Exploring English Phonetics

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Edited by

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Part II: Applied Phonetics and Beyond

INTRODUCTION

Exploring English Phonetics is a volume comprising sixteen contributions by authors from different linguistic and academic backgrounds and from eight different countries: Austria, Bulgaria, Japan, Macedonia, Russia, Serbia, Slovenia, and Spain. Conceived as a meeting point of diverse perspectives, approaches and interests of scholars working in the field of English Phonetics worldwide, this volume focuses on the topics of language variety, mutual language influences, and issues in researching, studying, and teaching English with speakers of other languages.

Authors raise a number of questions, interesting from the point of view of either phonetic research or phonetic training and EFL teaching. These questions span a wide range of phonetic topics, from the nature of vowels and consonants in particular English varieties, and the phenomena of connected speech or the nature of intonation, via issues in the methodology of phonetic research, to problems encountered by speakers of other languages trying to acquire English pronunciation, and attitudes to different native and non-native varieties of English. Still, despite such a broad variety of topics, the volume does not lack unity. Whatever their focus, most chapters deal with English spoken and learned by speakers of other languages, thus highlighting both the current status of English as the language of world-wide communication, and the international orientation of this volume.

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The eight papers grouped in the first section of the book, *Phoneme and beyond*, focus on the segmental and prosodic properties of English. In chapter one, Brian Mott investigates the formant frequencies of vowels identified in male London speakers, whose speech the author defines as representing "the range of articulation covered by the continuum running from the basilectal extreme, Traditional Cockney, to Popular London Speech". The study involved a reading task, word tokens illustrating vowels in the /h-d/ context, and a comparison of the speakers' average formant frequencies to the values offered in literature on British English. The author points out the areas in which some observable differences could be identified, namely, the close vowels of *heed* and *who'd*.

In their discussion of the controversies concerning the phonetic properties and the phonological description of the consonant /v/, found in several languages, Maja Marković and Bojana Jakovljević review the main points of dispute raised in literature about the 'hybrid' nature of this consonant, which can be defined as either a labiodental fricative or a labiodental approximant. The focus on the acoustic properties of this consonant in English and Serbian L1 speakers, as well as the evidence of transfer in Serbian L2 English speech.

Voice Onset Time (VOT) is another topic widely discussed in phonetic work today, and investigated in the next two chapters of this volume. The study reported by Bojana Jakovljević focused on the VOT found in British English and Serbian word-initial stops at the beginning of a stressed syllable, seeking to identify possible transfer in the speech of experienced Serbian L2 English learners. The study involved female speakers, and reading tasks with word lists illustrating stops in matching vowel contexts in Serbian and English. The author points out that although the participants were L2 English speakers with many years of experience and pronunciation training, the findings revealed obvious L1 transfer in the production of English word-initial, particularly voiced, stop consonants.

The next chapter, by Biljana Čubrović, investigates the Voice Onset Time phenomenon with intermediate Serbian EFL speakers, but focuses more narrowly on the production and acquisition of aspirated voiceless stops /p t k/. The study involved male and female speakers, a reading task with selected monosyllabic English words, and the comparison of the acoustic properties of the participants' consonants with their matching Serbian counterparts. The findings of this study suggest that aspiration is acquired gradually and that it is a phonetic phenomenon worth insisting upon in an EFL classroom.

The chapter by Takehiko Makino moves on to the level of connected speech to discuss the use of weak forms in colloquial American speech. The author points out that the descriptions of weak forms found in literature focus inappropriately on relatively formal styles of speech, while less formal and colloquial speech reveals many more examples of weakening that should be taken into account. The study included examples found in the Buckeye Corpus of Conversational Speech. The author suggests further investigation of a range of less formal styles.

Isao Ueda and Hiroko Saito focus on problems of tonic placement with Japanese English speakers. The authors set off from the observation highlighted by previous research that Japanese-accented English is often characterized by tonic (nuclear stress) misplacement. The study reported in this chapter involved fifteen university students, English majors, and a

longitudinal aspect, i.e. a pre-test and a post-test repeated with the same participants after a year of studying English in various courses, including those focusing particularly on the listening and speaking skills. The study investigated the participants' production of tonic stress, as well as their phonological awareness of tonic stress placement in English. The findings showed that the acquisition process with Japanese EFL learners involves a transition from one type of tonic placement to another. The authors conclude that for some learners formal instruction of tonic placement may be more important and effective than practical training.

The chapter by Ken-Ichi Kadooka introduces the topic of *paratone*, a phonological category functioning in spoken language as a counterpart of paragraph structure in written language. The author focuses on a proposed subtype of paratone, which he terms *punch line paratone*, found in the genre of jokes, in the last line that carries the main point, as a rhetorical effect used to emphasize the main point of the joke. The author analyzes examples of English jokes and compares them with Japanese *Kobanashi* stories. The analysis suggests that both types of stories share some characteristics, including the punch line tone pattern, and a brief pause inserted before the punch line.

From a more theoretical perspective, Vladimir Phillipov discusses the sign nature of intonation, viewing it through the prism of different theoretical approaches, as a 'co-sign' (Bulgarian *при-знак*, German *Anzeichen*), or ‘an indexical sign’. The author stresses the fact that intonation permeates all linguistic levels, drawing together grammatical, semantic and pragmatic functions.

