PHONOLOGY OF NON-NATIVE ACCENTS IN ENGLISH: EVIDENCE FROM SINGAPORE ENGLISH

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ABSTRACT

In most Commonwealth countries, it has been fashionable to promote the use of English that has a native-speaker base with everyone being encouraged to speak like a native speaker (Smith 1985). Therefore most of research on nonnative varieties (Bansal 1966; Tiffen 1974; Tay 1982) has sought to identify, in the past, the ways in which a non-native accent **deviates** from a native accent. This paper considers Singapore English (a non-native accent) in its own right, and sets out to attempt a **scientific** description of vowel system in Singapore English (hereinafter referred to as SSE) by means of studying the visual sound patterns produced with the help of a DSP sonograph. A comprehensive picture of the acoustic characteristics of vowels in SE based on the quantitative and qualitative analysis of the data will be presented, and some of the areas of its application will be discussed.

1. INTRODUCTION

The consonant system of English is relatively uniform throughout the English-speaking countries. Accents of English mainly differ in terms of their vowel systems as well as in the phonetic realisations of vowel phonemes. Singapore English is not monolithic; it is actually a gradient ranging from speech forms like those of standard English, the *Acrolect*, through the medium range, the *Mesolect*, and to the 'lowest' variety, the *Basilect* (Platt 1977). The variety of Standard English spoken in Singapore has few lexical and syntactic characteristics that set it apart from the Standard English used in England. SSE is, however, spoken with an accent that is slightly different from any other accent of Standard English. This paper deals with Standard Singapore English. The speaker of Standard Singapore English is typically one who has studied in English medium school up to at least GCE 'A' Level, and uses English as his predominant language both at home and at work.

2. TEST MATERIALS

The data on vowels in Singapore English has been collected from 8 subjects (4 Chinese, 2 Malays and 2 Indians) who represent fairly well the proto-typical speaker of Standard Singapore English. The subjects chosen are adult male Singaporeans between twenty and twenty five years of age. Each speaker was asked to read a list of words in the carrier frame "Say C-V-C again" where C represents a consonant and V represents a vowel. The list contained words representing 10 relevant vowels as given below:

1. PETE	6. PUT
2. PART	7. POT
3. PIT	8. PUTT
4. PET	9. PORT
5. BOOT	10. PAT

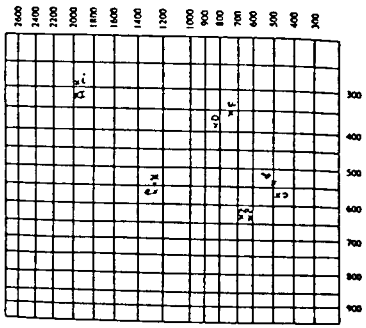
It is hoped that the carrier frame will provide a context and ensure that speech resembles **natural** spoken language. The recording was done under ideal lab conditions in a sound-proof Recording Studio. The subjects were advised to read in their most natural way and at their normal conversational speed. Each speaker read the list of words, repeating each phrase three times. As a result, there were three tokens for each vowel for each of the speakers.

3. INSTRUMENTATION

The use of the sound spectrograph in describing the vowels enables reliable and objective measurements of the vowels based on formant frequencies. Descriptions of vowel quality based on auditory perceptions discussed by Brown (1988) are impressionistic and rather subjective. The two features of tongue height and backness are best 'defined in acoustic terms' (Ladefoged 1982:207).

4. RESULTS AND DISCUSSION

Table 1 shows mean values of F1 and F2'. These mean frequencies of F1 and F2'(the distance between F2 and F1) were computed for all tokens of 10 vowels for all the subjects and have been plotted on the logarithmic scale with F1 on the ordinate, reading downwards on the vertical axis, and F2' on the abscissa, reading right to the left as shown below in the vowel formant chart.



