

VARIABILITY IN BRAZILIAN LEARNERS' ENGLISH PRONUNCIATION AND ITS EFFECT ON INTELLIGIBILITY

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ABSTRACT: Pronunciation features which characterise the prototypically Brazilian accent have been described in the literature for decades. These features, regarded as being predictable, are grouped into five categories: (1) word stress placement; (2) consonants; (3) vowels; (4) vowel insertion; and (5) spelling pronunciation. Due to linguistic variability, the predictability of features is questioned in this study, which has two aims: (1) to identify pronunciation features in spontaneous speech of Brazilian learners' English unpredicted in the literature; and (2) to investigate the ways in which these features affect the pronunciation intelligibility of the Brazilian learners to British listeners. Data collected for a previous study (CRUZ, 2006) was revisited. Such data comprise samples produced by Brazilian learners containing predictable pronunciation features, presented to British listeners unfamiliar with the way Brazilians pronounce English words. The results reveal that the prototypically Brazilian accent presents more variability than what has been suggested in the literature, and that the unpredictable pronunciation aspects are likely to affect Brazilian learners' intelligibility to British listeners.

KEYWORDS: pronunciation; unpredictable aspects; Brazilian learners; intelligibility.

RESUMO: Aspectos da pronúncia do inglês que caracterizam o protótipo do sotaque brasileiro têm sido apresentados na literatura há décadas. Esses aspectos, reconhecidos como sendo previstos, estão agrupados em cinco categorias: (1) acentuação de palavras; (2) consoantes; (3) vogais; (4) inserção de vogais; e (5) interferência da grafia. Devido à variabilidade linguística, a previsibilidade desses aspectos é questionada neste estudo, que apresenta dois objetivos: (1) identificar aspectos da pronúncia

do inglês na fala espontânea de aprendizes brasileiros não previstos na literatura; e (2) investigar como esses aspectos afetam a inteligibilidade da fala do brasileiro para ouvintes britânicos. Dados coletados para um estudo anterior (CRUZ, 2006) foram revisitados. Esses dados incluem amostras produzidas por aprendizes brasileiros contendo aspectos de pronúncia previstos na literatura, que foram apresentadas para um grupo de ouvintes britânicos não familiarizados com o falar em inglês do brasileiro. Os resultados revelam que o protótipo do sotaque brasileiro apresenta mais variações do que é sugerido na literatura, e que os aspectos não previstos podem afetar a inteligibilidade da fala do aprendiz brasileiro para ouvintes britânicos.

PALAVRAS-CHAVE: pronúncia; aspectos não previstos; aprendizes brasileiros; inteligibilidade.

Introduction

As variability is inherent in human language, language forms are impossible to be studied without considering linguistic variability (REPPEN et al., 2002). Variability may occur at the level of grammar, morphology, pronunciation. Variation at the level of pronunciation is regarded as being accent. Foreign accent is variation in the pronunciation of a foreign language by non-native speakers of that language. Brazilians who speak English as a foreign language, for instance, are likely to present variation in their English pronunciation, known as the prototypically Brazilian accent.

Features of such accent have been described in the literature for decades, in studies such as Mascherpe (1970), Lessa (1985), Lieff and Nunes (1993), Rebello (1997) and Baptista (2001). They are, thus, regarded as being predictable.

In a previous study (CRUZ, 2006), these predictable features were identified in spontaneous speech of Brazilian learners' English, and their effect on intelligibility was investigated. Considering language variability, I cast doubts on the predictability of these

pronunciation features, and decided to revisit the Brazilian learners' data of the previous study, in order to identify pronunciation features in Brazilian learners' English unpredicted in the literature and their effect on intelligibility to British listeners. Thus, the present study has two objectives: (1) to identify pronunciation features in spontaneous speech of Brazilian learners' English unpredicted in the literature³; and (2) to investigate the ways in which these features affect the pronunciation intelligibility of the Brazilian learners to British listeners⁴.

Data collection

Since the data collected for a previous study was revisited as a means to achieve the objectives proposed for the present study, an overview of the data collection is presented here.