The second part of this volume, *Applied Phonetics and beyond* focuses even more narrowly on teaching and pronunciation acquisition with specific EFL groups of speakers, but also on some issues of phonetic research methodology, particularly important from the EFL perspective.

Tvrtko Prćić discusses the notion of *'modernized prescriptivism'* in EFL pronunciation teaching, that is, in the pronunciation training within the language the author refers to as "*the* nativized foreign language (ENFL)". The author sets off from the discussion of some theoretical and methodological aspects of descriptivism and prescriptivism in previous studies, moving on to describe the main principles of the proposed *modernized prescriptivism*, and to offer some specific methodological and practical hints on how it can be applied in pronunciation training. The author also points out the necessity of introducing an integrated approach to teaching language and linguistics, and the use of what he terms ‘usage-enriched descriptivism’, which combines descriptivism with elements of modernized prescriptivism.

In the next chapter, Ingrid Pfandl-Buchegger, Milena Insam, and Isabel Landsiedler describe an innovative L2 teaching project, titled *FauvoT*, implemented at the University of Graz, Austria, which aims to accelerate L2 learning through focused listening. The authors offer a description of the materials and students' activities in language laboratory and at home, as well as an analysis of students' results and the evaluation of their performance. Since the study showed that the participants made an obvious improvement in pronunciation, it is suggested that the use of electronically modified tapes and concentrated listening, providing students with a more focussed perception of foreign language sounds, is an efficient tool for L2 phonological acquisition, particularly with adult learners.

Phonetic research methodology is discussed from different angles in the next three chapters. Starting from the observation that most research in the field of phonetics is still conducted within the traditional experimental paradigm, Tatjana Paunović asks whether, and in what ways, phonetic research could benefit from widening the perspective to include some elements of qualitative methodology. The author uses three of her own research studies, based on traditional methodology and techniques and focusing on EFL speakers, to illustrate how including a qualitative perspective and a mixed-method research design could contribute to a better understanding of L2 speech.

Klementina Jurančič-Petek discusses the influence of data-gathering methods on the nature of the results obtained and the reliability of conclusions drawn from data in phonetic and phonological investigations. Starting from the fact that research findings may or may not be influenced by the administration of different types of tests (sentence reading tasks, phrase reading tasks, imitation, free speech), the author discusses the observations of some previous authors concerning factors such as participants' age, attention span, level of proficiency etc., and goes on to examine some of these factors on the example of the pronunciation of English by Slovene learners. The author points out that the type of data gathering procedure in her study indeed resulted in observable differences in the participants' results, and suggests that more studies should involve free or spontaneous speech, in addition to more traditional reading techniques.

The chapter by Anastazija Kirkova-Naskova and Dimitar Trajanov also focuses on research methodology in phonetics. The authors describe a study of L1 Macedonian English learners' pronunciation, that is, the perception of Macedonian English speech by a number of native speakers. The study involved a group of 1st- and 2nd-year students of English at

Skopje University, whose speech was recorded and then evaluated by trained phoneticians, native speakers of English. By using a specially designed web application as a data gathering instrument, it was possible for the researchers to include a great number of trained assessors in the research. The authors draw attention to the fact that new Internet-based technologies make it possible to apply modern and more carefully designed research methods even in unfavourable circumstances. Such technologies also have the advantage of being flexible and thus more widely applicable, when adapted to specific research aims and questions.

Rastislav Šuštaršič focuses on the linguistic (phonetic) education of English language majors at the English Deaprtment, University of Ljubljana, Slovenia. The author discusses some problems observed in the oral exam in English phonetics, i.e. the theoretical part which tests students' knowledge of the English sound system, and the allophonic realizations of vowels and consonants including aspiration, glottalization, voicing and devoicing, vowel duration, assimilation, etc. Since students are required to demonstrate their understanding of certain phonetic notions on the specific examples of particular words or phrases illustrating these notions, the author concludes that students' mistakes and problems in this exam can be used as a valuable guide for teaching, highlighting particularly problematic areas in which students need to be offered additional explanations.

The last two chapters discuss the choice of the model in teaching L2 English pronunciation. Using the example of Bulgarian EFL learners, Snezhina Dimitrova and Tsvetanka Chernogorova start by pointing out the differences between the ELF perspective and the native-speaker model perspective, stating that opting for the latter raises yet another question, that of which native-speaker model to choose. The authors present the results of several surveys they have conducted with tertiary-level English students at Sofia University to investigate their opinions of and attitudes towards different varieties of English. The results are compared to the findings of similar surveys in Bulgaria and other parts of Europe (Poland, Spain). The authors conclude that Bulgarian university students of English still seem to favour the standard British (RP) model of pronunciation.

Focusing on Russian L2 English learners, Galina M. Vishnevskaya states that the choice of the pronunciation model, in the context of such a great variety of pronunciation possibilities in English today, when even the formerly unacceptable 'foreign accents' are recognized as legitimate varieties of English, presents a problem for both teachers and learners. Focusing on some prosodic variables of accented speech, the author describes a study in which the perception of accented speech was

investigated. The assessors were native English speakers, 40 students of University of Boston, USA, and non-native English speakers, 50 students of Ivanovo State University, Russia. The findings showed that native speakers had a more 'tolerant' view of accented speech. Furthermore, the author suggests that a distinction can be made between heavily accented speech, which prompted a very negative reaction, and a slight accent, which provoked positive attitudes. The author, therefore, suggests that a distinction should be made between accent problems that are only phonetically observable, and thus not important in L2 teaching, and those that are communicatively relevant, because they affect the learner's success in communication.

