Inter-accent and inter-cultural intelligibility: a study of listeners in Singapore and Britain

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Introduction

The features of accents that promote intelligibility, and the strategies needed by the listener to cope with a range of accents, can be studied from a number of perspectives, with a focus sometimes on the accent (and even on perceived inadequacies of the speaker) and sometimes on the skills of the hearer.

Pioneering studies of accent intelligibility on an international scale were made by Nelson, Smith and associates (for example, Nelson 1983; Smith & Khalilullah 1979; Smith & Bisazza 1982), and they discuss their (at times, contradictory) results with some caution. In general, it seems that accents from one's own country are easier to understand than those from elsewhere, while some unfamiliar accents appear to be harder to understand than others, perhaps in a hierarchy that crosses national boundaries. Some of the studies undertaken by psychologists (such as Burda, Scherz, Hageman & Edwards 2003) use terms and judgements which linguists would regard as inappropriate, often with a focus on the comprehension of 'non-native' accents, and deal with the concept of 'accentedness', and even error (Munro & Derwing 1999; Bresnahan, Ohashi, Nebashi, Liu & Morinaga 2002; Burda et al 2003), which are concepts hard to sustain if comparison includes a range of 'native' accents.

Some have suggested that some accents are easier than others to understand due to maintenance of salient contrasts (eg being rhotic). Abercrombie (1956) famously (and tongue a little in cheek) argued for Scottish English as a better model for learners than RP, due to its rhoticity, greater contrasts and, therefore, higher intelligibility. It is, of

course, clear to most of those in the field that 'intelligibility is ... interactional between speaker and listener' (Smith & Nelson 1985:337), and that the skills of hearing are acquired (Nathan, Wells & Donlan 1998; Burda et al 2003).

The implications for language learners are often a major impetus for intelligibility studies, and it is generally the accent of the learner that is the focus of attention. Most intelligibility studies use relatively structured, decontextualised stimuli, but recent work based on the Vienna–Oxford corpus, dealing with English as a European Lingua Franca (House 1999; Jenkins 2000; Seidlhofer & Jenkins 2003), has begun by examining real interactions between non-native speakers of English with a variety of accents to see how intelligibility is actually negotiated.

This study is in the tradition of focusing on the hearers, though I will also consider the phonological features that give rise to difficulty. Comparable students from a university in Leeds and a university in Singapore listened to short extracts from comparable interviews with a British student and a Singaporean student, which they were asked to transcribe into normal orthography.

Method

David Deterding interviewed speakers of English from both Singapore and England. The interviews are relatively formal, though relaxed, and produce speech which could be described as spoken Standard English (Carter 2003). Extracts from two of these interviews were selected; these were of similar topic (speakers answering a question about what they did on their last vacation), of similar length and of a similar degree of fluency (Table 15.1). Both speakers were male undergraduates in their early twenties. The Singaporean speaker spoke with what could be called a mainstream educated Singapore accent (SgE), as described by, inter alia, Brown (1988). The speaker from England (referred to from this point as the 'British speaker' (BrE), to avoid confusion with 'English' the language) spoke with a mainstream Southern England accent that could be described as 'near-RP' (Wells 1982), though Deterding (2003, forthcoming) refers to it by the controversial term 'Estuary' (Rosewarne 1984), and regards it is as different from what he calls 'Standard Southern British'. The British speaker's accent reflects many of the ways in which RP has changed since the days of Daniel Jones and A C Gimson, in ways first spotted by Wells (1982:279ff), and also illustrates how regional variants of (near-) RP have emerged.

Table 15.1: Characterisation of the Singaporean and
British recordings used

	Singaporean	British
Accent type	Mainstream educated Singapore	Southern England near-RP
Length (word count excludes the interviewer but includes voiced pauses and word fragments)	41 seconds 109 words	50 seconds 155 words
Some of the segmental features liable to cause problems of intelligibility across accents	Non-rhotic Glottal stops for /t, d/ usual in coda Consonant cluster simplification No contrast between historically long and historically short vowels	Non-rhotic Glottal stop for intervocalic /t/ between stressed and unstressed syllables *-ing* is [ɪn] Variable *th*-fronting, with labiodental versions likely in coda
Suprasegmental features liable to cause problems of intelligibility across accents	Little difference between stressed and unstressed syllables	Extensive reduction in unstressed syllables Drop in volume at utterance end
Number of false starts	3	4
Number of voiced pauses (*uh, uhm*)	4–6	6
Number of word-stutters	4	1
Number of discourse markers	5 (*actually* (x2), *sort of* (x2), *like*)	6 (*sort of* (x2), *well, like, if you know what I mean, to be honest*)

In Singapore, five students majoring in English Language transcribed each recording. The students were permitted to transcribe in their own time, and in the case of the British speaker, the section used here was only part of what they transcribed (for an analysis of the whole transcript of the British speaker, see Deterding 2003, forthcoming).

