, Andhra has more mineral resources and a coastline that benefits its commerce and hence, economically advanced as opposed to Telangana. Owing to the economic dominance of the Andhra people, the variety of Telugu spoken in the Andhra region was unilaterally taken to be the standard across the state. It could be because the standard is set by the region which has more wealth, therefore more development and education.

Although each district in these regions has its own idiosyncrasies they can still be broadly distinguished as hailing from Telangana or Andhra. Dialectal differences of these regions exist at the phonetic, lexical and syntactic levels. Earlier research [9] has shown prosodic changes in both dialects but there was no substantial research on the phonetic features of these two dialects. Therefore, it becomes imperative that such an investigation be carried out.

3.1 Aim

The aim of this paper is to identify the phonetic differences between the two prominent dialects of Telugu (Andhra and Telangana) and thereby arrive at their respective shibboleths.

3.2 Methodology

The study included 18 subjects (10 from Telangana and 8 from Andhra regions) who were all graduates and native speakers of the said dialects. Six short, simple and popular children's stories were selected as the stimulus material.

All the subjects from Telangana region were asked to narrate these stories in their natural spontaneous style which was recorded. From these recordings, 50 common words (which are likely to reflect dialectal differences) across all speakers were selected for analysis. Next, subjects from Andhra were asked to say a sentence in their natural style (idiolect/dialect) incorporating each of these 50 words that were chosen from the speech samples of the Telangana dialect.

These 50 words were phonemically transcribed and a comparative analysis with the standard written variety of Telugu was carried out in terms of addition, deletion and substitution of consonants, vowels and syllables. These deviations were captured in the word initial, medial and final positions.

3.3 Findings

3.3.1 Phonetic features of the Telangana Dialect (shibboleths)

- Addition of /r/ in the word final syllable is a typical feature of the Telangana dialect.

Standard form	Gloss	Telangana dialect	Consonant additions
/ku:rcɔ:ndʒi/	Have a seat!	/kuso:ndʒi/	/r/
/a:gandʒi/	Wait/stop!	/a:gundʒi/	/r/

- Deletion of word initial /v/ sound is another prominent feature observed.

Standard form	Gloss	Telangana dialect	Consonant Deletions
/vɛ uʈu:/	'while going'	/ɛ ʈa:/	/v/
/vandʒucunna:ru/	'They are cooking'	/ondʒuʈurru/	/v/

- Substitution of consonant sounds (in terms of voicing, place and manner of articulation) was the most observed phenomena.

- With regards to voicing, there were several instances where voiced consonants were substituted by their respective voiceless counterparts and vice versa. This feature was predominantly noticed in plosives.

Standard form	Gloss	Telangana dialect	Consonant substitution (voicing)
/campeɖanu/	'I will kill'	/samtʃa/	/d/ → /t/
/undenu/	'stays'	/untʃaɖi/	/d/ → /t/
/eccaʈa/	'where'	/e:ɖa/	/t/ → /d/
/ika/	'then'	/iga/	/k/ → /g/

- The most typical shibboleth noticed in the Telangana variety is the substitution of consonants in terms of their place and manner of articulation. This feature was observed more in fricatives and affricates.

Standard form	Gloss	Telangana dialect	Consonant substitution (place/manner of articulation)
/cu:cina:nu/	'I have seen'	/cu:ʃna/	/c/ → /ʃ/
/mu:sina:va/	'Did you close it'	/mu:ʃnava:/	/s/ → /ʃ/
/campeɖanu/	'I will kill'	/samtʃa/	/c/ → /s/

- Among the vowels, deletion and substitutions were quite common. The vowels that were more prone to deletion were /i/ and /u/.

Standard form	Gloss	Telangana dialect	Vowel deletions
/cu:cina:nu/	'I have seen'	/cu:ʃna/	/i/
/ce:seɖamu/	'We will do'	/ce:ɖɖam/	/u/

- Vowel substitutions were realized in two ways: front/back and length substitutions.

Standard form	Gloss	Telangana dialect	Vowel substitutions
/a:gandʒi/	'wait/stop'	/a:gurri/	/a/-/u/
/i:ve: a/	'today'	/ijja:la/	/i:/ - /i/

- At the level of a syllable, there was a steady pattern observed across the speakers. The syllables /nu/, /du/ and /na/ especially in the word final position were often elided. However, it may be noted that there were hardly any syllable additions or substitutions.