* * *

Exploring English Phonetics aims to draw attention to issues that can be of interest to both phonetic researchers and applied phonetic practitioners or EFL teachers, and, in some parts, even to a wider audience. Some of the topics dealt with in this volume are among the most widely discussed ones today, from different perspectives, and not only in academic circles. We hope that this volume offers a valuable contribution to this discussion through the different voices of sixteen chapter authors.

The Editors
October, 2011

PART I.

PHONEME AND BEYOND

VOWEL FREQUENCIES IN TRADITIONAL COCKNEY AND POPULAR LONDON SPEECH

BRIAN MOTT

Outline

To calculate the vowel frequencies of speakers whose speech might be described as being somewhere within the range of articulation covered by the continuum running from the basilectal extreme, Traditional Cockney, to Popular London Speech, recordings were made of three men from London, aged 55, 63 and 67 at the time of the exercise, reading the vowels in the context /h-d/ three times each. The averages obtained for the F1 and F2 of each of the vowels were compared with those given for male speakers in Wells (1962) and Deterding (1997). The vowels were found to be similar to those of RP in some cases, like *hid* and *hood*, but not all, e.g. *heed* and *who'd*, which had lower and fronter vowels.

Figure 1. Greater London

1. Introduction

Strictly speaking, Cockney is the basilectal extreme of the popular speech of London, used in an imprecise area north of the River Thames referred to as the East End. The traditional core neighbourhoods of the *East End* are Bethnal Green, Stepney & Poplar (since 1965 forming the borough of Tower Hamlets), Shoreditch, Hackney, Mile End and Bow, and a little further south, nearer the river, Spitalfields, Whitechapel, Wapping, Limehouse and Millwall. Nowadays, certain areas south of the river (Southwark, Bermondsey and Walworth) are also strongly associated with Cockney speech. However, most of the time, the term "Cockney" is applied loosely to any working-class London accent that deviates noticeably from the standard (RP or SSB, as it is variously called). Accents closer to the standard might be termed Popular London Speech.

In recent years, much has been written on the presumed influence of the speech of London on that of regional varities of English spoken outside the capital. Speech which shows features associated with London, like T-glottalling, L-Vocalization, HappY Tensing and Yod-Coalescence is sometimes referred to as Estuary English, though the term is seen less in print latterly and may be falling into disuse.

In the present paper, there is no intention to present Traditional Cockney and Popular London Speech (henceforth TC and PLS) as two distinct varieties, but rather as a continuum. Note also that no attention will be paid to more recent innovations in the vowel system of some present-day Inner-London speakers who use monophthongized versions of the FACE and GOAT vowels, which in TC and PLS are traditionally pronounced more like [ʌɪ] and [ʌʊ], respectively. Traits of this kind will be considered to form part of Multi-cultural London English, which is outside the domain of this study.

Cockney is generally a low-prestige variety, but it also has covert prestige through characters such as Liza Doolittle in G. B. Shaw's *Pygmalion* and Sam Weller in Dickens' *Pickwick Papers*, who pronounced his [v]'s rather like [w]'s and said such things as "wery good".

People often associate Cockney with rhyming slang like *plates of meat* 'feet' and *trouble and strife* 'life', but this phenomenon is in fact very marginal and not as common as is believed. Some binomial items of this kind, like *butcher's = butcher's hook* 'look', *loaf = loaf of bread* 'head' and *china = china plate* 'mate', have spread into General English. In more recent times, the trend of occasionally spicing one's language with these rhymes has led to creations based on the names of famous people, like *Hank Marvin* 'starving' and *Shania Twain* 'pain, nuisance'.

2. Some generalizations about Cockney monophthongs

The preliminary observations on Cockney vowels that I am going to make are either well known to phoneticians or have been gleaned from the literature.

Figure 2. The (relatively) pure vowels of Cockney

RP	Symbols used for Cockney	Usual range of variation in TC & PLS	Sample word
1. /iː/	[ɪi]	[ɪi ~ əi]	bee [b̥ɪi]
2. /ɪ/	[ɪ]	[ɪ ~ I̞]	bit [b̥ɪʔ]
3. /e/	[ɛ]	[ɛ]	bed [b̥ɛd̥]
4. /æ/	[æ]	[æ ~ ɛ]	mat [mæʔ]
5. /ɑː/	[ɑː]	[ɑː ~ ɑ̟ː]	Margate [ˈmɑːgɪʔ]
6. /ɒ/	[ɒ]	[ɒ ~ ɔ]	jot [ʤ̊ɒʔ]
7. /ɔː/	[oː]	[oː ~ o̞ʊ ~ ɔo]	yawn [joːn]
	[ɔə]	[ɔ̟ə ~ ɔwə]	yourn [jɔən] ‘yours’
8. /ʊ/	[ʊ]	[ʊ ~ ʊ̟]	look [lʊʔᵏ]
9. /uː/	[ʊʉ]	[ʊʉ ~ əʉ]	loopy [ˈlʊʉʔᵖɪi] ‘mad’
10. /ʌ/	[a]	[a ~ ɐ̟]	London [ˈlandn̩]
11. /ɜː/	[ɜː]	[ɜː ~ ɜ̟ː ~ ɵː]	nurse [nɜːs]
12. /ə/	[ə]	[ə ~ ɐ]	water [ˈwoːʔə]

The symbols I use in the second column of figure 2 are those found in Wells (1982: 304), except for the STRUT vowel, for which I prefer open [a] in accordance with its closeness to cardinal vowel 4 in broad accents. The range of variation of the vowels shown in column 3 was constructed from examples and descriptions culled from the literature, notably Wells 1982: 303-321.