Formant Chart for Vowels in SSE

A vowel is identifiable by its F1 and F2' frequencies. A close examination of the vowel formant chart clearly points to the phenomenon of conflation of some pairs of vowels such as [i] and [ɪ], [e] and [æ], [ɑ] and [ʌ], [ɒ] and [ɔ], and [ʊ] and [u] in SSE. Since vowel segments of each pair tend to cluster together, there seems to be hardly any significant qualitative difference among these pairs of vowels. No wonder, pairs of words like *beat* and *bit*, *set* and *sat*, *cot* and *caught*, *but* and *bart* and *should* and *shooed* very often sound indistinguishable from each other in SSE. Vowel length however is one of the features used, though not consistently, to distinguish these pairs of vowels.

Based on the acoustic results, the vowels in SSE can be classified as follows:

VOWEL	DESCRIPTION	
i/ɪ	high	front
e/æ	low-mid	front
ɑ/ʌ	low	back
ɒ/ɔ	low-mid	back
ʊ/u	high-mid	back

5. CONCLUSION

The present acoustic study, though small in its sample size, provides enough evidence that an SSE speaker fails to maintain sufficient perceptual distance between two vowels in each pair. In English, each of these pairs has a high functional load. If a speaker of SSE fails to maintain this distinction, it could cause a lack of '*comfortable*' mutual intelligibility when a SSE speaker interacts with speakers of other varieties of English.

An acoustic analysis of vowels of SSE is useful in areas such as the codification of Singapore English and Speech Therapy. Besides, language trainers could profitably use these insights in the preparation of teaching meterials and language planning.

REFERENCES

[1] Bansal, R.K.(1966). The intelligibility of Indian English. Ph.D. dissertation, University of London.

[2] Brown, Adam. (1988). Vowel differences between Received Pronunciation and the English of Malaysia and Singapore: which ones really matter. In New Englishes: The case of Singapore, Joseph Foley (ed.), 129-147, Singapore: Singapore University Press.

[3] Ladefoged, P. (1982). A Course in Phonetics. New York: Harcourt Brace Jovanovich, Inc.

[4] Platt, J.T. (1977). The sub-varieties of Singapore English: their sociolectal and functional status. In The English Language in Singapore, W.J. Crewe (ed.) 83-95. Singapore: Eastern Universities Press.

[5] Smith, Larry,E. (1985). EIL Versus ESL/EFL: What's the difference and what difference does the difference make? In English Teaching Forum, 1985.

[6] Tay, Mary. (1982). The phonology of educated Singaporean English. In English World-Wide, Volume 3(2):135-145.

[7] Tiffen, B. (1974). The intelligibility of Nigerian English. Ph.D. Dissertation, University of London.

Table 1: *Mean Values of F1 & F2' Frequencies for SSE Vowels*

Speakers		1	2	3	4	5	6	7	8	MEAN
i	F1	260	300	300	300	290	250	313	333	293
	F2'	1960	2573	1933	2240	1733	1967	1780	1647	1979
ɪ	F1	270	367	373	307	270	333	280	393	324
	F2'	2033	2427	1887	2500	1780	1853	1847	1633	1995
e	F1	600	560	573	553	547	533	560	580	563
	F2'	1287	1187	1300	1193	1220	1340	1320	1247	1262
æ	F1	607	513	573	553	553	553	533	520	550
	F2'	1227	1260	1247	1373	1247	1273	1280	1280	1273
ɑ	F1	593	613	673	633	640	653	600	667	634
	F2'	540	487	653	613	667	600	620	680	607
ʌ	F1	570	540	707	703	660	620	613	667	635
	F2'	673	647	687	593	717	683	688	720	676
ɒ	F1	580	553	573	540	533	567	507	500	544
	F2'	393	407	547	520	487	587	440	627	501
ɔ	F1	633	560	620	540	580	553	527	520	566
	F2'	347	380	487	400	607	580	487	600	486
ʊ	F1	410	430	390	370	333	360	353	407	381
	F2'	787	813	920	827	747	907	820	807	828
u	F1	360	347	380	373	333	300	320	407	352
	F2'	807	747	673	647	720	867	833	840	766