Two types of data were collected with two groups of participants. The first group comprises 10 Brazilian learners enrolled in the Extracurricular courses⁵ at UFSC (Federal University of Santa Catarina), who were interviewed one at a time by an Englishman. The learners' proficiency levels ranged from level 5 (corresponding to the intermediate level) to level 8 (equivalent to the upper-intermediate level), and their ages ranged from 18 to 24 years. None of them had visited an English-speaking country, either for study purposes or on holiday. Thus, their knowledge of the English language and their pronunciation were acquired entirely in Brazil.

³ This aim was motivated by a question posed during the debate of the Symposium "Phonetics, Phonology and language teaching", held at the IX CBLA, in Rio de Janeiro, 2010, after the presentation of my paper entitled "Pronunciation intelligibility in Brazilian learners' English".

⁴ The possible reasons for the occurrence of the pronunciation features are not discussed in this study. My main interest lies in the identification of these features, and of how far their occurrence in the speech of Brazilian learners affects their intelligibility to British listeners, but not the discussion of why these features occur.

⁵ Extracurricular courses are open access language courses offered by UFSC. Each English level course lasts one semester, and includes three hours per week.

Thirty samples (see Appendix) were selected from the learners' speech. The criterion adopted for the selection was that they must contain predictable pronunciation features, and do not contain grammatical or lexical inadequacies, since these are likely to interfere with intelligibility (TOMIYAMA, 1980; WANG, 1987). The samples were presented to the second group of participants, 25 British listeners, unfamiliar with the way Brazilians pronounce English words. The listeners were asked to listen to the samples once, as intelligibility is regarded here as being the first impression, and carry out two tasks: (1) to rate the samples on a 6-point scale: 1 = impossible to understand; and 6 = very easy to understand; and (2) to write the samples down.

For the present study, in order to achieve the first objective proposed, the thirty samples selected from the Brazilian learners' data was revisited; to achieve the second objective, the listeners' data comprising the second task was revisited.

Brazilian learners' pronunciation features predicted in the literature

Five studies have appeared relevant and served as a guideline for the identification of the predictable pronunciation features in the 30 samples selected from the Brazilian learners' data. They are: Mascherpe (1970), Lessa (1985), Lieff and Nunes (1993), Rebello (1997), and Baptista (2001). These authors present the phonemes of English which are regarded as being difficult for Brazilian learners to pronounce, and the sound types these learners produce due to these difficulties. They are grouped here into five categories: (1) word stress placement; (2) consonants; (3) vowels; (4) vowel insertion; and (5) spelling pronunciation.

Word stress placement refers to learners' difficulties in producing the correct stressed syllables. Consonants and vowels comprise learners' difficulties in relation to the pronunciation of consonant and vowel sounds, and to the consonant and vowel types

produced by them due to these difficulties. Vowel insertion includes the addition of a vowel in word-final position, and in initial consonant clusters. Finally, spelling pronunciation includes cases referred to in the studies as being pronunciation difficulties associated with the spelling of English words.

The Brazilian learners' pronunciation features reported in the five categories are summarised here.

(1) Word stress placement

- English stress patterns cause difficulties. The word *comfortable* tends to be pronounced with the primary stress on the syllable '-ta' (LIEFF; NUNES, 1993).

(2) Consonants

- /t/ and /d/ are likely to be pronounced with a dental articulation (MASCHERPE, 1970).
- The voiceless dental fricative /θ/ tends to be realised as /t/, /s/ or /f/, and the voiced dental fricative /ð/ as /d/, /z/ or /v/ (MASCHERPE, 1970; LIEFF; NUNES, 1993; BAPTISTA, 2001). This feature is also focused in two more recent studies carried out by Reis (2010; 2006).
- The nasals /m/, /n/ and /ŋ/ are likely to be omitted in syllable- and in word-final positions, causing the nasalization of the preceding vowels (MASCHERPE, 1970; BAPTISTA, 2001). More recent studies, such as Kluge (2004; 2009), focus on the production of the English nasals by Brazilian learners.

(3) Vowels

- The front vowels /i:/ and /ɪ/ are likely to be produced as /i/. The front /e/ and /æ/ would be produced as /ɛ/ (MASCHERPE, 1970; LIEFF; NUNES, 1993; BAPTISTA, 2001)⁶.

