

PERCEPTUAL PROCESSING OF PHONOLOGICAL VARIATIONS IN BRITISH ENGLISH BY L2 FRENCH LEARNERS: CASE OF GEORDIE ACCENT.

CARLOTTI Lisa-Marie

Laboratoire Parole et Langage, Université de Provence (Aix-en-Provence), France.

lisa-marie.carlotti@lpl.univ-aix.fr

Abstract : this research is concerned with how different varieties of British English are processed by French learners of English. Our goal is to characterize the impact that phonetic and phonological differences between varieties of British English may have on spoken language comprehension in these learners. We have chosen to work on Geordie accent (Newcastle) which presents interesting homophones with Standard English.

Keywords : English, Geordie accent, perception, accent varieties, identification.

1. Overview

Students learning English in French schools and universities are mostly exposed to one variety of spoken English, namely the Received Pronunciation. It is estimated, however, that RP is spoken in Great Britain by 7% of the population only, in the south-east part of England. It is also well-known that large variations in the sound shape of English are encountered across the British Isles (Wells, 1982, p.279).

This study focuses on Geordie accent (Newcastle), and our goal is to characterize the impact that phonetic and phonological differences between Geordie and RP may have on spoken language comprehension in French learners.

One of the most important differences between the North and the South of Britain relates to the phonemic contrast between the vowels /Y/ and /ɜ/, which exists in the South (“buck” [bʃk] and “book” [βYκ]) but not in the North (both “buck” and book” being pronounced [βYκ]). Furthermore, the /αI/ - /αY/ phonemic contrast in RP corresponds to /εI/ - /Y:/ in Geordie. Thus, a surface form such as [τɛIμ] or [βYκ] is mapped onto a different lexical form in RP and Geordie. The issue addressed here is how French listeners deal with these regional variations in the make-up of the vowel phonological system, in spoken word recognition.

2. Hypothesis

Previous work by Hazan (1999; 2002; 2003) and Iverson & Evans (2004) explored how English phonemes in Northern and Southern British English were perceived by listeners from different regions of Great Britain. The results showed that native speakers of English may not always be able to adjust the perception of a vowel to the accent of the carrier sentence.

Our own work extends these investigations in different directions, by using a larger variety of phonemic contrasts, and by testing French learners of English, among other things. English words are inserted into a carrier sentence and the accent (RP, Geordie) is systematically manipulated for both the carrier sentence and the target word. Our predictions are as follows:

1) we expect a main effect of the accent of the target word, i.e. words spoken in RP should be easier to recognize than words spoken in Geordie; 2) we expect a main effect of the accent of

the carrier sentence, i.e. sentences spoken in a Geordie accent should make the identification of the target word more difficult than sentences spoken in an RP accent; 3) we expect an interaction between the accent of the word and that of the carrier sentence, i.e. words should be better identified if they are consistent with the accent of the carrier sentence; 4) experience with regional accents of English should play a role, i.e. English subjects should get a higher correct word recognition rate than French subjects; 5) being exposed to a sample of RP/Geordie accent prior to the experiment should facilitate or make it more difficult for the subject to recognize the target words, depending on whether or not this accent is the same as the one heard by the subject in the experiment; 6) feedback (with the correct answer for each word) during a training phase prior to the test phase should increase the correct word recognition rate.

3. Experimental Design

The material was made up of a series of word pairs. The vowels contained in the two members of each pair show a phonological contrast in RP, which either differs or is neutralized in Geordie. These words, as well as the carrier sentence “I say the word X must go first”, were recorded in both accents by a native speaker of English (trained phonetician).

Our subjects were divided into three groups of 16 subjects: debutants, experienced learners, and English natives.

The stimuli comprised all the possible combinations between the carrier sentence in both accents and the target words in both accents. These combinations will be referred to as RP-RP, RP-G, G-G, G-RP (first letter: carrier sentence, second letter: target word). Measures and segmentation were made using Praat.

Each subject also had to listen to a short text, either in RP or Geordie, prior to the experiment. The task consisted in listening to each sentence and identifying the target word by choosing between two possibilities. For some groups, a visual feedback was given on the screen right after their choice (Perceval software was used for the tests).

E.g: “I say the word bout must go first”

Choice: bout-boot.

4. First Results

For experienced subjects, the percent correct responses proved to be higher for RP than for Geordie words. This difference was statistically significant in a by-subject, repeated-measures ANOVA ($F(1,7) = 363.512$, $p < 0.001$). The accent of the carrier sentence had no significant effect on the percent correct responses. Note, however, that the interaction between the accent of the carrier sentence and that of the target word was close to being significant ($F(1,7) = 4.773$, $p = 0.06$). Figure 1 shows that the recognition rate for Geordie words improved when these were embedded in a Geordie sentence, compared with an RP sentence. Thus, it seems that word recognition tends to be more accurate when the accent of the target word is consistent with that of the carrier sentence.