In Britain, digitised versions of the recordings were played from a CD through loudspeakers to four groups of undergraduates at the University of Leeds, who were all taking optional courses in English Language. Twenty-one respondents heard the Singaporean speaker, and 17 heard the British speaker. All students were from England, and none had lived in or had close contact with Singapore, Malaysia or Brunei (transcripts from two students from mainland Europe have been excluded). Nearly all of the Leeds students spoke varieties of RP or near-RP. The British speaker's accent was a very familiar one to them, and similar to many of their own accents. Indeed, when one session ended, a student turned to the only male in the group and said, 'It's you, isn't it?' Students were given the following instructions:

> I am involved in a study of the extent to which various accents of English can be understood around the world. I'd be grateful if you could help me in this study. I will play you a short extract from an interview. I will then replay the extract in smaller sections, so that you can write down (in normal orthography) what you hear the interviewee say. I'll give you enough time to write – please make it legible! Then I will replay it once more in full. The words of the interviewer are supplied. Thank you for your help.

Coding

The transcript was agreed on by Deterding and me (the small number of unresolved differences are shown in Appendix 15.1). The students' transcripts were coded for content and exactness.

The method of content-based coding is similar to the information coding element of Renfrew (1995), used in coding the accuracy of retelling. Each text was scored out of 20.

The exactness scoring counted the words correctly transcribed. There was no penalty for insertion of words (which was rare). This score was phonologically based, and potentially distinct from the content scoring. For example, a student unfamiliar with the word *pastors*, such as the one who wrote it as *pastas(?)*, would not score in the content-based coding, but would score in the exactness coding. Conversely, grammatical changes consistent with the meaning (such as changing *Spain and*

Table 15.2: Content and Exactness scores for two speakers.
Content scores are out of 20; exactness scores out of
109. There are too few Singaporean listeners to make a
Standard Deviation (SD) meaningful.

	SgE speaker		BrE speaker	
	Content	Exactness	Content	Exactness
BrE listeners				
	18	80	20	88
	17	84	19	92
	17	77	19	90
	17	77	19	89
	16	76	19	83
	16	72	19	69
	15	82	18	92
	15	79	18	83
	14	68	17	87
	13	66	17	85
	13	65	17	77
	13	64	16	91
	12	63	16	86
	12	63	16	80
	12	59	15	84
	11	63	15	67
	11	62	13	77
	10	58		
	7	53		
	7	27		
	5	31		
Mean	13	65	17	84
SD	3.58	14.81	1.89	7.48
SgE listeners				
	19	101	13	67
	18	102	12	61
	18	100	12	81
	18	98	11	71
	17	102	7	46
Mean	18	101	11	65

Portugal wasn't ... to *Spain and Portugal weren't ...*) would result in success on content scoring but would lose marks on exactness. Alternative spellings were allowed (such as *it's = it is*; *Yes = yeah = yah*) and *uh* was not distinguished from *uhm*. Spelling errors were not penalised (eg *Mor(r)oc(c)o, as oppose to*). One point was scored for every word correct, compounds and contractions both being classed as two words. As the Singaporean speaker's text was 0.7 of the length of the British speaker's text, the exactness scores for the British text have been multiplied by 0.7 to allow for direct comparison (Table 15.2), so that it is out of 109 for both.

Results

It is not surprising that the British hearers could understand the British speaker better than they understood the Singaporean speaker, while the Singaporean hearers understood the Singaporean speaker better than they understood the British speaker (Table 15.2).

Familiar accents are easier to understand than unfamiliar. There was little variability in scores attained by those listening to familiar accents: the Singaporean students listening to the Singaporean speaker all got virtually identical (and very high) scores, and the scores of the British students listening to the British speaker were also relatively level (and high). Within these homogeneous groups, everyone was more or less equally able to transcribe a familiar accent similar to their own.

