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The Speech Continuum Reconsidered: A Case Study of a Speaker of Indian English

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***Abstract*—This study highlights the dynamics of the speech continuum by analyzing the sound system of a speaker of Indian English (IndE). Utterances were collected via the reading of commonly spoken words and a semi-structured interview. The findings indicate that the speaker's sound features are much fewer than those described in earlier studies on IndE accents. Moreover, his pronunciation patterns display a mixture of the basilectal, meoslectal and acrolectal forms of Indian English, reflecting the characteristics of the non-linear speech continuum. This study concludes by discussing the speaker's sound patterns with relation to his sociolinguistic background.**

***Index Terms*—speech continuum, Indian English, English accents, world Englishes**

I. Introduction

Owing to misconceptions about language change and variation, nonnative varieties of English have long been regarded as being characterized by random or careless utterances (Nguyen, 1993; Rickford, 1999; Trudgill, 2004). A number of sociolinguistic studies have confirmed that the utterances of regional vernaculars such as African American English (AAE) are not disordered, but rather are governed by their own set of rules (Green, 2002). Similarly, creole varieties of English, such as Jamaican English, are not haphazard collections of random utterances, but rather consistent linguistic systems (Devonish, & Seiler, 1991; Wassink, 1999). Likewise, the variety of English spoken as one of the official languages of India is not a degenerate or fossilized version of English, but, rather, a distinct form of English which exhibits systematic patterns and pragmatic functions (Agnihotri, 1991; Bansal 1978; Nihalani et at., 2004).

With regard to the various forms of English spoken worldwide, Trudgill (2004) hypothesized that they have been converging lexically due to the influence of American English, but are diverging phonologically. His diachronic study of the phonological affinity between British English, Australian English, and New Zealand English supports his hypothesis about the phonological divergence among different varieties of English Indian English (IndE) is not an exception. Earlier studies have demonstrated that IndE has evolved into a variety of English which is distinct from Received Pronunciation (RP), a process which began in the middle of the 18th century, when India was gradually annexed by the British East India Company (e.g., Balasubramanian, 1972; Kelkar, 1957).

However, each ethnic or national variety of English is not a homogeneous entity, but consists of a wide range of variation, regional and social alike. IndE is an umbrella term for the diverse varieties of English currently used in India. Nonetheless, a number of mesolects have emerged, all of which are regarded as General IndE. In this respect, Gargesh (2008) has made an extensive description of the general phonology of IndE based on the speech of educated IndE speakers. Nonetheless, the speech continuum of sociolects and regiolects in IndE remains largely unexplored. Accordingly, this study analyzes the utterances of a speaker of IndE to investigate how his utterances reflect General IndE phonology (Gargesh, 2008; Mesthrie, 2008).

II. Literature Review

This study focuses on IndE because, of all the nonnative varieties of English, it has the largest number of speakers, and is used for both intra-national and international communication (Bolton & Kachru, 2006; Kachru, 2004; Kachru & Smith, 2008; Meierkord, 2006; Nihalani et al., 2004; Schneider, 2007). In terms of area, India is the seventh-largest country in the world, and with over 1.2 billion citizens, India's population is second only to China. Moreover, India is the world's largest democracy, and its economic output has expanded rapidly in recent decades. Kamdar (2007a, 2007b, 2007c) has described India's astonishing transformation from a developing country into a global powerhouse. Rothermund's (2008) *India: The Rise of an Asian Giant* provides an illuminating analysis of the new India and how it is likely to profoundly affect the globe culturally, politically and financially. Moreover, India is set to become one of the world's largest recipients of foreign investment and has a huge and highly skilled English-speaking workforce. A wide range of recent books have portrayed contemporary India as a dynamic country shifting from poverty to prosperity (Basu, 2004; Davies, 2008; Emmott, 2008; Fernandes, 2006; Lak, 2008; Meredith, 2007; Rajadhyaksha, 2007; Sengupta, 2005; Sheshabalaya, 2005; Smith, D.A., 2007; Tharoor, 2007). All of these phenomena demonstrate the current and future importance of IndE.

