

University of Essex

Essex Research Reports in Linguistics

Volume 57

Number 3

9 June, 2008

David Britain

University of Essex
dbritain@essex.ac.uk

Sue Fox

Queen Mary University of London
s.p.fox@qmul.ac.uk

Vernacular universals and the regularisation of hiatus resolution

Dept. of Language and Linguistics,
University of Essex,
Wivenhoe Park,
Colchester, Essex, UK,
CO4 3SQ

<http://www.essex.ac.uk/linguistics/errl/>

Essex Research Reports in Linguistics present ongoing research activities of the members of the Department of Language and Linguistics.

The main purpose of these reports is to provide a quick publication outlet. They have 'pre-publication status', and most will subsequently appear in revised form as research articles in professional journals or in edited books.

Copyright remains with the author(s) of the reports. Comments are welcome: please communicate directly with the authors.

If you have technical problems downloading a paper, or for further information about these reports, please contact the editor:

Doug Arnold: doug@essex.ac.uk.

Citation Information:

David Britain and Sue Fox. 'Vernacular universals and the regularisation of hiatus resolution', *Essex Research Reports in Linguistics*, Vol. 57.3.

Dept. of Language and Linguistics, University of Essex, Colchester, UK, June, 2008.

<http://www.essex.ac.uk/linguistics/errl/errl57-3.pdf>

“Vernacular universals” and the regularisation of the hiatus resolution system in British English¹

David Britain

Department of Language and Linguistics
University of Essex
Wivenhoe Park
COLCHESTER
CO4 3SQ
Great Britain
dbritain@essex.ac.uk

Sue Fox

Department of Linguistics
Queen Mary University of London
Mile End Road
LONDON
E1 4NS
Great Britain
s.p.fox@qmul.ac.uk

Introduction

Jack Chambers’ research on ‘vernacular universals’ (e.g. 2000, 2003, 2004) has highlighted the fact that sociolinguistic dialectology hasn’t really fully contributed to the debate on typology and language universals, but that it should, and that it has a wealth of evidence at its disposal to do so. Rather than restricting our vision to our own speech communities, he says, we should be more prepared to ‘expand the domain of enquiry across national borders...and especially across language borders’ (2000: 11) and to seek out and explore variables which ‘have universal, cross-linguistic counterparts, identifiable with structurally equivalent linguistic constraints in language after language’ (2000: 13). As a first step in this endeavour, Chambers

¹ We’d like to thank the audience at the Workshop on World Englishes: Vernacular Universals vs. Contact-Induced Change, Mekrijärvi Research Station, Joensuu University, Finland for their comments on an early oral presentation of the work presented here. We’d also like to thank the following people who read an earlier draft of the paper and provided us with extremely helpful comments: Paul Foulkes, Barry Heselwood, Caroline Newton, Erik Thomas, Dick Hudson, Christian Uffmann, Raj Mesthrie and Bill Wells.

highlights a number of features which appear to be used in many varieties across the Anglophone world (these include alveolar nasals being used in unstressed *-ing*; consonant cluster simplification and multiple negation) and which cannot possibly be linked through diffusion from one common source. He suggests that these forms are most likely to be found in child language, interlanguage, pidgins and creoles and in working class vernaculars, that they tend to be suppressed in standard varieties and that they ‘appear to be natural outgrowths...of the language faculty, that is the species-specific bioprogram that allows (indeed, requires) normal human beings to become *homo loquens*’ (2004: 128).

In his most detailed account of vernacular universals to date, Chambers (2004) suggests that contact and ‘worldliness’ militate **against** the preservation of such universals – “put simply, the more urban and mobile the social setting, the more standard the speech” (2004: 137). To support this claim, he contrasts, for one vernacular universal – the use of *WAS* for standard *WERE* as past tense *BE* forms – (i) older speakers on Tristan da Cunha, a long isolated remote island of the South Atlantic, (ii) the Fens in England and Anniston in the US, both at the heart of large rural areas, and (iii) York (England) and Sydney (Australia), ‘large cities in highly urbanized regions’ (2004: 138). Tristan da Cunha shows most use of non-standard *WAS*, and the larger cities the least, with the Fens and Anniston in between, showing a correlation between ‘urban complexity’ (2004: 138) and avoidance of the vernacular universal.