Standard form	Gloss	Telangana dialect	Syllable deletions
/ce:sina:nu/	'I have done'	/ce:ʃna/	/nu/
/ra:le:du/	'it has not come'	/ra:le/	/du/
/anʈunna:du/	'he was saying'	/anʈundu:/	/na/

- Another remarkable feature of the Telangana dialect is that the consonant cluster /st/ is geminated as /tt/ or /ss/.

Standard form	Gloss	Telangana dialect	Gemination
/iʃta:nu/	'I will give'	/ittta/	/st/ → /tt/
/vaʃtunnadı/	'she is coming'	/ossundı/	/st/ → /ss/

3.3.2 Phonetic features of the Andhra Dialect (shibboleths)

- Although addition and deletion of consonants was rarely noticed, the addition of /n/ was consistently observed in the following words.

Standard form	Gloss	Andhra dialect	Consonant Additions
/ika/	'then'	/inka/	/n/
/aʈa/	'apparently'	/anʈa/	/n/

- Substitution of consonant sounds (in terms of voicing, place and manner of articulation) was observed.
- With regard to voicing, there were instances where voiced consonants were substituted by their respective voiceless counterparts and vice versa. This feature was predominantly noticed in plosives.

Standard form	Gloss	Andhra dialect	Consonant substitution (voicing)
/campeḍanu/	'I will kill'	/campuṭa/	/ḍ/ → /ṭ/
/undenu/	'stays'	/unʈaḍı/	/d/ → /t/

/ʈnuʈaku/	'in order to eat'	/tinaḍa:niki/	/ʈ/ → /d/
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- The most typical shibboleth noticed in the Andhra dialect is the substitution of consonants in terms of their place and manner of articulation. This feature was observed more in fricatives and affricates.

Standard form	Gloss	Andhra dialect	Consonant substitution (place / manner of articulation)
/cu:cina:nu/	'I have seen'	/cu:sənu/	/c/ → /s/
/eccaʈa/	'where'	/ekkaḍa/	/cc/ → /kk/

- Among the vowels, additions were not observed. However, there were a few instances of deletions and substitutions. The vowels that were more prone to deletion were /a and u/.

Standard form	Gloss	Andhra dialect	Vowel deletions
/cu:ḍale:du/	'did not see'	/cu:ḍle:du/	/a/
/u:ruko/	'keep quiet'	/u:rko/	/u/

- Vowel substitutions were realized in two ways: front/back and length substitutions.

Standard form	Gloss	Andhra dialect	Vowel substitutions
/vaʃta:nu/	'I will come'	/oʃta/ or /oʃta:/	/a/ → /o/
/undenu/	'stays'	/unʈundı/	/e/ → /u/
/i:ve:ʈa/	'today'	/Iva:la/	/e:/ → /a:/ /i:/ → /i/

- At the syllable level, most of the speakers added syllables /ni/ and /di/ in the following words.

Standard form	Gloss	Andhra dialect	Syllable additions
/ra:vuʈaku/	'In order to come'	/ra:vaḍa:niki/	/ni/
/undenu/	'stays'	/unʈundı/	/di/

- It was also observed that the syllables /ja/, /ra/, /na/ and /nu/ were often elided.

Standard form	Gloss	Andhra dialect	Syllable deletions
/ʈelijadu/	'Do not'	/ʈeli:du/	/ja/

	know'		
/mundāra/	'front'	/munḍu/	/ra/
/unnaḍi/	'there'	/unḍi/	/na/
/vaṣṭa:nu/	'I will come'	/oṣṭa:/	/nu/

IV. CONCLUSION

Shibboleths indeed reflect the indexical features of an individual belonging to a specific group or community. A detailed analysis of the phonetic features of the Telangana and Andhra dialects displays marked differences which can be used as indices to identify people hailing from the respective regions. As mentioned earlier, this analysis is of relevance to fields such as dialectology, forensic phonetics and LADO. However, it would help if a larger data set is analysed to establish more robust phonetic features to distinguish these two varieties.

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