As can be seen from figure 2, the short vowels are often similar to those of RP, especially in less broad varieties of Cockney, though the field of dispersion of the allophones may not coincide exactly. For example, the KIT vowel may be more central than in RP, and the TRAP and LOT vowels less open: [ɛ] and [ɔ], respectively (Wells 1982: 305). The pronunciation of the word *Saturday*, for example, is sometimes [ˈsɛʔədɪi]. In a few words like *gawd* (*god*), *gone*, *off* and *cough*, the long vowel [oː] instead of [ɒ] may still be heard from the older generation of Cockneys, but it is

recessive and often ridiculed or used in jocular expressions like *Now you've been and gone and done it!* [ˈnæː jəv ˈbɪin ən ˈgoːn ən ˈdan ɪʔ].

Note also that [ʊ] can be more fronted than in RP in some instances, notably the adjective *good* [g̊ʊ̟d̥], and that RP [ʌ] is in general noticeably more open in London speech, sometimes resulting in [a], as in *come* [kʰam], present and past tense in Cockney of the verb *to come*. Schwa is also perceptibly more open in word-final position: *dinner* [ˈd̥ɪnɐ].

Instead of the open monophthong [ɛ], broad Cockney may occasionally have closer allophones with a palatal off-glide before a voiced consonant: *bedroom* [b̥ɛidrʊ̟ʉ̟m], *leg* [lɛiɡ̊], the beginning of the diphthong being perhaps a little further back than [ɛ] (See O'Connor 1973: 156).

As for the vowels corresponding to RP long vowels, these are often appreciably more diphthongal than in RP. The FLEECE vowel tends to close after beginning with a more open tongue position than in RP, which may be as low and centralized as schwa, as in the name *Steve* [stɪiɣ] ~ [stəiɣ̊]. It is usually diphthongal too when word/morpheme-final and unstressed, as opposed to RP [i] (the *happ*Y vowel), in words like *busy* [ˈb̥ɪzɪi], and also where older RP has an unstressed KIT vowel word-initially, as in *effect* [ɪiˈfɛkt], *electric* [ɪiˈlɛktrɪk] and *economy* [ɪiˈkɒnəmɪi].

The equivalent back vowel (the GOOSE vowel) is similarly slightly diphthongal, beginning more open and centralized than in RP and gliding to a higher, generally centralized position ([ʊʉ̟]). In recent times, this vowel has shown a tendency to become much fronter while retaining some of its rounding: [yː]. This is particularly noticeable when the vowel is preceded by [j], as in *you* [jyː]. Kerswill & Williams (2005) refer to the proliferation of this vowel outside London.

The PALM vowel has a fully back allophone ([ɑ̟ː]) considered to be a marker of broad Cockney, while the THOUGHT vowel tends to be higher than in RP in closed syllables ([oː]) and very often diphthongal, with a glide in the region of [o̟ʊ ~ ɔo], and centring in open syllables ([o̟ə ~ ɔwə]), including derivatives ending in a consonant. Thus *board* [b̥oːd̥] is in phonological opposition to *bored* [b̥o̟əd̥] < *bore* [b̥o̟ə] (this phonemicization is referred to in Wells (1982: 310) as the THOUGHT Split. The NURSE vowel may be slightly fronted and/or slightly rounded with allophones in the [ɜ̟ː ~ œ̟ː] range.

3. Vowels in hiatus

As this paper is concerned with the monophthongs of London speech, I shall not mention glide insertion after diphthongs ending in the KIT and

FOOT vowels. However, it should be mentioned that high monophthongs followed by another vowel may undergo glide insertion, as in *freer* [ˈfr̝ɪiʲə], *fewer* [ˈfjʊʉʷə], *piano* [pɪiʲˈænə] and *influence* [ˈɪnflʊʉʷənts]. Moreover, even if glide insertion is not produced, such words are not subject to compression in TC or PLS.

There are also cases of the definite article followed by a vowel, like *the end of the road* [ð̞ɪi ʲɛnd ə ðə ˈrʌʊd̞], *the artful dodger* [ð̞ɪi ʲɑːʔfo ˈdɒdʒə] and *where the hell (have) you been?* [ˈwɛə ðɪi ʲɛo ˈjʊʉ bɪn], or the prepositions *to* and *through* plus a vowel: *we went to a party* [wɪi ˈwɛ̃ⁿʔ tʰʊʉ ʷə ˈpʰɑːʔɪi]; *he drove through a wall* [ɪi ˈdrʌʊ̯ fr̝ʊʉ ʷə ˈwoːl].

Although Cockney prefers to maintain contiguous vowels uncompressed or to use glide insertion as a solution to avoid hiatus or resort to linking/intrusive [r], there are instances of the compression of unstressed syllables not involved in vowel hiatus: *I suppose so* [ˈspʌʊsʌʊ], *for instance* [fr̝ ˈɪnstn̩s], *perhaps* [pr̝æʔps], *because* [kʰɒz̝] ~ [kʰəz̝]. Note also the drastic reduction in fast speech of the adverbs *actually* [ˈæktjuəlɪi] > [ˈæktʃuəlɪi] > [ˈækʃlɪi] and *usually* [ˈjʊʉʒjuəlɪi] > [ˈjʊʉʒlɪi], which do contain vowels in hiatus.