In this article, we argue that contact (which, after all, was central to the genesis of contemporary Tristan da Cunha (Schreier 2003) and Fenland (Britain 1997, 2002) Englishes), rather than being viewed as antithetical to the use of linguistic forms that are used widely across unrelated dialects of English, should in fact (sometimes, at least) be seen as a generator of them. Pidgins and creoles, suggested by Chambers as one of the sites of vernacular universals, are, of course, contact varieties par excellence, and so perhaps we should expect to find common forms emerging where we find (heavy) contact in language generally, especially

where the standard language has had little influence in the development of the variety. And of course it is not unusual in the literature to find connections between language contact, child and second language acquisition and the appearance of forms that are considered widespread, unmarked and even universal (see, for example, DeGraff 1999).

We examine here the example of how varieties of English traditionally resolve vowel-vowel hiatus. We highlight changes afoot in the hiatus breaking system, most notably in varieties that have undergone heavy socio-cultural and language contact. These changes appear to be moving the language towards a levelled system that is shared not just by extremely diverse (and demographically unconnected) varieties of English, but, it seems, by language(s) more generally.

Hiatus resolution in traditional vernacular English accents

Vernacular varieties of English have a complex system of resolving vowel-vowel hiatus². Most have a range of strategies at their disposal, strategies which are determined by a range of linguistic contextual factors (such as the quality of the first vowel and the grammatical status of the lexical item containing that first vowel), which, as we will see, are often the result of relics and residues of (often unconnected) historical processes that have been underway in the varieties in question for centuries. There has been very little empirical investigation of these strategies, however, and most research which has been carried out has considered just one of the hiatus resolving mechanisms rather than viewing them as a global system (though see Stene 1954 for an early overview). We begin, therefore, by

² Most varieties of English do insert some consonantal element between two vowels in these contexts. We are grateful to Peter Trudgill for drawing our attention to an apparent lack of such an element in parts of the North and Mid-West of the USA. It would be interesting if such varieties were investigated acoustically to observe the phonetic transition between the vowels there.

outlining the different components of the hiatus resolution system in vernacular accents of English before examining evidence that this system is undergoing change, and speculating about what may be triggering that change.

In contexts of V [+high] # V, such as in (1) and (2) below, the literature mostly uncontroversially accepts that a glide – either [ʷ] if the high vowel is back and/or rounded or [j] if it is unrounded and front – eases the transition from vowel to vowel. Cruttenden (2001: 289) calls this “intrusive [j w]” (see also Thomas 2001: 54-55):

- (1) Go inside [gʌu^wɪnsaɪd]
- (2) Jelly and ice-cream [dʒɛlɪ^jənaɪskɪ:ɪm]

Harris (1994: 104) argues that ‘the hiatus glide can be straightforwardly explained as the spreading of an element from the first nucleus into the vacant onset’. Heselwood (2006: 80) considers these segments to be “low-level articulatory transitional phenomena”, unlike other hiatus resolving phenomena such as linking and intrusive [r] (see below). As we will see, this distinction has consequences not only for the acquisition of the hiatus resolution system, but also for the route along which the system appears to be currently changing.

In contexts of V [-high] # V, such as in (3)-(9) below, most non-rhotic vernacular varieties of English insert [r]. This phenomenon is often called linking [r] (if the first vowel is the consequence of the historical loss of rhoticity) (as in (3)-(5) below) or intrusive [r] (if there are no etymological traces of <r> in the word) (as in 6-8 below). Intrusive [r] can occur after /ə ɔ: ɑ:/ in non-rhotic accents of English, but also in other contexts in some non-standard varieties, for example, /au/ realised as a non-high long monophthong [æ: ~ ɛ:] (e.g. in London (Wells 1982) and the East Anglian Fens (Britain 1991, 2003)) can trigger intrusive [r] before a following vowel (see (9) below):

- | | | |
|-----|----------------------|--|
| (3) | cider apple | [saɪdə ɪ æpəl] |
| (4) | far away | [fɑː ɪ əweɪ] |
| (5) | more apples | [mɔː ɪ æpəlz] |
| (6) | vodka and tonic | [vɒdkə ɪ əntɒnɪk] |
| (7) | awe inspiring | [ɔː ɪ ɪnspaɪɪŋ] |
| (8) | keep the window open | [kiːpðəwɪndə ɪ ʌpən] (non-standard Southern British English) |
| (9) | now and then | [nəʊ ɪ ɒn ðen] (East Anglian Fens) |