However, when it came to coping with an unfamiliar accent, some hearers were more skilled than others. Exactness scores on unfamiliar accents were all lower than the lowest scores of those to whom the accent was familiar. The content scores for hearers transcribing unfamiliar accents were especially wide. One of the Singaporean hearers and four of the British hearers could understand the messages in the unfamiliar accent to a similar degree to those hearers to whom the accent was familiar.

There is some suggestion in the results that the Singaporean accent might be 'clearer' than the British one. The means for the Singaporean speaker were higher than the corresponding means for the British speaker. The accents, style of discourse and voice quality used by these two speakers do seem to me to be mainstream, but individual features of voice quality may be relevant too. Both British and Singaporean hearers had great difficulty with *something new as opposed to s- somewhere hotter* (from the British speaker). The content is unpredictable, and there is a glottal stop in the middle of *hotter*, but what made this a real challenge

for all the listeners is the progressive drop in volume after *new*, which causes the message, in *hotter*, to be almost inaudible. This trailing off in volume is not only a feature of this individual speaker, however: it is used by many speakers of this accent, especially males, and appears to be associated with a presentation of self as unassertive and unthreatening.

It is hard to imagine how one might measure relative 'clarity' of two different accents of English. Some features of both of these speakers would be challenging to someone not familiar with their accents, but overall there seems to be little reason for saying that one is intrinsically harder than the other.

- In both accents, glottal stops are a possibility in word-final position, but in the British speaker they are possible word-medially too.

- Having a large difference between stressed and unstressed syllables may help British listeners, who are accustomed to using this as a clue to structure, but may result in Singaporean listeners thinking that unstressed syllables have almost disappeared.

- Those working on English as Lingua Franca (Seidlhofer & Jenkins 2003:146ff, Jenkins 2000) recommend that learners of English maintain, at least in quality, of a distinction between 'long' and 'short' vowels, but the absence of any such distinction in SgE did not seem to have much impact on the British listeners.

- The Singaporean accent has a relatively high vowel in the TRAP lexical set ([ɛ]), whereas the British accent has a relatively low one ([a]), but many speakers of English are accustomed to negotiating variation on this sound, and no errors were made which could be attributed to this.

If intelligibility lay in degrees of 'clarity' in a speaker, one would not expect to find any high scorers for a 'less clear' accent. Intelligibility of normal speakers of accents of English must be assumed to be predominantly a function of the familiarity of the accent to the hearer. This would explain why the distribution of scores is so much flatter for the familiar accent – everyone has a similar degree of familiarity with the accent. When we come to the unfamiliar accent, we are dealing with degrees of skill in the listener, with some listeners perhaps more able to map less familiar varieties onto the phonology.

Closer inspection reveals that cultural factors appear to be as important as accent. These were real interviews and were not culturally vacuous. *Morocco, Spain, Barcelona* and *Portugal* were familiar territory for

all the British hearers, but *Portugal*, especially, presented problems for two of the Singaporeans. *Hyderabad* and *Kurnool* were unfamiliar to both groups. *Interrailing* defeated all the Singaporean hearers, but only three of the British hearers. A further difficulty for both groups was presented by the religious terminology of the Singaporean speaker (*pastors, cell-based*). The process of understanding real text is collaborative and involves guesswork. Salient unfamiliar cultural reference can prevent this prediction from being possible. While some elements of content presented little or no problem for respondents, other elements were especially problematic.

In the Singaporean text, especially, many of the problem areas arose from cultural difficulties (Table 15.3).

Problems for both British and Singaporean hearers came about because of Indian place-names and Christian terms. Most failures to score on the content coding resulted from omissions, signalled in some cases by such devices as space, omission marks or question marks. Points lost through error were rare. Faced with unfamiliar place names, some students made an effort at an orthographic representation, and these efforts were phonologically sensible, suggesting that the students were not struggling with accent so much as with culture (Appendix 15.2). The Singaporean hearers were more willing than the British hearers to make an effort at an 'exotic' name, perhaps reflecting a more cosmopolitan experience. But the efforts of the Singaporean and British students at unfamiliar Indian place names were similar, and seem not to reflect any differences in phonological interpretation. For example, both Singaporean and British students variably used *e* and *a* in the final syllable of *Hyderabad* (where the Singaporean accent does not have a contrast between the TRAP vowel and the DRESS vowel). The British text had fewer cultural problems, apart from *interrailing*, where, again, the efforts of those unfamiliar with the word were similar, and phonologically apt. With one exception (a Singaporean), both British and Singaporean efforts ended with *n*, not *ng*, despite the fact that the British respondents spoke accents in which *-ing* is variable [ɪn] or [ɪŋ], whereas in Singapore English [ɪŋ] is invariable: again, this is a variation most speakers of English are familiar with. One Singaporean hearer produced *inseralin*, reflecting the noticeable affrication of /t/ used by the speaker. One Singaporean and one British hearer used *n* corresponding to the speaker's /l/.