⁶ A more recent study, such as Rauber (2006), focus on the production of vowels by Brazilian EFL speakers.

- The back vowels /ɒ/ and /ɔ:/ tend to be pronounced as /ɔ/, and /u:/ and /ʊ/ are likely to be realised as /ʊ/ (MASCHERPE, 1970; LIEFF; NUNES, 1993; BAPTISTA, 2001).
- There is likely to be difficulty producing the central vowel /ə/, especially in connected speech (LIEFF; NUNES, 1993).

(4) Vowel insertion

- The vowel [i] tends to be added in word-final position after the voiceless and voiced plosives, the fricatives /f/, /v/, /ʃ/ and /ʒ/, and the affricates /tʃ/ and /dʒ/. Either [ɛ] or [i] is likely to be inserted before initial /s/ clusters (MASCHERPE, 1970; LIEFF; NUNES, 1993; BAPTISTA, 2001).
- Voicing assimilation of the fricative /s/ in an initial /s/ cluster with /m/, /n/ or /ŋ/ tends to occur if a vowel is inserted (REBELLO, 1997).

(5) Spelling pronunciation

- The English velar lateral [ɫ], when either in syllable final or in word-final position, tends to be replaced either by the semivowel [w] (MASCHERPE, 1970; LESSA, 1985), or by the vowel [u] (BAPTISTA, 2001). This velar lateral was studied more recently by Baratieri (2006).
- The voiceless fricative /s/ is produced for all the < s > endings, [s], [z], [ɪz] or [əz] of plural, possessive and third person singular (MASCHERPE, 1970; LESSA, 1985; LIEFF; NUNES, 1993).
- The past tense spelling < ed > would be pronounced as [ed], [ɪd] or as [əd] (LESSA, 1985; LIEFF; NUNES, 1993; BAPTISTA, 2001). A more recent study, Delatorre (2006), deals with the production of the past < ed > by Brazilian EFL learners.

As can be seen from the summary presented, while Mascherpe (1970), Lieff and Nunes (1993), and Baptista (2001) focus on various aspects regarding the phonemes of

English and Portuguese, Rebello (1997) concentrates specifically on cases of vowel insertion in initial /s/ consonant clusters, and Lessa (1985) on cases of spelling pronunciation.

Unpredictable pronunciation features in Brazilian learners' English and their effect on intelligibility

Out of the 30 samples selected, 14 contain pronunciation features unpredicted in the literature. The criterion for considering them unpredictable was that they needed to be either dissimilar to or not included in the five studies previously mentioned. A broad phonetic transcription was used. This transcription type was chosen since the pronunciation features which were to be isolated had been previously established. Advance awareness of what needed to be searched for in the 30 samples meant that a broad phonetic transcription was satisfactory.

In order to confirm the presence of the unpredictable pronunciation features, the learners' pronunciation of the words was compared to the pronunciation versions found in dictionaries adopting two reference norms: RP (Received Pronunciation), also referred to as BBC English, and GA (General American). The reason for choosing these two accents concerns availability. As McArthur (2002, p: 42) states, RP "has probably been the most described and discussed accent on earth" and "continues as a matter of course to be selected or offered world-wide as the reference norm for any discussion of spoken British English (and often of other varieties of English)" (McARTHUR, 2002, p: 43). General American, he states, has "continued in use among both language scholars and ESL/EFL teachers, especially outside the US" (McARTHUR, 2002, p: 170).

In addition to using a dictionary which provides the pronunciation versions of words in the two previously mentioned norms, other source such as Cauldwell (2002) was consulted. This source shows data involving authentic spontaneous speech of native speakers.

The unpredictable pronunciation features are divided into two groups: (1) features added to three, out of the five, predictable categories mentioned in the previous section, namely systematic features; and (2) features not belonging to any of the categories, namely non-systematic features.

Systematic features

The unpredictable systematic features identified are added to 3 categories: (1) misplaced word stress; (2) inappropriate vowel, specifically schwa; and (3) vowel insertion. Each one is presented separately and its effect on intelligibility is described.