The phonological status of intrusive and linking [r] has been subject to a very vigorous debate in the theoretical phonological literature (e.g. Halle and Idsardi 1997, McCarthy 1993, 1999, McMahon 2000, Orgun 2001, Sebregts 2001, Uffmann 2007a, 2007b, Vennemann 1972), but there has been little empirical investigation into the frequency of its occurrence, its exact phonetic quality or the linguistic constraints that encourage or discourage its use (see Bauer 1984, Foulkes 1997, Hay and Sudbury 2005, Heselwood 2006 for salient exceptions to this).

One context in which intrusive [r] is not found, except occasionally in early child language, is after the word ‘the’. The definite article is one of three contexts (along with the indefinite article and a group of often unstressed small function words – see below) where allomorphy can be triggered to help resolve hiatus – different forms are found before vowels than before consonants. In the case of the definite article, preconsonantal /ðə/ alternates with prevocalic /ði/³ as in (10-11) below, with the high front vowel of the prevocalic allomorph triggering an intrusive [ɹ] before the following vowel:

(10) the pear [ðə peɪ]

(11) the apple [ðɪˈæpl̩]

What is today the definite article was, at an earlier stage of English, a demonstrative pronoun. Over time, it lost its demonstrative function and became a marker of definiteness. The present-day /ðə/ pronunciation was derived from /ði/ via a process of vowel reduction and has become grammaticalised in most modern vernacular varieties of English before consonant initial but not vowel initial words (Raymond, Fisher and Healy 2002). The prevocalic form represents relative conservatism, therefore, possibly in order to avoid the hiatus that would result were it to continue on the same track as preconsonantal /ðə/⁴.

A more unusual and (today) isolate form of hiatus resolution through allomorphy can be found in the indefinite article system, where *a* [ə] is used preconsonantly but an epenthetic [n] leads to *an* [ən] in prevocalic contexts, as in (12) and (13) below:

³ In addition, the prevocalic pronunciation /ði:/ has been noted in preconsonantal position when it is stressed or used for emphasis as in ‘this is *the* (/ði:/) hairstyle of the season’ or when it is used to signal problems in speech production (Fox Tree and Clark 1997).

⁴ We are aware, of course, that there exist other forms of (non-standard) allomorphy in the definite article system in some varieties of English. Many northern English varieties exhibit definite article reduction (DAR) where <the> is reduced to an alveolar or glottal stop (Beal 2004, Jones 1999, 2002, Rupp and Page-Verhoeff 2005) and Viereck (1995) reports that traditional varieties of South-West England, part of East Anglia and the north also delete the vocalic element but retain an interdental consonant (e.g. ‘in th’oven). What is interesting about both of these forms is that they conform to a subtle rule-governed system of hiatus avoidance. As Jones (2002) points out, ‘the reduced articles of DAR are always vowel-less’ and so by dropping the vowel in the definite article, the pronunciation eradicates the need to resolve hiatus when DAR is prevocalic.

- (12) a pear [ə peɪ:]
 (13) an apple [ən æpəl]

This is the only hiatus breaking element in English which is represented in the written form. The forms *a* and *an* are both derived from the Old English numeral *an*, equivalent to modern 'one', through a process of grammaticalisation (Hopper and Traugott 1993). The form *an* as an indefinite article lost its final /n/ in preconsonantal position, resulting in the distribution of *a* and *an* in Standard Modern English. This alternation is, as with the definite article allomorphy, somewhat of a historical fossil and parallels other cases found in Middle English. These include such alternations as *my/mine*, *thy/thine* and *no/none*, where the shorter form was originally used before consonants and the longer <n> retaining form was used before vowels (and phrase finally) so that *my book* but *mine eyes* exemplify earlier usage. The distribution of these pairs then ultimately came to be determined not by the nature of the following segment but simply by whether it was final (or absolute) or not (Stene 1954:56).