Communicating in English with Indians can be enhanced by familiarity with IndE, and a host of scholars have begun to explore what can be regarded as its general phonology (Gargesh, 2008; Mesthrie, 2008; Nihalani et al., 2004). The following table displays Gargesh's (2008) phonological description of IndE in comparison with General American English (GAE)[1] and RP.[2]

TABLE I.
THE VOWELS OF INDE ACCORDING TO WELL'S (1982) LEXICAL SET

Word	IndE	RP	GAE
Fleece	iː	iː	i
Kit	ɪ > iː	ɪ	ɪ
Face	eː	eɪ	eɪ
Dress	e > ɛ	ɛ	ɛ
Trap	æ>ɛ	a	æ
Bath	ɑː	ɑː ~a	æ
Strut	ʌ	ʌ	ʌ
Palm	ɑː	ɑː	ɑ
Lot	ɔ>ɒ>a	ɒ	ɑ
Goose	uː	uː	u
Foot	ʊ>uː	ʊ	ʊ
Goat	oː	əʊ	oʊ
Cloth	ɔ	ɒ	ɔ
Thought	ɔː	ɔː	ɔ
Price	aɪ	ʌɪ	aɪ
Choice	ɔɪ	ɔɪ	ɔɪ
Mouth	aʊ	aʊ	aʊ
Near	ɪə>ɪr	ɪə	ɪr
Square	ɛː>ɛr	ɛː	ɛr
Nurse	ɜː > ɝː	əː	ɝ
Start	ɑː > ɑr	ɑː	ɑr
North	ɔː > ɔr	ɔː	ɔr
Force	ɔː > ɔr	ɔː	ɔr
Cure	ɪjoː > ɪjor	ʊə ~ɔː	jʊr
Tuesday	ɪjuː	ju	u
happY	ɪ>i	i	i
lettER	ə>r	ə	r
commA	ɑ	ə	ə

First of all, both IndE and RP have non-rhotic accents. Although the r-less feature exists mostly in the educated variety of IndE, IndE is generally rhotic (Gargesh, 2008, p. 237). It is also noteworthy that the liquid /r/ is usually trilled in consonant clusters and in postvocalic positions. Gargesh added, "Although postvocalic realizations of /r/ might be an instance of spelling pronunciation, it must be conceded that the English brought to India from the earliest times is likely to have its postvocalic *r*'s intact" (2008, p. 238).

Additionally, IndE pronunciation of vowels is closer to RP than GAE. The most striking difference is the GAE vowel /æ/ in words like *bath*, which is usually pronounced as /ɑː/ or /a/ in IndE and RP. Moreover, the GAE vowel /ɑ/ is articulated at times as /ɔ/ or /ɒ/ in IndE and RP.

The consonants of IndE also present phonological patterns, as illustrated below:

[1] This study employs Heinle's Newbury House Dictionary of American English for sound comparison; it is available online: http://nhd.heinle.com/Home.aspx.
[2] Upton's (2008) description of RP is used as a point of reference in this study.

TABLE II.
CONSONANTAL FEATURES OF INDE (ADAPTED FROM GARGESH, 2008, PP. 237–238)

Manner of Articulation	IndE	Examples
Stops	● Voiceless stops are not aspirated. ● /t/ and /d/ tend to be retroflexed.	● peace /pis/ ● dog /d̪ɔg/
Fricatives	● /v/ might be realized as /bʰ/. (Orissa, Bengal) ● /v/ occasionally overlaps with /w/. (Oriya and Bengla speakers) ● /f/ might be realized as /pʰ/. (Oriya and Bengla speakers) ● /ð/ and /ɵ/ are realized respectively as the dental stops /t̪ʰ/ and /d̪/. ● /ɵ/ is often realized as the alveolar stop /t/ (South India) ● /s/ might be realized as /ʃ/. (Bengal) ● /ʃ/ might be realized as /z/. (Orissa) ● /z/ might be realized as /dʒ/. ● H-dropping is frequent. (Punjabi speakers) ● The initial /h/ might be replaced by /j/ or /w/. (South India)	● very /wɛrɪ/ ● seven /'nɛbʰər/ ● full /pʰu:ll/ ● thin /t̪ʰɪn/ ● then /d̪en/ ● thought /tɔt/ ● same /ʃem/ ● zero /dʒɪro/ ● house /aus/ ● house /waus/ ● hill /jɪll/
Affricates	● /ʒ/ is usually realized as /dʒ/, /z/, or /j/.	● pleasure /ple:dʒər/
Nasals	● /ŋ/ is often realized as /ŋg/ when followed by the syllable-final velar stop /g/ in a monosyllabic word.	● sing /sɪŋg/ ● ring /rɪŋg/
Liquids	● /r/ is generally trilled.	● car /kar/ ● cry /kraɪ/
Semi-vowels	● /w/ often overlaps with /v/. ● /w/ and /j/ might be omitted when followed by a mid or close vowel. ● /w/ and /j/ might be added word-initially. (South India) ● /wh/ is preserved. ● Syllabic rhythms, not stress-timed utterances	● window /'vɪndo:/ ● won't /o:nt̪/ ● yet /ɛt̪/ ● old /wo:ld̪/ ● about /je'baut̪/ ● where /wher/
Geminates	● Double consonants frequently occur.	● inner /'ɪnnər/
Past-tense suffix	● Voiceless –ed is usually realized as /d/	● traced /tre:sd/
Others	● No syllabic consonant formation ● Schwa deletion occurs sometimes in light positions. ● Consonant clusters are sometimes simplified. ● /ɪ/ or /i/ insertion in the word-initial position in a consonant cluster (Uttar Pradesh, Bihar) ● Schwa insertion between a consonant cluster (Punjab, Haryana) ● Schwa insertion in –nst # (South India)	● metal /met̪əl/ ● allegory /ə'lɛgrɪ/ ● fruits /frut̪/ ● school /'isku:l/ ● school /'səku:l/ ● against /age:nəst/