Table 15.3: Percentage of points lost

Singaporean speaker

Content score element	BrE listeners	SgE listeners
in Hyderabad	76	50
a city called Kurnool	66	0
cell-based church	64	30
my pastors are sort of consultants to a church	29	7
10 people, including 2 pastors	24	10
to equip the church with tools	24	0
went with a small group	19	0
so that the church can work with small groups	17	0
we are there sort of as a consultant	14	0
missions trip to India	12	0

British speaker

Content score element	BrE listeners	SgE listeners
something new as opposed to somewhere hotter	47	60
I lived in the Middle East for about 4 or 5 years	25	60
a year ago went interrailing over the summer	17	90
Morocco's good: better than the places in Europe	17	50
Morocco's different from anywhere else I've been	11	40
Portugal – had a look round there	8	50
ferry to Morocco and train round Morocco	8	20
Spain and Portugal not very different from home	3	10
to southwest Europe and Morocco	0	40
plane to Barcelona, train round Spain	0	30

Other difficulties experienced by the Singaporean listeners to the British speaker do seem to be due to accent features (reported by Deterding forthcoming). The Singaporean hearers had difficulties with some of the things few British hearers found problematic, such as *in summer* and *for about four or five years*. It seems likely that the Singaporeans' difficulties arise from the difference in prosodic rather than segmental features, due to the large drops in volume and salience by the British speaker.

Conclusion

The speakers and hearers in this study were students, of well-matched educational and social levels in their respective communities. The hearers found it similarly easy to understand the unscripted, fairly informal speech of someone from their own speech community. They found it harder to understand an accent with which they were unfamiliar, though they performed at a level that suggests that face-to-face, most would have little problem negotiating meaning. Faced with an unfamiliar accent, however, some individual hearers seem to demonstrate much greater skill than others. Whether this is due to cognitive ability, absence of prejudice or greater exposure to a range of accents, we cannot know, but that would certainly be worth exploring. The Singaporean speaker seemed to be easier to understand (by the corresponding group of hearers) than the British speaker; this may be due to his use of reduction, which are extreme in many accents of England, as distinct from other accents of English. Further investigation would be needed to confirm this.

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Appendix 15.1: Transcript of texts

(Transcript as agreed by Deterding and Gupta, except for alternatives indicated below, which were both scored as correct. I = interviewer, S = speaker)

Singaporean speaker (M5-a)

I: And what did you do during your vacation?
S: Uh during my vacation actually I went for a missions trip to India.
I: To India?
S: Yeah.
I: What part of India did you go to?
S: Uh to a s- small part in Hyderabad ... it's a/uh ... actually a city called Kurnool.
I: Alright.
S: Yeah.
I: What did you do there?
S: We actually went there with a/uh ... it's a small group of around ten person ... ten people ... uh including two of my pastors. We are there to ... to sort of equip the church with the tools for ... for being a cell-based church so-called ... small groups so that the church can- can-can work in small groups.
I: So you helped to build the church or did you-
S: Uh no, no. We are there sort of as a consultant. My pastors are like consultants to a church over there.
I: Right.

British speaker (BM2-a)

I: OK, can you tell me something about your last vacation?
S: OK. Um about a year ago I went uh interrailing over the summer to uh sort of southwest Europe and uh Morocco as well so I went ... got a plane to Barcelona and then the/we train/trained ([miː tɹɛɪn]) (a)round Spain. And got a ferry to Morocco and then took a train (a)round Morocco. And then went back up to Portugal, had a look (a)round there.
I: What do you think about ... uh ... Morocco? Do you like that?

S: Yeah, Morocco's really good. I preferred it to um the places in Europe to be honest cos it's a bit more ... Spain and Portugal wasn't all that different from home if you know what I mean so ... but Morocco's a bit more sort of like seeing something new as opposed to s- somewhere hotter.

I: Was that the first time you've been outside of Europe?

S: No, not the first. Um I've been to ... well I lived in the Middle East for about four or five years.