The final context in which allomorphy is triggered in order to avoid hiatus is a group of small, usually unstressed function words which include *to*, *my*, *I*, *by*, *of*, *you*. These words often, when unstressed and in preconsonantal position, end in a non-high vowel, as in (14-18) below:

- (14) go **to** London [gəʊ tə lʌndn]
 (15) blown down **by** the wind [blʌʊn daʊn bə ðə wɪnd]
 (16) he can help **you** lift it [hi: kn hɛlp jə lɪft ɪt]
 (17) get **my** bag [gɛt mə bæɡ]
 (18) **I** went home [ə wɛnt hʌm]
 (19) cup **of** tea [kʌp ə ti:]

but, in many varieties, when in prevocalic position, they have allomorphs which are high-vowel final, in order to trigger an intrusive [ʔ] or [w], as in (14a-18a) (*of* provides an interesting case where [v] blocks hiatus in prevocalic positions – see 19 and 19a⁵)⁶:

- | | | |
|-------|-------------------------|--------------------------------------|
| (14a) | go to Ipswich | [gʌu tu ^w ɪpswɪtʃ] |
| (15a) | blown down by a tornado | [bɪlʌʊn daʊn baɪ ə tɔːnɛɪdʌu] |
| (16a) | he can help you eat it | [hiː kn hɛɫp ju ^w iːt ɪʔ] |
| (17a) | get my apron | [gɛʔ mi ^j eɪprən] |
| (18a) | I ate at home | [aɪ ^j eɪt əʔ hʌʊm] |
| (19a) | cup of Earl Grey | [kʌp əv ɜːɫ gɹeɪ] |

A few varieties, notably ones which have been resolutely non-rhotic for a considerable period, can break hiatus in some of these small function words in a different way, using intrusive [r] – (14b-16b).

- | | | |
|-------|------------------------|--------------------------|
| (14b) | go to Ipswich | [gʌu təɪ ɪpswɪtʃ] |
| (15b) | hit by a bus | [hɪʔ bəɪ ə bʌs] |
| (16b) | he can help you eat it | [hiː kn hɛɫp jəɪ iːt ɪʔ] |

⁵ *Of*, in this sense, appears to be behaving similarly to the indefinite article. In both cases, the vowel is reduced, and in both cases the following consonant, appearing only in prevocalic position, represents a historically prior, less lenited form than that used in the more frequently occurring pre-consonantal position.

⁶ Jurafsky, Bell, Fosler-Lussier, Girand and Raymond (1998) provide evidence of the robustness of this allomorphy in the American English *Switchboard* corpus (see also Bell, Jurafsky, Fosler-Lussier, Girand, Gregory and Gildea 2003).

So vernacular Englishes have a complex hiatus breaking system, involving [ʃ^wɪn v] in different but sometimes overlapping linguistic contexts, often facilitated by allomorphy in the articles and in a number of small but frequently occurring function words.

Evidence of change in the hiatus resolution system

Perhaps not too surprisingly given its complexity, however, the system described above is undergoing reorganisation in some varieties of English. Evidence for this reorganisation is quite patchy, and, like hiatus resolution itself, is very rarely presented for the system as a whole. We therefore draw together here the evidence from across the hiatus breaking system, before presenting a holistic analysis comparing rural adolescent Fenland English and the traditional Cockney London English of older speakers - varieties which retain the traditional system almost totally intact - with adolescents from the East End of London where radical reorganisation is in progress.

Variable lack of allomorphy in the article system has caught the attention of a number of scholars, though few have conducted detailed empirical investigations nor explained how hiatus is resolved in such contexts. Wright (1905: 71) claimed that 'few dialects follow the rule of the literary language according to which 'an' is used before a vowel' and across traditional regional varieties of English in England there is some evidence to support this view. Ojanen's (1982) research on traditional dialects of Southern Cambridgeshire in the East of England provides example (20) below:

- (20) 'when we went in there...in that cottage, there'd be a old chap (Ojanen 1982: 186)

and she adds that 'the indefinite article 'a' is commonly used instead of the Standard English 'an' (1982: 186fn). Staying in the East, both Peitsara (1996) and Claxton

(1954) find a lack of allomorphy for the definite article in Suffolk and Britain (2003) finds *a* + vowel used by a speaker of Gypsy ethnicity in the Fens (21)

(21) 'there's a agency in the local pub' (Britain 2003: 203)