(1) Misplaced word stress

Before presenting the unpredictable misplaced word stress features, it is important to point out that word stress is distinguished from prominence in the present study. Hewings (1993) provides a clear distinction of the two phenomena: “Stress is an inherent property of the word, knowledge of which is shared by the total speech community. Prominence, in contrast, is a linguistic choice available to speakers independent of stress in the citation form of the word. A decision to make a word prominent or not is made on the basis of the discourse conditions prevailing at any particular moment” (HEWINGS, 1993, p. 104). Word stress only is identified here, since reference norms which provide the stressed syllables of the citation form of words are available. For prominence, a reference norm or target performance would be of doubtful validity, since the decision to give prominence to a word is based on the

speaker's perception of what meaning should be highlighted to his/her listener (BRAZIL, 1997).

Out of the five studies previously mentioned, one only, Lieff and Nunes (1993), identify misplaced word stress. The authors show misplacement of primary stress, which should be on the first syllable, as in the word *comfortable*, likely to be produced with the primary stress on the syllable 'ta'.

In addition to the presence of the predictable misplacement of primary stress on the first syllable, in words such as *vegetables*, *interesting* and *hamburger* (CRUZ, 2006), two were found in the samples: (1) stress on the first syllable instead of on the second; and (2) stress on the first instead of on the third syllable. Instance of the first case include *terrific* ['tɛ.ɪfəki], in Sample 28, and of the second *university* ['ju:nivə'siti], in Sample 8.

On the basis of the stressed syllables in the words previously mentioned, it is possible to infer that Brazilian learners inappropriately stress the first syllables of words, as in *terrific* ['tɛ.ɪfəki] and in *university* ['ju:nivə'siti], and do not stress the first syllable when they should, as in *vegetables*, *interesting* and *hamburger*.

Effect on intelligibility

Both *terrific* ['tɛ.ɪfəki] and *university* ['ju:nivə'siti] were misunderstood. *Terrific*, in Sample 28, [dedə'wintə'is'tɛ.ɪfəki], with stress on the first syllable instead of on the second, was written in 7 ways: terrible (3 times); stuck (once); stealth (4 times); itself (once); terrifying (once); dark (once) and stark (once). A total of 12 listeners wrote *terrific* differently. Two orthographic transcriptions are “in the winter, it's terrible” and “in the winter it's dark”.

University, in Sample 8, [təplei'volibou'basketæt'ju:nivə'siti], with stress on the first syllable instead of on the third, was heard in 2 ways: useless and universe, once each. Only two listeners misunderstood *university*. One of the transcriptions is “play basket I’m useless”.

(2) Inappropriate schwa /ə/ vowel

As stated by Lieff and Nunes (1993), Brazilian learners have difficulties producing schwa, especially in connected speech. These authors, however, do not specify the specific context in which these difficulties are likely to occur. In the samples revisited, the learners’ pronunciation features are mainly related to weak forms in function words which are non-prominent, where different phonemes are produced instead of /ə/. Examples include: (1) the vowel [ɛ], in non-prominent *at* /ət/, pronounced as [ɛt], Sample 8, and in the non-prominent *and* /ən/, produced as [ɛn], Sample 19; (2) the vowel [ɛ], in most of the non-prominent productions of the definite article *the* /ðə/, produced as [ðɛ] as in Sample 13; and (3) the vowel [a] in non-prominent *a* /ə/, pronounced as [a], as in Sample 24. The pronunciation of schwa in non-prominent function words hardly ever occurs.

Effect on intelligibility

The only case identified as interfering on intelligibility occurred in the non-prominent *and*, which immediately follows *sit*, pronounced with the vowel [ɛ] instead of with schwa, in Sample 19, [dʒʌstəsitentəkwi:fɪɛs]. Five listeners wrote *sitting* to replace *sit and*. Since the predictable inappropriate vowel [i] in *sit* (MASCHERPE, 1970; LIEFF; NUNES, 1993; BAPTISTA, 2001) did not cause misunderstanding, these listeners are likely to have been

influenced by the vowel in *and*, since *sitting*, compared to *sit*, has an extra syllable. One of the transcriptions is “just sitting, talk with friends”.