One particularly interesting case of compression involves the deletion of schwa, usually, though not always, representing the indefinite article. Wells (1982: 321) draws attention to this as a neglected phenomenon and observes that it may occur when schwa is preceded by a glottalled [t], as in *better have another one* [ˈb̰ɛʔ æv əˈnavə wan] (my transcription) and *about a week* [ˈb̰æːʔ ˈwɪik]. From my own personal experience, I have the example *You got a(n) invite, like?* [ˈjʊʉ gɒʔ ˈɪnvɑɪʔ lɑɪʔk] ‘Have you got an invitation?’, in which the indefinite article is preceded by a glottalled [t] and followed by a vowel, but examples like *half a(n) hour* [ɑːʔ æː], *Give us (an) ’and* [ˈg̊ɪs ˈæ̃nd] and *after (a) hard day’s work* [ˈɑːftər ˈɑːd dʌɪz ˈwɜːk] show that the preceding segment in the environment of a deleted indefinite article need not be a glottalled [t]. In fact, what these examples show is that there is a tendency in Cockney to use the indefinite article *a*, and not *an*, even before vowels, and that it may then be deleted. There is also a tendency to use the definite article [ðə] rather than [ðɪi]. Sue Fox in her unpublished PhD dissertation suggests that the attrition of the allomorphy of both articles is a diffusing innovation from within the ethnic minority community (Britain 2007: 104). However, just how recent the phenomenon is remains a moot point. Dickens seems to have been aware of it, as there is at least one instance in the speech of Mr. Bumble: “...the law is a ass—a idiot” (*Oliver Twist*, chaper 51).

4. The frequencies of Cockney vowels

The vowel frequency charts below were devised from recordings made of three men from London, aged 55, 63 and 67 at the time of recording, reading the vowels in the context /h-d/. This is the environment chosen by Wells in his 1962 study (see II. Experimental procedure. Recording procedure) and it was adopted by Hawkins & Midgley (2005: 185). As Wells says, "The frame /h-d/ is particularly suitable for studies of English vowels, since (i) /h/ has so little influence on following vowels, and (ii) it so happens that a real English word results for nearly every 'pure' vowel in this sequence." The words recorded were the following.

1. heed	2. hid	3. head	4. had
5. hard	6. hod	7. hoard	8. hood
9. who'd	10. Hud	11. heard	12. header

To record instances of schwa in final position, where it may be particularly open, the word *header* was added. The participants were asked to repeat each word three times so that averages could be calculated from the three tokens for each vowel. This also compensates for beginning and end-of-list effects in reading (see Hawkins & Midgley 2005: 185).

The gaps in figure 3 mean that the reading taken was obviously inaccurate, either because the recording was too quiet or because of the presence of excessive creak.

Figure 4 was constructed from the averages recorded in figure 3 by using PLOTFORMANT.

Figure 3. The vowel formant frequencies of three male Londoners

Steve Wood age 55, Deptford (SE8)				**Tony Corsini age 67, Paddington (W2)**				**Tony Saward age 63, Barnes (SW13)**				**Averages**	
	F1		F2		F1		F2		F1		F2	**F1**	**F2**
[ɪi]	339	323	2482 2523	[ɪi]	305	304	2348 2331	[ɪi]	331	306	2354 2313	**311**	**2389**
	299		2507		288		2335		321		2297		
	331		2582		321		2312		268		2289		
[ɪ]	420	402	2285 2412	[ɪ]	346	344	2126 2147	[ɪ]	389	362	2142 2105	**369**	**2221**
	388		2520		335		2169		362		2050		
	400		2433		353		2146		336		2123		
[e]	552	547	2249 2189	[e]	460	459	2011 2005	[e]	517	493	1972 1951	**499**	**2048**
	562		2186		447		2026		476		1856		
	528		2132		470		1979		488		2025		
[æ]	666	699	1885 1882	[æ]	612	646	1801 1796	[æ]	748	694	1776 1797	**679**	**1825**
	692		1903		645		1757		673		1764		
	739		1859		681		1830		661		1851		
[ɑː]	700	674	1127 1133	[ɑː]	609	613	1060 1071	[ɑː]	695	663	891 1021	**650**	**1075**
	645		1140		606		1077		603		1195		
	678		1134		625		1078		691		979		
[ɒ]	601	584	879 918	[ɒ]	586	574	968 989	[ɒ]	649	896		**602**	**934**
	570		935		528		1033						
	583		942		608		966						
[oː]	414	412	683 664	[oː]	446	428	600 627	[oː]	475	472	660 660	**437**	**650**
	387		659		405		600		448				
	436		650		433		682		493				
[ʊ]	420	412	1292 1117	[ʊ]	344	340	1015 1028	[ʊ]	421			**391**	**1073**
	431		1041		335		1066						
	385		1020		342		1004						
[ʊ̟]	388	386	1347 1342	[ʊ̟]	303	300	1513 1429	[ʊ̟]	402	475	1582 1545	**387**	**1438**
	411		1414		297		1408		456		1500		
	360		1267		300		1368		567		1555		
[a]	662	652	1341 1324	[a]	714	717	1311 1305	[a]	758	758	1390 1490	**709**	**1373**
	632		1334		719		1335		758		1554		
	663		1298		719		1270		758		1527		
[ɜː]	537	528	1408 1353	[ɜː]	447	470	1481 1510	[ɜː]	537	499	1364 1493	**499**	**1452**
	501		1369		451		1499		510		1581		
	546		1282		514		1550		452		1535		
[ə]	583	599	1613 1593	[ə]	593	573	1512 1551	[ə]	593	604	1366 1585	**592**	**1576**
	628		1545		563		1581		575		1645		
	588		1622		563		1562		646		1745		