Prevocalic indefinite article *a* is also found in Bolton in the North-West (Shorrocks 1999: 45), in Peasmarsh in Sussex in the South-East (Lodge 1984) and across the South-West of England (Wagner 2004: 155). Shorrocks is one of few who mention how hiatus may be avoided in such contexts, when he claims 'when /ə/ is used before a vowel/diphthong, a glottal stop may well be interposed between the two' (1999: 45). Beyond the UK, Taylor (2003) finds *a* + vowel in written court transcripts of defendants in 1850s Sydney, Australia, Wolfram and Fasold (1974), Mufwene (2001) and Craig, Thompson, Washington and Potter (2003) mention it as a characteristic of AAVE and Labov (1972) finds it in New York. Watermeyer notes that for speakers of Afrikaans English in South Africa, 'there is usually no distinction between *a* and *an* (*a energetic class; a absolute miracle*)' (Watermeyer 1996: 118). Lass (1995: 104) suggests that while prevocalic *a* is restricted only to working class, especially Afrikaaner speakers, prevocalic [ɔ̃ə] is also found among middle class speakers in South Africa. Prevocalic [ɔ̃ə] is reported for Singaporean English by Fraser Gupta (personal communication).

More detailed and systematic studies of this absence of allomorphy are few, with several originating in the psycholinguistic literature and experimental in nature rather than based on the more informal data collection methods typical of sociolinguistics (see Fox 2007 for more details). Healy and Sherrod (1994) tested, in an experimental task, whether article use is governed by a rule-based distinction sensitive only to the onset of the following word. In one experiment participants were presented visually with nouns and adjectives that began with either a consonant or vowel. They were then asked to select the form of the articles, both definite and indefinite, that they preferred to use with the visually presented words.

For the indefinite article, the participants chose *a/an* in accordance with the standard rule but for the definite article, 25% of the responses deviated from the normative rule. However, this figure included both instances of reduced vowels in pre-vocalic position and unreduced vowels in pre-consonantal position and no figures were provided that would enable the reader to disambiguate the two contexts. Raymond, Fisher and Healy (2002), in another experiment, examined the factors influencing the production of articles, this time in tasks which did not involve exposing the participants to written stimuli. Each participant was asked to listen to words preceded by the possessive pronoun ‘his’ which they then had to replace with an article, either ‘the’ or ‘a’/‘an’, followed by the word they had heard with the possessive pronoun. For example, the participant might hear ‘his business’ and respond by saying ‘the business’. Results showed that indefinite article choice corresponded closely with the standard rule. For definite articles, however, particularly before vowels, production did not consistently follow the standard rule. For example, more than 40% of the responses before vowel initial words did not fit the standard rule of using an unreduced vowel in this context. Gaskell, Cox, Foley, Grieve and O’Brien (2003), investigating the use of prevocalic /ðɪ/ by children found that this form was only used in 34% of all relevant contexts by 8 year olds but that this rose to 61% among 10 year olds, suggesting that the allomorphy is picked up relatively late during language acquisition. We will return to matters of acquisition later. Todaka (1992) examined the use of prevocalic /ðə/ in the TIMIT corpus⁷, finding it in around a quarter of all tokens. In cases where a reduced vowel was used in pre-vocalic position, Todaka noted significant variation among speakers based on age and dialect. Speakers from the South and New York City were shown to have the highest percentages of pre-vocalic /ðə/. Age was also significant with no speaker over fifty years old pronouncing a prevocalic definite article with /ðə/. The highest use of the definite article with /ðə/ in pre-vocalic position was among speakers aged

⁷ The TIMIT corpus consists of digitalised recordings of 6300 sentences, 10 sentences each read by 630 speakers from eight different dialect regions of the United States (see Garofolo et al 1993).

20 -30, leaving Todaka to conclude that ‘there is a definite trend among the young that the general distinction, i.e. [ðə] before consonants and [ði:] before vowels, is becoming less obvious’ (Todaka 1992:43). Keating, Byrd, Flemming and Todaka (1994: 136-7)’s observations of Californian undergraduates suggest that ‘the norm seems to be [ðə] before a consonant and [ðəʔ] before a vowel’ and that there ‘appears to be an ongoing change in a pronunciation norm’.

We are aware of two variationist studies of allomorphy loss in the article system. Anderson et al (2004) investigated change in progress towards prevocalic /ðə/ in New Zealand English. They found around 20% of prevocalic definite article tokens realised as [ðə] and found that the change was being led by young non-professional women and that it was most advanced preceding repeated head nouns, which contain stressed, front vowels. Ash and Myhill’s (1986) study investigated lack of allomorphy in the context of social network ties in Philadelphia. They found that African Americans who had little contact with Whites in Philadelphia realised prevocalic *the* as [ðə] 75% of the time compared to 30% among whites with considerable contact with African Americans.