(3) Vowel insertion

The addition of the vowel [i] in word-final position after the voiceless and voiced plosives, the fricatives /f/, /v/, /ʃ/ and /ʒ/, and the affricates /tʃ/ and /dʒ/ is the only case identified in the studies carried out by Mascherpe (1970) and Baptista (2001), mentioned in the previous section.

In the thirty samples revisited, in addition to the predictable [i] vowel, two other cases are found: (1) the addition of two other vowels in word-final position; and (2) one occurrence of voicing assimilation of the fricative /s/ in the initial cluster /sm/. One of the vowels inserted is [ə], added in word-final position after the alveolar plosives /t/ and /d/. Examples include *great* [gɹeɪtə], in Sample 24, with vowel insertion after /t/, and *food* [fuɒðə] in Sample 1, with the vowel [ə] added after [d].

The other vowel is referred to as the reduced [ɪ] vowel, added after the velar plosive [k] in [wɔuk^ɪ], Sample 5.

As to the occurrence of voicing assimilation of the fricative /s/ in a word with an initial cluster /sm/, such word is *smallest* [ˈzmələst], in Sample 30. According to Rebello (1997), as previously mentioned, voicing assimilation of the fricative /s/ in an initial /s/ cluster with /m/, /n/ or /ŋ/ tends to occur if a vowel is inserted. In the present data, and also in Rauber (2002) and Cornelian Jr. (2003), no vowel is inserted in this cluster, but voicing assimilation of the fricative /s/ is found: *smallest* [ˈzmələst].

Effect on intelligibility

Misunderstandings occurred with the insertion of [ə] in *great* [gɹeɪtə] and *food* [fuɒdə], and with the voicing assimilation of the fricative /s/ in *smallest* [ˈzmɔləst]. The insertion of the reduced [ɪ] vowel did not cause any intelligibility problem.

Great, in Sample 24 [agɹeɪtəpɹəˈduːʃənəvəˈgɹɪkətʃə], was written as *greatest* by three listeners, and *grateful* by one. The insertion of schwa is interpreted as having influenced the listeners' perception for two main reasons: (1) a syllable is added to *great*; and (2) this syllable contains schwa: *greatest* /gɹeɪtəst/, and *grateful* /gɹeɪtɪfəl/. The transcriptions written are “our greatest pollution of rivers” and “I’m grateful to”.

Food [fuɒdə] was produced in Sample 1 [juːtʃukiəˈbaʊtfuɒdəʊdeɪ]. Nineteen listeners misunderstood it: eight wrote it differently from the learners' intended word, and 12 left the space blank. A few of the listeners' transcriptions do not make any sense: “you book holiday”, “you took him up all day”.

Smallest, in Sample 30 [aɪθɪŋkɪtsðedəˈzmɔləstɛˈkʰɛpɪtəɪnbɹəˈziu], was written in the following ways by 5 listeners: (1) “I think that there's more than through you”; (2) I think it is more of a cattle group”; (3) “I think that there's more, there's cattle”; and (4) “I think it's the – more in the capital Brazil”.

It is very difficult to identify the words which would take the place of *smallest*. However, a comparison between the phonetic transcriptions of “the smallest” and of the words “there's more” in transcriptions (1) and (3) allows a probable interpretation. The transcriptions are as follows:

“the smallest” [dəˈzmɔləst] “there's more” /ðeəzmɔ:/

Considering the sequences of sounds in bold in *the smallest* and those in the listeners' words, two relevant features are found: (1) similar sounds, such as [əzm] are in the same order; and (2) the voiced fricative [z] is present in both transcriptions. The listeners, thus, might have heard this fricative, and, consequently, wrote the sequences of words which made sense to them. As to (4), the listener wrote "it's the – more", a dash written between *the* and *more*. Since *more* can be regarded as corresponding to the sounds [mɔ:] of *smallest*, this dash is likely to indicate this listener's difficulty in understanding the voiced fricative. In (2), the listener wrote *it is more*; the only possible interpretation is that, as with (4), *more* might also be regarded as corresponding to the sounds [mɔ:] of *smallest*, also indicating this listener's difficulty in understanding the voiced fricative.