Figure 4. Cockney vowel formant frequencies. Stressed vowels and schwa

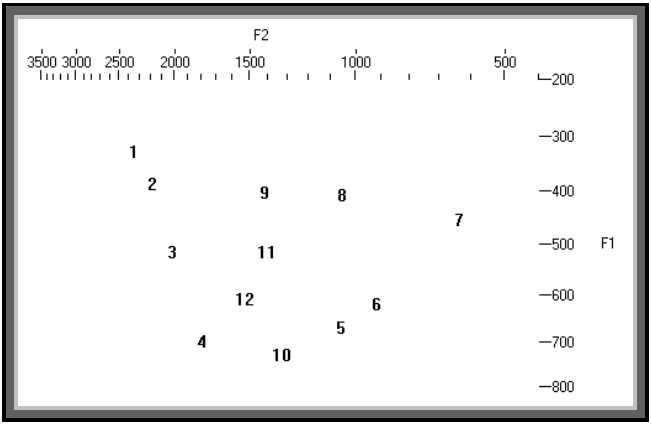

Figure 5. Cockney vowel formant frequency averages (stressed vowels and schwa) compared to formant frequencies for RP (relatively) pure vowels (in citation form) given in Cruttenden (2008: 99, Gimson 7th ed.), and Wells (1962), for male speakers in all cases

Vowels of Cockney and RP	Averages for Cockney		Figures from Cruttenden (Gimson)		Figures from Wells 1962		Observations on Cockney Vs as compared to RP Vs
	F1	F2	F1	F2	F1	F2	
/iː/	311	2389	275	2221	285	2373	lower, slightly fronter
/ɪ/	369	2221	382	1958	356	2098	similar in height, fronter
/e/	499	2048	560	1797	569	1965	higher, fronter
/æ/	679	1825	732	1527	748	1746	higher, fronter
/ɑː/	650	1075	687	1077	677	1083	slightly higher, similar in frontness
/ɒ/	602	934	593	866	599	891	very slightly lower, fronter
/ɔː/	437	650	453	642	449	737	slightly higher, similar in frontness
/ʊ/	391	1073	414	1050	376	950	similar in height, fronter
/uː/	387	1438	302	1131	309	939	lower, fronter
/ʌ/	709	1373	695	1224	722	1236	similar in height, fronter
/ɜː/	499	1452	513	1377	581	1381	higher, fronter
/ə/	592	1576					

The figures given in Cruttenden (2008) are taken from Deterding (1997). No figures are given for /ə/, whose quality varies according to the phonetic environment, and whose average values may be taken to be equivalent to those for /ɜ:/.

5. Conclusion

The last column of figure 5 compares the Cockney vowels produced by the three male speakers in this experiment with the results obtained for RP vowels in male speakers by Deterding and Wells. By way of conclusion, it would be useful to compare the outcome of the experiment described in this paper with previous observations made in the literature on the vowels of London speech.

Regarding the KIT vowel, it is generally assumed that it can be more central than in RP, but it was actually found to be fronter. The PALM vowel was not found to be fully back and low, as it may be in some accents, but slightly higher and similar in frontness to RP. The STRUT vowel was similar in height to RP and not lower, despite my anticipating a much lower articulation, as predicted in the literature, by using the symbol [a]. The LOT vowel was not found to be higher than in RP, as is often claimed, but very slightly lower and fronter.

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SOME CONTROVERSIES ABOUT /v/ IN SERBIAN, TRANSFER IN ENGLISH, AND OTHER RELATED ISSUES

MAJA MARKOVIĆ AND BOJANA JAKOVLJEVIĆ

Outline

The sound /v/ has not aroused disputes in Serbian phonology and phonetics alone, but has also been known as a problematic sound across other languages. It has been called 'hybrid' (Hamann 2006) and even 'schizophrenic' (Kavitskaya 1999) in other languages, and not without a reason. The gist of the problem is the fact that it can be classified either as a labiodental fricative or as a labiodental approximant in a number of languages. It exhibits unexpected phonological behaviour and its acoustic character is rather unreliable and even arbitrary. Serbian is one of the languages where the status of /v/ is a linguistic battlefield, whereas in English, it is undisputedly a voiced fricative. In this paper, we try to tackle some of these problems in Serbian and English on the basis of phonological facts, the acoustic analysis of recorded material by L1 speakers of both languages and the presence of transfer in L2 (English) by native speakers of Serbian.