In contrast to the mesolectal IndE features presented above, some basilectal or broad sound features are displayed below (Bansal, 1969; Masica, & Dave, 1972; Nihalani *et al*., 2004; Wells, 1982):

TABLE III.
SOUND FEATURES OF BASILECTAL INDE

Sound Features	Examples
1. Substitution of /au/ for /ɔ/	now→gnaw
2. Substitution of /æ/ for /aɪ/	man→mine
3. Substitution of /ɛ/ for /e/	men→main
4. /f/ for the word *of*.	of /ɔf/
5. /wʰ/ or /ʊʰ/ for *wh*-words	which /wʰɪtʃ/ or /ʊʰɪtʃ/
6. /s/ for the plural suffix after a voiced consonant	Dogs /dɔgs/
7. Substitution of /l/ for syllable-initial /r/	very /'vɛlɪ/

Drawing on the sound patterns of IndE as presented above, this study investigates the speech continuum in IndE by examining how an IndE speaker's utterances reflect the general phonology of IndE. The subsequent section details the methodology used for data collection and sound analysis.

III. METHODOLOGY

A. Research Questions

The participant is referred to by the pseudonym Raj, who was 24 years old at the time of the study. He was born and raised in Agra, a city about 200 kilometers south of Delhi, located in Uttar Pradesh, India's most populous state. Raj just came to the US two months ago to study business management in pursuit of his master's degree. He speaks Hindi as his mother tongue, which is the most widely spoken language in north India. Hindi is also the official language of India, whereas English is the subsidiary official language. Hindi is spoken as a first language by 30% of the population, and as a second language by around 28%. In India and abroad, about 500 million people speak Hindi, and the total number of people who can understand the language is estimated at 800 million. Hindi is thus the second most widely-spoken language in the world, after Mandarin Chinese. Additionally, there are thirteen dialects of Hindi in India, among which Khadiboli (or Sarhindi), spoken in Western Uttar Pradesh, was used by the government for the standardization of Hindi

in the 1950s.[3] Although Hindi is the main language in Uttar Pradesh, other local languages of the state include Awadhi, Bundeli, Braj Bhasha, Kannauji, Khari Boli, Bhojpuri, and Bagheli. These languages are promoted by the state government in cultural festivals, but are usually regarded as negligible in formal education.

In the interview, Raj said that he spoke English as a second language when interacting with his friends who did not speak Hindi. However, he emphasized that with three of his closest friends he spoke Hindi most of the time, because they all spoke Hindi as their native language. With Raj as the speaker, this study addressed the following questions:

(1) What is the sound system underlying Raj's utterances?
(2) How frequently do Raj's sound features occur?
(3) How are Raj's sound patterns similar to or different from General IndE phonology?

B. Data Collection

Speech samples were collected by having Raj read a list of common spoken words, and his sound features were compared with those of General IndE (Gargesh, 2008; Mesthrie, 2008).