Non-systematic features

The non-systematic features are classified into two categories: (1) the word *culture*; and (2) signal of hesitation. The categories and their effect on intelligibility are described separately.

(1) The word *culture*

Out of the 14 samples including unpredicted pronunciation features, four contain the word *culture*, produced by four different participants in the following ways:

- (1) Sample 4 ['kjuʃə]
- (2) Sample 13 ['kjuʃə]
- (3) Sample 17 ['kjuʃə]

(4) Sample 27 ['kjuʃə]

A similarity in the pronunciation of the first syllable *cul* is found in the four productions. It is the pronunciation of [ju] instead of /ʌl/. This pronunciation type might suggest a spelling pronunciation, that is, the letters < ul > being pronounced as [ju]. However, the word *agriculture* included in Sample 24, in which the letters < ul > are pronounced as [ʌt], [a'g.rɪk.ʌtʃə], is regarded as being a counter example which does not validate the inclusion of [ju] as being a spelling pronunciation. A category for the inclusion of culture is, thus, difficult to find.

Effect on intelligibility

None of the listeners was able to recognise *culture* correctly. Most of them expressed surprise when told it was *culture*, and acknowledged their difficulty to recognise it. Listener 1, for instance, said:

“the way they pronounce culture I just couldn’t understand.”

In Sample 4, [aisei'səmɪtaɪmzetaɪaɪmɔ̃hɛv'kjuʃə], it was written in three different ways: (1) *future* by 19 listeners; (2) *children* by three; and (3) *chew* by one. Two listeners left the space blank. Four examples of the transcriptions include: (1) “I think sometimes that I don’t have a future”; (2) “I say sometimes I don’t have a future”; (3) “It seems sometimes I don’t like children”; and (4) “I think sometimes I don’t like to chew”.

In Sample 13, [wiwɪlɜːnəbɔːtɪdɛ'ʌdʒə'kjuʃə], *culture* was written in eight distinct ways. A total of nine listeners wrote the word *children*, in transcriptions such as “we learn

about the other children”. Eight left the space blank, and the remaining eight wrote each a different word. Four of these words - *catering*, *tutor*, *tutoring* and *countries* - are part of the English language lexicon. Two examples include: (1) “we learn about the other countries and now”; and (2) “we learn about the order of catering and now”.

The remaining four- *cutarian*, *cuterin*, *ater terain*, and *cuter* – are not found in the English lexicon. When asked to explain the meaning of these words, the listeners were unable to explain, and stated that they wrote what they had heard.

In Sample 17, [itsnɒt'bi ðg ðalɔ:ɹɔf'kjutʃə tə'pi:pou], ten listeners left the space blank. The remaining 15 wrote different words: (1) *cute* by three listeners, such as in “it’s not really a lot of cute people”; (2) *future*, *queues* and *kill* by two listeners each, such as in “it’s not a law to kill people”; and (3) *cue*, *children*, *clear*, *cuta*, *cutar* and *que*, by one listener each. The last three words do not exist in the English lexicon, and the transcriptions, such as “bring a lot of cuta to people”, are not meaningful.

Finally, in Sample 27, [in'itəlɪdə:de:ɹoumən'kjutʃə], eleven listeners left the space blank. The remaining 14 wrote different words: (1) *queue*, such as “In Italy the Roman queue to ...”; and (2) *use them*, *queued*, *came*, *kill me*, *like you*, *cuter*, *children*, *queues*, *kill them*, and *queu* (non-existent). Two examples include: (1) “In Italy they run like you”; and (2) “In Italy the women are cuter”.

As can be seen, the ways the participating Brazilian learners pronounced *culture* made such word unintelligible to all of the listeners.

(2) Feature of spontaneous speech

As previously mentioned, the learner data in this study is spontaneous speech rather than scripted isolated sentences or words read aloud. According to Hewings (1993, p: 81), “one of the most distinctive features of spontaneous speech is that it frequently does not

consist of well-formed sentences. It is characterised by hesitations, the reformulation of sentences after they have begun, and so on”. One feature of spontaneous speech present in the learners’ samples is signal of hesitations⁷.