1. Introduction

The problem of the sound denoted by the IPA symbol /v/ has attracted the attention of phonologists and phoneticians apparently out of proportion to its size. To quote just some of the remarks found in the literature in relation to this segment: it has been compared to the 'roar of a mouse' (Padgett 2002), it has been called 'hybrid' (Hamann 2006), 'schizophrenic' (Kavitskaya 1999), accused of exhibiting 'double-faced' or 'Janus-faced' behaviour (Barkanyi & Kiss 2007) and complimented that it "has played a key role in discussions about abstractness in phonology […], and about the larger organization of phonology" (Padgett 2002). Although it is regarded as just another fricative in English, the phonologists and phoneticians

dealing with Serbian still have not made up their minds as to how to classify this segment. The difference in the articulation of /v/ in the two languages, despite its common IPA symbol, has also been an everyday problem for the learners of English whose L1 is Serbian. In this paper, we shall point to some of the problems regarding the nature of /v/ cross-linguistically, give the results of our findings based on the acoustic analysis of English and Serbian recorded material by respective native speakers, and propose the analysis of this segment within a wider phonological perspective.

2. Problems

Phonological systems of a number of languages have a two-way contrast between /f/ and /v/, and most linguistic systems will recognize this contrast as a pair of a voiceless and voiced labiodental fricative. The reasons for doing so are both phonological and phonetic. In terms of phonological distinctions, the members of this pair regularly enter predictable phonological processes like all other voiceless/voiced fricative pairs. These processes include:

- final obstruent devoicing, where the voiceless member /f/ only occurs in the word final position in German, Russian (Hamann & Sennema 2005), some dialects of Slovene (Jurančič Petek 2009), and in other languages;
- processes of regressive or progressive voicing assimilation;
- phonotactic rules of typical obstruent/sonorant occurrence.

Among the phonetic arguments for using this classification, the fricative realization implies the presence of turbulences in the soundwave of the fricative.

Yet, a number of languages fail to comply with the above listed rules. Within the phonological systems of some languages, word final devoicing can take place, and the sound may participate in regressive voicing assimilation, but fail to do so in progressive assimilation. It can also undergo voicing assimilation, but fail to trigger it (e.g. Russian). The latter behaviour speaks in favour of analyzing /v/ as a sonorant rather than a fricative. Moreover, in some languages, /v/ can occupy positions in the syllable which are typically reserved for sonorants. In other languages (e.g. Norwegian), it can occupy the positions exclusively intended for sonorants and the positions exclusively intended for obstruents.

To top up the arguments for the weird behaviour, the acoustic analysis of /v/ also reveals a rather messy situation, where it can have a typically fricative nature, a typically sonorant nature or even resemble a plosive.

The list of problems can be further extended by the possibility of word final vocalization of /v/, where it changes into the labio-velar semivowel /w/ and further into a back vowel proper (e.g. Slovak and some dialects of Slovene).

The problems listed here are found across various languages, and typically involve some kind of relation between /f/ : /v/ : /ʋ/ : /w/ and ø. Processes involving some kind of vacillation between these segments are attested in a number of languages, both synchronically and diachronically. If a process involves the change in the rightward direction, we can speak of 'lenition'; if it moves leftwards, the process in question is referred to as 'fortition'.

If we take as an example the final occurrence of /v/ cross-linguistically, we can see that it is up to a particular language whether to choose (a) fortition i.e. the occurrence of the voiceless fricative /f/ - as in German or Russian; (b) lenition – sonorization which can ultimately lead to the loss of a segment – as in Slovak and some dialects of Slovene; or (c) to do nothing, and leave it as a (disputably) voiced fricative – as is the case of English.

One thing worth mentioning is that very few languages have a three-way contrast between the above segments. In our opinion, this simple truth may be crucial for positing some of the solutions to the problem of /v/. It is, however, rarely brought up in the literature. Hamann & Sennema (2005) make this valuable remark: "A three-way distinction of labiodentals is crosslinguistically very unusual. Apart from Dutch, we know only of two other languages that have the same three labiodental categories, namely the Edoid languages Isoko and Urhobo, spoken in Nigeria", quoting Ladefoged & Maddieson (1996).

The strange phonological behaviour led linguists to try to find explanation for this ambiguous behaviour in the articulatory/acoustic character of /v/. This is where the hell broke loose, because it turned out that a number of languages actually did not have a fricative realization of /v/ as it had long been presumed.

Of course, the story needed an explanation. Some of the propositions included the account that /v/ was 'underlyingly' /w/, although in terms of its phonetic realization it might not be so. Padgett (2002) proposed an entirely new feature, called 'narrow approximant', which is potentially distinctive for the languages of the world, no matter how rarely it may be used. On the whole, this seems a complex story without a solution.

3. Facts about /v/ in English and Serbian

3.1. English

English is one of the languages in which no one has challenged the fricative nature of /v/. In terms of its phonological behaviour, it undergoes voicing assimilation just like any other voiced fricative. For example, /v/ of the words 'of', 'we've' will change into /f/ in 'of course' or 'we've found it' (examples taken from Cruttenden 1994: 257).

In terms of its phonetic voicing, it is, like all other English obstruents, devoiced in the word final position and partially voiced word initially. According to Cruttenden (1994: 163), /v, ð, z, ʒ/ are fully voiced between voiced sounds; "in initial and (especially) in final positions, the voiced fricatives may be partially or almost completely devoiced; e.g. initially in *van*, *that*, *zoo* (…) only the latter part of the friction is likely to be voiced, and finally (…) the friction is typically voiceless, though the consonant remains lenis".

As regards its position in the syllable, it also consistently only occurs in the positions typical of obstruents. It never occurs in consonant clusters, either initial or final (with the exception of /v/ being followed by a 'post-final' consonant, as in *loved* /lʌvd/ or *loves* /lʌvz/, but this is a legitimate position for an obstruent).