The reading of a word list was used because, when reading such a list, the participant is very likely to use a more formal pronunciation, as would be done when interacting with strangers from other ethnic groups or nations. There is evidence that English speakers tend to speak as formally as they can in international communication in order to avoid misunderstanding or non-understanding. Jenkins (2000) found that nonnative English speakers often constrain consonant cluster simplification and avoid the use of weak-form pronunciation (such as the use of *from* /frʌm/, rather than /frəm/), since doing so helps to enhance their intelligibility to unfamiliar interlocutors. Accordingly, this study examines the sound patterns that Raj is most likely to exhibit in a formal presentation or an initial interaction with other English speakers. After the reading task, an interview was conducted with Raj to further explore his use of English in daily life.

C. Test Words for the Reading Task

This study used 1,000 commonly spoken English words retrieved from 60 recent interviews on the Oprah Winfrey Show.[4] The test words consisted of high-frequency *concept* words in their basic forms (e.g., *write*), and excluded *graphic* words (e.g., *writes*, *wrote*, *written*, and *writing*). This lexical decision was made because intelligibility is not affected by irregular finite forms and plural/tense suffixes, because the meaning is usually made clear by the context, as shown in such utterances as *He go home yesterday*, *He like her*, and *He don't eat shrimp*.

However, some concept words were deleted, including proper nouns, culturally specific words, and function words. Furthermore, some were changed into their graphic forms for the word-reading task because close inspection reveals that the graphic forms appear much more frequently in Winfrey's interviews. Some of these graphic words are presented below:

TABLE IV.
SOME OF THE CONCEPTS WORDS REPLACED WITH THEIR GRAPHIC COUNTERPARTS

Concept word	**Graphic word**
Morn	Morning
Injure	Injured
Probable	Probably
Exact	Exactly
Absolute	Absolutely
Definite	Definitely
Especial	Especially
Immediate	Immediately
Excite	Exciting
Shoe	Shoes

The 1,000 test words are considered to be sufficient because an analysis of 10 of Winfrey's interviews indicates that out of a total of around 81,000 words spoken in the interviews, only around 3,800 are concept words.

This study did not employ an already existing corpus of spoken English because some are slightly out-of-date (e.g., the London-Lund Corpus, launched in 1959), some are built on academic English (e.g., the Michigan Corpus of Academic Spoken English), and some are limited to a single topic (e.g., the Switchboard Telephone Speech Corpus, and the Corpus of Business Communications established by the Brigham Young School of Management). By contrast, this study used a popular American talk show to construct a corpus of high-frequency words because the hostess and interviewees of various backgrounds discuss common topics concerning everyday life, making it a good source for commonly spoken English words.

Although the small-scale corpus established for this study primarily reflects spoken American English and might not be highly representative of other varieties of English, some studies have demonstrated that there is a close correspondence of high-frequency words (excluding proper nouns) among different varieties of English (Hofland &

[3] The information about Hindi appears on Wikipedia: http://en.wikipedia.org/wiki/Main_Page.
[4] For a description of the Oprah Winfrey television show, visit www.oprah.com.

Johansson, 1982; Ljung, 1990; Peyawary, 1999).

Raj's reading of the test words was recorded and transcribed by ear for sound analysis. A research assistant with knowledge of phonetics and phonology made the initial transcription, which was later checked by the researcher. The few discrepancies which were found were resolved after re-examination and discussion. Additionally, to explore the frequency of Raj's sound features, we adapted Meade's (2001) categorization of sound alterations, as shown below:

TABLE V.
CLASSIFICATION OF PHONOLOGICAL FREQUENCY (ADAPTED FROM MEADE, 2001, P. 85)

Occurrence Percentage	Usage Frequency
90%-100%	Complete usage
75%-89%	Full usage
50%–74%	Regular usage
25%–49%	Inconsistent usage
1%–24%	Sporadic usage
0	Absent usage

IV. FINDINGS

The most notable sound feature in Raj's reading is his r-less accent, a common characteristic of educated speakers of IndE (Sailajia, 2009). Like most speakers of British English, Raj did not pronounce the syllable-final r-sound as a retroflex, but rather as schwa, as in the word *hair* ['hɛə]. The vocalic /r/ is sometimes dropped with the previous vowel prolonged, as in *car* [kɑ:]. This non-rhotic accent, however, is not regarded as a sound feature of General IndE phonology (Gargesh, 2008, p. 237).