The signal of hesitation identified is *eh*, found in four samples, 7, 20, 21 and 30, produced by four different participants. Such a signal was perceived and interpreted as being similar to the Portuguese signal produced by Brazilian speakers in conversations. This was confirmed by the observation of spontaneous speech data involving Brazilians, presented in Marcuschi (1986). The particular transcription *eh* follows Marcuschi’s (1986) conventions.

Authentic spontaneous speech transcriptions of English speakers from different parts of Britain presented in Cauldwell (2002), include *er*, *erm*, and *em* as signals of hesitation. The *eh* pronounced by the Brazilian learners, and which was perceived as being similar to a Portuguese signal of hesitation, is transcribed as [ɛ:], in Samples 7 and 21, and as [ɛ], in Samples 20 and 30. Such pronunciation types are clearly different from *er*, *erm* and *em* found in Cauldwell (2002); *er* being the only one presented in sources which follow RP and GA: [ɜː], for RP, and [ɜ˞], for GA. Although this feature is characteristic of spontaneous speech, it is discussed and included here as an unpredictable pronunciation feature, since it diverges from the norm used as a reference and is one factor indicated in intelligibility issues.

Effect on intelligibility

In Sample 7, [mitɛ:fɪvəʒ'teɪbɒs], the signal was not transcribed by any listener. However, since it immediately follows the word *meat*, as no pause is found between them, and such a word was written differently by 16 listeners, [ɛ:] is likely to have interfered with

⁷ ‘Pauses’ and ‘signals of hesitations’ are also referred to as ‘silent pauses’ and ‘filled pauses’ respectively (CRYSTAL, 2003, p. 341).

their recognition. This can be supported by the comments made by listener 23, as follows: “I didn’t really understand meat as such. I didn’t. but then he said fish. and then I thought ... oh, he must have said meat first, because I linked, because it sounded like a list erm and then he said vegetables, so the meat part wasn’t very clear. that word wasn’t very clear. but I guessed. and it sounded it was an i sound”

This listener states that she didn’t really understand *meat* as such, and that the *meat* part was not very clear, but she could perceive the [i] sound. Since this sound in *meat* was perceived, it is possible to interpret that the pronunciation of the signal of hesitation served as an obstacle for this listener’s recognition of *meat*.

In Sample 20, [ɛwidõũthævʔaimtu.ɪdi], the signal of hesitation pronounced as [ɛ] was written as *and* by six listeners, and as *ah* by two. Two of the transcriptions are “and we don’t have time to read” and “ah we don’t have time to read”. The signal [ɛ], thus, was heard as either /æ/ or /ə/ of ‘and’ or as /ɑ:/ of *ah*.

None of the listeners wrote any word in the place of the signals of hesitation in Samples 23 and 33.

Final considerations

The results of this study reveal that the prototypically Brazilian accent presents more variability than what has been suggested in the literature, and that the unpredictable pronunciation aspects which characterise such variability are likely to affect Brazilian learners’ intelligibility to British listeners. These unpredictable pronunciation aspects are divided into two groups, namely systematic and non-systematic. The systematic include: (1) misplaced word stress on the first instead of on the second and third syllables; (2) absence of schwa /ə/ in weak forms of function words; and (3) vowels [ə] and [ɪ] inserted in word-final

position and voicing assimilation of the fricative /s/ in the initial cluster /sm/. The non-systematic comprise: (1) the pronunciation of the word *culture*; and (2) the production of signals of hesitation. On the basis of these findings, it is suggested that these unpredictable features should be pointed out in pronunciation teaching for Brazilians, since they are likely to hinder their intelligibility.

This study has been limited to the type of pronunciation features investigated. Due to the kind of data elicited, spontaneous speech instead of the reading aloud of a passage, it was impossible to select from the interviews a higher number of samples without containing grammatical and vocabulary inadequacies (see data collection), and obtain data which would reveal other kinds of unpredictable pronunciation features. It is suggested that further work including data from Brazilian learners' speech would help to characterise aspects of the prototypically Brazilian English which has not been revealed in the literature so far.