3.2. Serbian

In Serbian, /v/ is traditionally classified as a sonorant. The reasons are primarily phonological. For one thing, /v/ is known not to undergo voicing assimilation as voiced obstruents do, e.g.

(a) iz + tupiti > istupiti, o*d* + kazati > o*t*kazati
(b) lo*v* + ca > lo*v*ca, o*v*as + en > o*v*sen

Historically, /v/ was derived from a previous bilabial semivowel /w/. The voiceless fricative /f/ entered the sound system of Serbian much later, mainly through Turkish loanwords, and later via loanwords from English and other languages. This historic development partly explains lack of assimilation in words such as *ovca*.

Regarding its distribution, it is found in typically sonorant positions in initial consonant clusters, following obstruents in two or three consonant clusters: *tvoj*, *dva*, *kvar*, *gvožđe*, *stvar*.[1] Apart from /m/, /v/ is the only sonorant which can be the first element of initial two-consonant clusters: *vreme*, *vlaga*, etc. Word final consonant sequences are generally felt as foreign in Serbian, but it should be noticed that some sequences are quite readily accepted, such as in the words *takt*, *keks*, *princ*, *film*, *disk*, *saft*, *kamp*, *šund*, *dizajn*; whereas sequences involving /v/ are very infrequent (as in *gotovs*, *nerv*, but it should be noted that the distribution in both of words speaks in favour of an obstruent analysis, being equivalent to *indeks*, *gips*, *kolaps*; and *park*, *bard*, *punč*, respectively).

Another reason why /v/ is commonly classified as a sonorant is based on the articulatory and acoustic properties of this sound. Although it may undergo devoicing in certain positions, it generally has the characteristics of approximant articulation. In terms of its articulation, the contact between the upper teeth and the lower lip is rather loose, and the energy seems too low to produce friction. From the acoustic standpoint, it is characterized by low energy output, barely visible friction (if any), formant structure, and, usually, by the presence of voicing.

The majority of textbooks on Serbian and Croatian phonetics and phonology traditionally analyze /v/ as a sonorant.[2] In some of the more recent works the sonorant status of /v/ has been challenged, and the authors such as Gudurić & Petrović (2006), as well as Subotić (2005) speak in favour of a fricative, particularly referring to the opposition /f/ : /v/, which functions as a distinctive opposition in contemporary Serbian. The acoustic investigations reported in Gudurić & Petrović (2006) are indicative of a highly idiosyncratic (and disputably fricative) articulation

[1] *stv-* seems to be the only common three consonant cluster with /v/ as its third element. Words such as 'zdvojiti', listed in the dictionary *Rečnik Matice srpske*, are not commonly heard in the language. The sequence *skv-* is only found in non-standard or foreign words, such as *'skvičati'*, *'skvo'*, and a few more. /v/ genearally has a much more restricted occurrence as the third element of a three-consonant cluster, compared to /r/, the other post-initial sonorant found in this position.

[2] For a detailed account of /v/ in Serbian and Croatian by various phoneticians and phonologists, see Gudurić & Petrović (2006). Among those not mentioned in this paper, we would mention Bakran (1996), who gives phonetic evidence for sonorant realization in Croatian, and Jelaska (2004), who analyzes /v/ as a sonorant from the phonological point of view.

of /v/ in various contexts, but the authors nonetheless take the position that the default realization of /v/ is fricative.

4. Acoustic analysis

The experimental part of the paper involved the acoustic analysis of English and Serbian /v/ as well as the analysis of English /v/ produced by Serbian native speakers. The subjects were two native speakers of English and two native speakers of Serbian (all males) who had a minimum of twelve years of learning the English language. The corpus consisted of English and Serbian words/phrases illustrating /v/ in a variety of phonological contexts: word-initially, intervocalically, word-finally, preceding both voiced and voiceless consonants as well as in a post-consonantal position. The subjects were recorded in the soundproof room at the Faculty of Philosophy in Novi Sad with the sampling rate of 44,100 Hz. English subjects were asked to pronounce the English tokens only, whereas Serbian subjects were recorded pronouncing both Serbian and English tokens with a short pause made between the two sets of recording. The acoustic analysis was done in *Praat* (version 5.0.42) with the focus on the following features: (a) the presence and distribution of aperiodic energy/ periodic energy with the significant increase in amplitude, (b) the presence and average values of the formant frequencies, and (c) the presence and duration of voiced phonation.

4.1. English /v/

The corpus contained the following English words: *visa, velar, viva, Venus, vegan, vodka, volley, volume, vomit, vox, lava, bravo, seven, seventh, prevail, even, proverb, novel, hovering, moving, grieve, leave, Steve, reeve, sleeve, of, groove, prove, move, remove, love bite, dive-bomb, love potion, have problems, proved, gravedigger, love-token, leave-taking, have got, brave girl, live concert, of course, have vanished, have vended, waveform, brave face, save that, prove this, brave thing, drive-thru, wives, lives, love-song, gravestone, love genre, brave gigolo, slave ships, live show, love-hate, leave home, have judged, have joked, love child, love children, caveman, movement, love nest, have-not, loveless, lovely, graverobber, have risked, brave woman, driveway, prove useful, graveyard.*

The acoustic analysis shows that the English phoneme /v/ has the undisputable status of a non-sibilant fricative in all phonological environments. It is characterized by the obligatory presence of low-