Varieties which avoid or have low levels of hiatus-breaking intrusive and linking [r], even though they are non-rhotic, are fairly widely reported, especially outside England. Foulkes’s (1997) variationist study of linking and intrusive [r] in Newcastle is an extremely important one, not only because it finds these forms to be much less categorical than had previously been assumed, but also for the somewhat unexpected social patterning of results. Linking [r], across apparent time, was found to be on the *decrease* in Newcastle and used more by *middle* class speakers (1997: 263). Intrusive [r] is rare in natural conversation and Foulkes found that even when the appropriate contexts occurred, it tended to be avoided (1997: 264). When it was used in conversation, it was largely by working class speakers. In reading passage style, however, the use of intrusive [r] increased and was used much more by middle than working class speakers (1997: 266), though these findings were

based on just one sentence per speaker. Foulkes mentions that when linking and intrusive [r] are not used ‘in some cases...speakers insert a glottal stop’ (1997: 262fn).

In South African English (SAfEng), a glottal stop is also reported in place of /r/ (Bowerman 2004; Lass 1995). LI varieties of South African English are said to ‘have a greater tendency to avoid /r/ sandhi by using a glottal stop than non-rhotic dialects’ (Lass, cited in Watermeyer 1996:7, see also Lass 1995: 103). Trudgill and Hannah (2002) give the example *four o'clock* [fɔ:(?)əklok] confirming the use of glottal stop and agreeing that ‘very many varieties of SAfEng lack both intrusive *r* and linking *r*’. Hay and Sudbury (2005) report that linking /r/ was frequent (85%) but that intrusive /r/ was relatively infrequent (21%) in 19th century New Zealand English and in modern NZE, Bauer and Warren (2004) suggest that intrusive /r/ is (still) a minority option. Tay (1982: 138) claims that “linking *r* is hardly ever found” in non-rhotic Singaporean English (see also Trudgill and Hannah 2002) and adds ‘other forms of liaison were also noticeably absent...the absence of liaison is perhaps what gives the layman the impression that SgE is very ‘staccato’.

Low levels of linking [r] are also reported by Labov (1972: 13, 39) for New York African Americans and Cutler (1999: 431) has shown that lack of [r] was adopted by a white middle class teenager as a ‘crossing’ (Rampton 1995) strategy, as in (22):

(22): Mike: yo, she still looks **her age**

[jə ʃɪ stɪl lʊks hɜ ɛɪdʒ]

(Cutler 1999:431)

In the US South (where the definite article is also reported to be commonly pronounced with a reduced vowel in pre-vocalic position - see above) Thomas (2004: 317) reports that “linking *r*...has historically been absent for a large number of Southerners, though some speakers showed it, often variably. Intrusive linking *r* in other hiatus positions...is virtually unknown in the South” (see also Kurath and

McDavid 1961: 171-172, Maps 157-159; Trudgill and Hannah 2002). The literature on hiatus breaking after non-high vowels, therefore, suggests quite strongly that in many varieties, particularly those that have developed in circumstances of high levels of socio-cultural and language contact, glottal stops can either replace or co-vary with [r].

Beyond Stene's (1954) comprehensive work on sandhi phenomena, few other scholars have examined the allomorphy of unstressed function words from the perspective of hiatus resolution. A number of varieties of English, however, again those where language contact has been central to their development, have been examined from the perspective of changes from stress-timing to syllable timing and a general avoidance of 'weak forms'. Most research in this regard has been carried out on New Zealand English (NZE), where it is particularly associated with speakers of Maori English (Benton 1966, Bauer 1995, Warren 1998, 1999, Warren and Britain 1999). Research by Helen Ainsworth and Janet Holmes has examined the use of 'full' vowels where 'reduced' vowels might be expected in Maori and Pakeha NZE (Ainsworth 1993, Holmes and Ainsworth 1996, 1997, Holmes 1997) and found full vowels to be more frequently occurring in Maori than in Pakeha (=European) NZE, but also in more slow speech styles than in informal fast speech⁸.