This study has also been limited to the type of participating listeners: British, unfamiliar with the way Brazilians pronounce English words. Given this limitation, one suggestion is that further work including different listeners would reveal whether the unpredictable pronunciation features which caused misunderstandings in the present study are likely to be unintelligible to different listeners.

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APPENDIX

1 You talk about food all day

[juːtɔːkiə'baʊtfuːdɔːdeɪ]

2 It's a good place to live in

[ɪtsə'gʊdpleɪstʊlɪv]

3 I think it's expensive

[aɪfɪŋkɪt'ɪspɛnsɪv]

4 I say sometimes that I I'm don't have culture

[aɪseɪ'səmɪtaɪmzetaɪaɪmdɔːhɛv'kjuːltʃə]

5 In the evenings I I walk - I

[ɪnɪ'viːnɪŋsaɪaɪwɔːk]

6 My sister came to live with me. I had to learn how to live with her

[maɪ'sɪstə'kʰeɪmtʊlɪvwtɪmɪaɪhɛdtʊlɜːnhaʊtʊlɪvwtɪhɜː]

7 Meat eh fish vegetables

[miːtɜːfɪʃvɛʒ'teɪbəl]

8 To play volleyball, basket at university

[tə'pleɪ'vɒlibɔːlbasketæt'juːnɪvɜːsɪti]

9 I'm on the third semester

[aɪmɒndz:θeɪse'mestə]

10 The good programs are in the cable TV the others are in the public TV

[degud'pɹɔɡɹamzɑ:ɪŋde'keɪboutɪ'vɪdɪ'ɔðəɑ:ɹɑ:ɪde'publɪktɪ'vi]

11 You have to walk

[juheɪvtuwɔ:k]

12 I had three dogs and the first

[aɪhædt.ɪdɔgzəndefɜ:st]

13 We we learn about the other culture

[wɪwɪlə'nəbautɪde'ʌðə'kjʊtə]

14 It's very interesting

[ɪts'veɪɪ ɪ 'teɪɪstɪŋk]

15 She's I think near thirty years old

[ʃɪsɪtʰ ɪniə'te:tɪjɪəzɔ:ld]

16 Introduction to automation engineering

[ɪnt.ɪə'dʊkʃntu:ɔtə'meɪʃnendʒɪ'niəɪ]

17 It's not bringing a lot of culture to people

[ɪtsnɒt'bɪ ɪŋ ɪləʊɔf'kjʊtʃə tə'pi:pou]

18 Hamburger that's my my sin

[hɛ̃'buʒeheðetsmaɪmaɪsɪn]

19 Just sit and talk with my friends

[dʒʌstəsɪtəntɔkwɪfɪɛ̃s]

20 eh we don't have time to read

[ɛwidɔ̃θæṽtɑɪmtuɪdi]

21 They said that I'm eh very old to live with my parents

[deɪsɛdðetəaɪme:vɛ.ɪouduɪvɪdwɪmaɪpeɪɔ̃ts]

22 You need to talk with someone

[juɪnɪdətɔkwɪf'sʌmwā]

23 It's the the biggest channel

[ɪtsdɛdɪ'bigɪstk'tʃɛnʌʔ]

24 A great production of agriculture

[əg.ɪeɪtəp.ɪə'duʃənɔvə'g.ɪkɔ̃tʃə]

25 If you don't have cable TV it's terrible

[ɪfjuɪdɔ̃θæṽ'keɪbaʊtɪ'vi:ɪts'tʰɛ.ɪbɔ̃]

26 Fish I like a lot

[fɪʃaɪlaɪkəlɔ̃t]

27 In Italy the the Roman culture

[in'itəliðə:de:'roumən'kjʊtʃə]

28 The the winter is terrific

[dedə'wintə'is'tɛ.ɪfəki]

29 Everything is easy

[ɛv.ɪtɪŋgɪz'i:zi]

30 I think it's the the smallest eh capital in Brazil

[aɪθɪŋkɪtsðedə'zmələstɛ'kʰɛpɪtəlɪnb.rə'ziu]