Raj's articulation also exhibits a phonological feature typical of British English: the insertion of the palatal glide /j/ in /ju/ after coronals. Upton (2008) commented, "Yod coalescence is actually a general feature of RP…heard regularly for example in *attitude*, *residue*, *tissue*, and *usual*" (p. 249). He added, though, "Yod deletion is similarly characteristic word-initially in RP in such words as *super* and *suit*" (p. 250). He concluded, "Coalesced forms are becoming increasingly apparent in all positions in RP, where they provide a less formal alternative to the more 'careful' forms" (p. 249). In this study, Raj pronounced the glide /j/ before the stressed vowel /u/ in such words as *during*, *new*, and *news*, but not in *student* and *suit*. This sound pattern occurred as a regular usage because it appeared 67% of the time in Raj's reading.

By comparison, the glide insertion is frequently lost in GAE, as in *Tuesday*, *coupon*, and *neurotic*, but regularly appears in several other words, such as *cure* and *music* (Kretzschmar, 2008, p. 48). Likewise, Boberg (2008, p. 157) noticed that the loss of /j/ in North American English seems "to be diffusing rapidly over most of the continent, including Canada," as indicated in such words as *news*, *student*, and *tube*.

Another phonological feature of British English found in Raj's reading is the vowel shift from /æ/ to /a/. For example, Raj said [ask] for *ask*, ['ansə] for *answer*, and [pas] for *pass*. The occurrence of this vowel shift, however, is inconsistent, occurring only 34% of the time.

Another phonological feature is the realization of /ŋg/ for the velar nasal coda in a stressed syllable. For instance, he articulated [rɪŋg] for *ring*, [rɔŋg] for *wrong*, and [hæŋg] for *hang*. This pattern appears 69% of the time, making it a regular usage.

Raj also tended to pronounce the unstressed ending -ing as /ɪn/, as found in his pronunciations of such words as ['sevɪn] for *saving* and ['ɛnɪtɪn] for *anything*. This sound modification appears frequently enough to be classified as a regular usage.

Furthermore, Raj also frequently pronounced the syllable-initial consonant /r/ as /l/, as in *serious* ['sɪlɪəs], *very* ['vɛlɪ], and *reason* ['lizn]. Although Gargesh (2008) remarked that the liquid /r/ is generally trilled, we perceived it as /l/. Our acoustic analysis of Raj's pronunciation of *very* and *family* indicates that the formants of the final syllables are close, and their spectrograms look nearly identical to each other, as shown below:

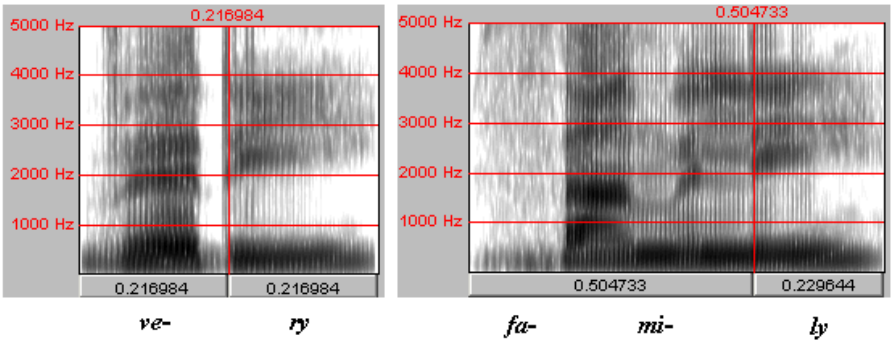

Figure 1. Spectrographic comparison between *very* (left) and *family* (right) in Raj's reading

This consonant substitution, however, occurs only 36% of the time, and thus is classified as an inconsistent usage.

In addition, Raj often pronounced the interdental fricatives /ð/ and /ɵ/ as the dental stops /d/ and /t/, respectively. For instance, he said [de] for *they*. Interestingly, word-final, interdental fricatives were also changed into a stop. For example, Raj articulated the word *bath* with the final /t/ aspirated. The acoustic analysis demonstrates that the final *th* is aspirated because its duration is noticeably more protracted than the final *t* consonant in *but*, as displayed below:

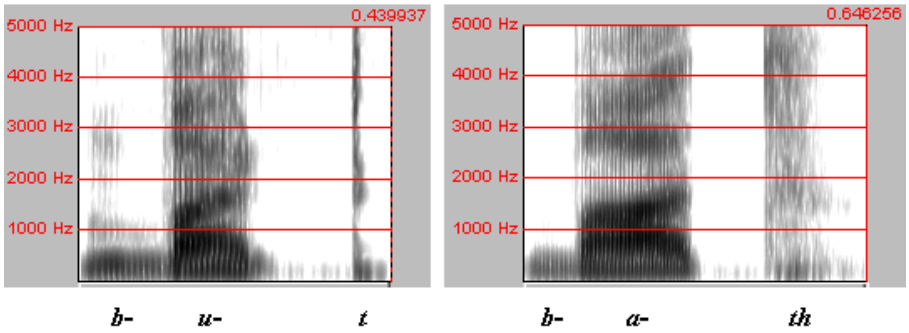

Figure 2. Spectrographic comparison between *but* (left) and *bath* (right) in Raj's reading

This sound alteration is in full usage in his reading.

The most notable sound feature in Raj's reading is that he mostly pronounced voiceless stops with unaspiration when they were in the syllable-initial position, frequently enough to be classified as a full usage. For instance, Raj pronounced *two* like *do*, and *pick* like *big*.

The most peculiar sound feature in Raj's reading is the substitution of /v/ for /w/, and vice versa. For instance, he enunciated [wɔɪs] for *voice* and [vɪʃ] for *wish*. This bi-directional substitution, however, is an inconsistent usage because it appears less than 40% of the time. Nonetheless, /wh/ is fully preserved in Raj's reading. Below is a summary of the sound patterns found in Raj's reading:

TABLE VI.
THE SOUND FEATURES FOUND IN RAJ'S READING

Phonological feature	**Example**	**Occurrence rate**
1. Syllable-final, r-less accent	water→[' wɔtə]	100% (complete)
2. Glide insertion before stressed /u/	new→[nju]	67% (regular)
3. preservation of /wh/	where	100% (complete)
4. Realization of the unstressed rhyme /ɪŋ/ as /ɪn/	anything→['ɛnɪɵɪn]	60% (regular)
5. Unaspiration of voiceless stops	two→do pick→big	100% (complete)
6. Realization of interdental fricatives as dental stops	thin→[tin] with→[wɪt]	Syllable-initial: 75% (full) Syllable-final: 100% (complete)
7. Preservation of /g/ after /ŋ/ in a stressed syllable	ring→[rɪŋg]	69% (regular)
8. Substitution of /l/ for syllable-initial /r/	very→['vɛlɪ]	36% (inconsistent)
9. Shift between /v/ and /w/	voice→[wɔɪs] wish→[vɪʃ]	/v/→/w/: 37% (inconsistent) /w/→/v/: 32% (inconsistent)
10. Vowel shift from /æ/ to /ɑ/	ask→[ɑsk]	34% (inconsistent)

Actually, the first two features also exist in RP. The third feature, the preservation of /wh/, also appears in RP, but it has declined and is rapidly changing into /w/ (Upton, 2008). However, the most striking vowel shift of RP—from /æ/ to /a/, which makes both RP and General IndE differ from GAE—appears only inconsistently in Raj's reading. Moreover, the vowel shift that makes IndE distinct from both RP and GAE—the change from /ɛ/ to /e/, as in the word *dress*—does not appear at all in Raj's reading.

As a whole, all of Raj's sound features are consonantal modifications, except for the infrequent vowel change from /æ/ to /a/. Accordingly, Raj's vowel system does not include any vowel merger, as shown below:

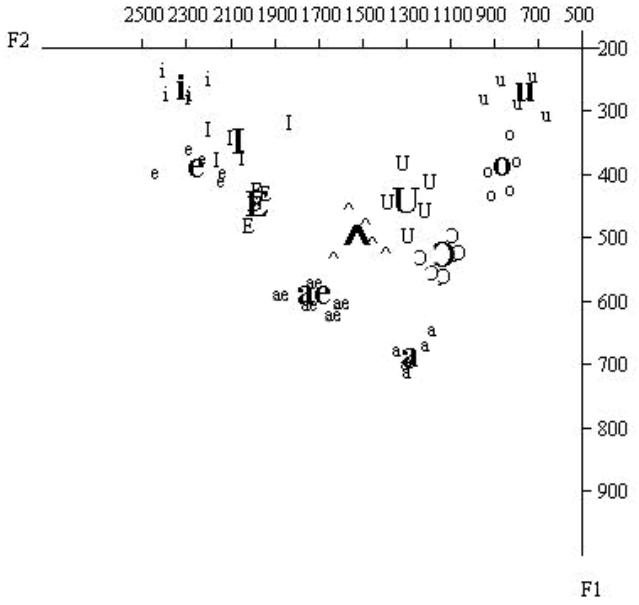

Figure 3. Raj's vowel chart

Taken together, most of Raj's vocalic patterns reflect General IndE phonology, but the lax vowel, as in *dress*, does not change into its tense counterpart. By comparison, the consonantal features exhibited by Raj are much fewer than those usually ascribed to speakers of IndE, as shown in Table 2 (Gargesh, 2008; Mesthrie, 2008). These findings demonstrate that Raj's pronunciation does not reflect all of the sound patterns typical of General IndE phonology, displaying the dynamic trajectory of the speech continuum in IndE. All in all, Raj's pronunciation indicates the existence of phonological variation in IndE, GAE and BE, in support of the Phonological Divergence Theory posited by Trudgill (2004).

V. Conclusion

This study has shown that Raj's English pronunciation is not random, but rather exhibits phonological patterns, despite varying rates of occurrence. A total of ten sound features are found in Raj's pronunciation; among which, seven occur regularly, whereas the others appear only sporadically. These frequent features include the non-rhotic accent, the unaspiration of syllable-initial stops, the glide insertion before stressed /u/, the preservation of /wh/, the realization of interdental fricatives as dental stops, the preservation of /g/ after /ŋ/ in a stressed syllable, and the realization of the unstressed rhyme /ɪŋ/ as /ɪn/.

By and large, Raj exhibits a British English accent in his complete use of the r-less accent, and his regular use of glide insertion before stressed /u/. Nevertheless, the prominent vowel shift from /æ/ to /a/ in British English appears to be only an inconsistent feature in Raj's pronunciation, although it has been described in earlier studies as a regular feature of basilectal IndE (Nihalani *et al*., 2004).

It is noteworthy that Raj's non-rhotic accent is not regarded as characteristic of General IndE phonology, but, rather, is a feature used mostly by educated speakers of IndE (Gargesh, 2008). Nonetheless, four regular phonological patterns distinguish Raj's pronunciation from that of a speaker of British English: the unaspiration of voiceless stops, the stopping of interdental fricatives, the preservation of /g/ after /ŋ/, and the realization of /ɪn/ for unstressed /ɪŋ/. Among these consonantal features, the realization of the unstressed rhyme /ɪŋ/ as /ɪn/ is actually not a distinctive feature in General IndE phonology, but it is commonly used by native English speakers in informal settings, and it is also common in many nonstandard varieties of English as well (Jenkins, 2006; Wassink, 1999; Wolfram & Schilling-Estes, 1998).

Perhaps the most unique feature of Raj's pronunciation is his complete use of the realization of interdental fricatives as dental stops. Although this feature is also common in many nonstandard varieties of English, its appearance in syllable-final positions, as in such words as *with* [wɪt], *bath* [bat], and *death* [dɛt], is a distinctive, even idiosyncratic, feature. However, this pattern might have been the result of orthographical enunciation in the reading task, and this feature might not be the way Raj normally spoke.

Moreover, the substitution of /l/ for syllable-initial /r/—a broad feature of IndE—appears only inconsistently in Raj's pronunciation. Interestingly, Raj does not display a common feature that is usually associated with the pronunciation of speakers of IndE from Uttar Pradesh: /ɪ/ or /i/ insertion in the word-initial position in a consonant cluster, as shown in *school* /'səku:l/.

To summarize, Raj's pronunciation not only exhibits a distinct sound system different from RP and GAE, but also displays some phonological variation from General IndE. In fact, his sound patterns seem to be a mixture of basilectal, meoslectal and acrolectal IndE, which is not surprising, given the dynamics of the speech continuum in IndE.

Because this study only examined Raj's reading pronunciation, follow-up research might examine inter-speaker variation via a comparison, for example, between his reading and his spontaneous utterances in conversation with a close friend. Furthermore, for the same reason, future research might compare Raj's sound patterns with those of other Indians who share similar sociolinguistic backgrounds. In particular, it would be intriguing to investigate whether the distinctive features of Raj's pronunciation found in this study—the realization of voiceless syllable-final interdental fricatives as unvoiced dental stops—are merely idiosyncratic, or are also exhibited by other Indians his speech community.

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