I: Right.

S: Yeah and Morocco's quite different from anywhere else I've been.

Appendix 15.2: Commonest errors

Singaporean speaker

Element	British hearers	Singaporean hearers
in Hyderabad [in hʌidɹəbɛʔ]	No text: 14 *India*: 1 Phonologically plausible transcriptions: 5 (*Hydro-sech* (1), *hydrabet* (1), *Hydrobe* (1), *Hydrabehi* (1), *Hydraba* (1))	Phonologically plausible transcriptions: 5 (*Tigerbet* (1), *hydo-back* (2), *hidrobet* (1), *Hydrebag* (1))
cell-based church [sɛl beis tʃətʃ]	No text/omission of NP indicated: 6 *Salvos* *to salvage the church*: 1 *?/__/()-based church*: 3 Phonologically plausible transcriptions: 11 (*salvage church* (5), *self-based church* (2), *salvation church* (1), *salvat church* (1), *south church* (1), *salving church* (1))	Phonologically plausible transcriptions: 3 (*self-based church* (3))

Appendix 15.2 (cont'd)

a city called Kurnool [ə siti kɔʊʔ kənu]	No text: 12 Omission of *city*: 6 Mixed efforts at *Kurnool*: 3 (*Ikok* (1), *Cock Kanu* (1), *hydra-canoe* (1)) Phonologically plausible transcriptions: 7 (*Kanu* (2), *Kahnu* (1), *Canoe* (1), *Canoo* (1), *Karnu* (1))	Phonologically plausible transcriptions: 5 (*Kernu* (2), *Kenu* (2), *Canoe* (1))
my pastors are sort of consultants to a church [pʌstʌs]	All no text except for one (*pustors?*)	*clusters* for *pastors* (1)
Ten people, including two of my pastors	Omissions, apart from *some* for *two*: 1 Phonologically plausible transcriptions: 2 (*pastas?*, (*pustors?*))	*clusters* for *pastors* (1)

British speaker

Element	British hearers	Singaporean hearers
Morocco new as opposed to somewhere hotter [ˈsʌmwɛ ˈhɒʔə]	Omission of *new*: 2 Ending at *new*: 7 Ending at *as opposed to (just)*: 7	*somehow* for *somewhere*: 4 *I suppose* for *as opposed*: 1
Well I lived in the Middle East for four or five years [wɛʊ a ˈlɪvd]	Omission of *four or five*: 1 Ungrammatical structure: 1 (*I to see the Middle East for about 4-5 years*) Completion of false start: 8 (*I ((ha)ve) been to* (6), *I went to* (1))	Omission of *Middle East*: 1 *since four five years ago*: 1 *for four or five days*: 1 Completion of false start: 5 (*I (ha)ve been to*)

Appendix 15.2 (cont'd)

Morocco's really good: I preferred it to um the places in Europe to be honest [aʔ ˈpɹifəd ɪ tʰu ə m ðə ˈpleɪsəz̥ ɪn ˈjuɹəpˑ]	Error in *in Europe*: 2 (*the place nearer to France* (1), *the place in* ^ (1)) Reversal of preference: 1 (*I prefer to see Europe* (1)) Ungrammatical structure: 3 (*I preferred to the places in Europe* (1), *I've preferred it the places in Europe* (1), *I preferred it the place in Europe* (1))	Notion of preference, but incorrect: 3 (*I'd prefer Sudan, I'd prefer it the place in Europe's round, I prefer to see the place in Europe's runners* (1)) Other: (2) (*the folks there ...* (1), *the food is good* (1))
a year ago I went uh interrailing over the summer [ˈɪntˢəˌɹeɪlɪn]	Omission of *interrailing*: 1 Phonologically plausible transcriptions: 2 (*interranean* (2))	Omission of *in summer:* 2 Error in *in summer*: 2 (*I did summer tea* (1), *I've a summer* (1)) Phonologically plausible transcriptions: 4 (*inseralin* (1), *in-training* (1), *intrailian* (1), *in trailian* (1))
then went back up to Portugal, had a look (a)round there [ðɛn ˈwɛn ʌʔ ˈbak ʌp tə ˈpɔtʃuglˑ . ˈhad ə ˈlʊʔ ˈɹɑun ðɛː]	Omission of *had a look round there*: 1	Omission of whole: 1 Error in *had a look round*: 2 Phonologically plausible transcriptions: 1 [*hooch school*]