To sum up, our subjects are strongly influenced by their RP background since they are able to identify a RP word in any context, whereas they need a certain phonological coherence to identify a Geordie word.

As an answer to our above hypothesis, we can say that experimented subjects are able to identify RP words, and Geordie words when these latter are embedded in a Geordie sentence. Thus, a Geordie carrier sentence is not troublesome at all for the identification.

Finally, the use of the feedback doesn't seem to ameliorate the results significantly.

Further analysis by item and by subject will enrich these first results.

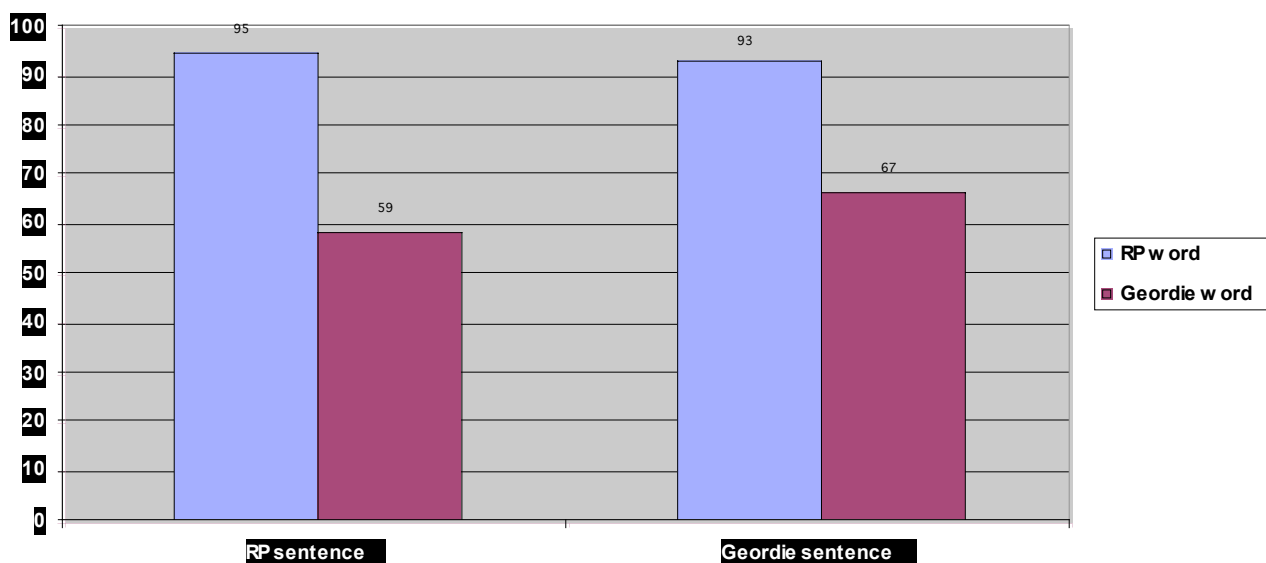


Figure 1 : Percent correct responses for RP and Geordie words in RP (blue line) and Geordie (pink line) sentences.

References

- EVANS, Bronwen, IVERSON, Paul (2004). *Vowel normalization for accent: An investigation of best exemplar locations in northern and southern British English sentences*. JASA 115, 352-361.
- HAZAN, Valérie, SENNEMA, Anke, FAULKNER, Andrew (2002) Audiovisual perception in L2 learners. *Proceedings of ICSLP*, Denver, September 2002, 1685-1688.
- ORTEGA, Manuel, HAZAN, Valérie (1999) Enhancing acoustic cues to aid L2 speech perception. *Proceedings of the ICPS*, San Francisco, August 1999, 1, 117-120.
- SENNEMA, Anke, HAZAN, Valérie, FAULKNER, Andrew (2003) The Role of Visual Cues in L2 Consonant Perception. *Proceedings of the 15th ICPS, Barcelona, August 2003*, 135-138.
- WELLS, John (1982) *Accents of English*. LUP.

Softwares

- BOERSMA, Paul, WEENINK, David (1992-2003). *Praat*. Version 4.1.15. Summer Institute of Linguistics. www.praat.org. Configuration: Windows NT/95/98/2000/ME/XP, Amsterdam, The Netherlands.
- LABORATOIRE PAROLE ET LANGAGE, CNRS, *Perceval*. Université de Provence, UMR6057, Aix-en-Provence, France.