Crystal (1995: 176) argues that 'World English' shows evidence of syllable timing and proposes that it is due to English's 'contact with a range of languages of diverse structural types'. Evidence of this is found, he claims, in the Englishes of South Africa, India, and the Englishes of people of Italian and Hispanic ethnicity in the USA, as well as in English-lexicon pidgins and creoles. Tay's work on Singaporean English supports this view. She maintains that "Weak forms are also strikingly absent in SgE" (1982: 138), adding, interestingly, that the only weak forms consistently realised as weak were the articles /ðə/ and /ə/. Similarly, Deterding reports an almost total absence of 'weak' forms and a syllable-based rhythm in Chinese English

⁸ This is also noted for the formal English of BBC newsreaders by Allerton (2000: 580).

(2006: 183). The ‘full’ forms reported for NZE and beyond, of course, can occur in preconsonantal positions as well as prevocalic, but none of the studies reported above appear to have investigated whether such full forms are more likely to occur in prevocalic contexts than elsewhere, nor reported how hiatus is resolved if such full forms trigger a -V#V- context.

Generally, then, the hiatus resolution system of English appears to be extremely complex and variable. In Britain, especially, for example, /ⁱw r n v/ can all act as hiatus breakers in different contexts⁹, and the complexity of this system triggers, in most places, following segment-sensitive allomorphy in the article system and among a set of frequently occurring small function words. Outside Britain, especially, we find evidence of a relatively more levelled system, notable within which is the presence, albeit variable in some places, of glottal stops as an all-purpose hiatus breaker. We aim to consider now the extent to which South-Eastern England is undergoing such changes to its patterns of hiatus resolution.

Hiatus resolution in the Fens

In order to examine the extent to which vernacular varieties of English adhere to the complex traditional hiatus breaking system described by Stene (1954) and others, and presented above, we first analysed a corpus of data from the Fens in South-Eastern England. The Fens are located 150km north of London, and are an area of low-lying former marshland, reclaimed from the mid-17th century onwards,

⁹ In parts of the US, // can also be used as a hiatus breaker after non-high vowels (Gick 2002). This is not, as far as we are aware, found in England. However, the prevalence of // vocalisation in Britain has, in some varieties but not all, triggered the use of a ‘linking //’ in prevocalic positions (e.g. [bɒʔɪbæŋk] ‘bottle bank’, and [bɒʔɪlʌpənə]/[bɒʔɪwɪlʌpənə] ‘bottle opener’) (but only in contexts of an etymological //) (see further Johnson and Britain 2007). Also, of course, intrusive // is a stereotypical feature of the traditional variety of the West of England city of Bristol, but here it is not restricted to hiatus contexts.

separating East Anglia from the Midlands. In terms of demography, they are, in comparison with the rest of South-East England, very sparsely settled, and with an almost entirely White population (98.6% at the 2001 Census)¹⁰. We examined recordings of informal conversation from 10 adolescents (15-19) of British White ethnicity from the Fens, extracting the definite and indefinite articles, contexts where linking and intrusive [rⁱw] may occur, and small function words.

Our results for the Fens show an almost totally intact traditional hiatus resolution system. The indefinite article was consistently *a* before consonants and *an* before vowels. There was a small amount of variation for the definite article, presented in Figure 1 below.

Linking [r] was found between non-high vowels and a following vowel in 95.6% of all relevant tokens (with [ʔ] accounting for the remainder), and intrusive [ɹ] and [w] in *all* cases where a high vowel was followed by a vowel. Allomorphy sensitive to following segment is also almost categorical in the Fens data, as Table 1 below exemplifies. These data show only small traces of incipient glottal stops being used to break hiatus. We now move 150km further south, to the East End of London, to observe how this urban, ethnically heterogeneous community is resolving hiatus.

¹⁰ This figure should not, however, be construed as suggesting the area is ethnically homogeneous. The Census of 2001 for the most part combined the populations claiming 'British White', 'White Irish' and 'Other White' ethnicities. The Fens are home to a sizeable Traveller community (claimed to be the largest ethnic minority group in Cambridgeshire, for example (<http://www.cambridgeshire.gov.uk/community/travellers/> - accessed 22/05/2008)), as well as not insignificant populations of other White ethnic groups, especially from Poland and the other EU accession states of Eastern Europe.

Figure 1: Use of prevocalic definite article in the Fens (N=118).

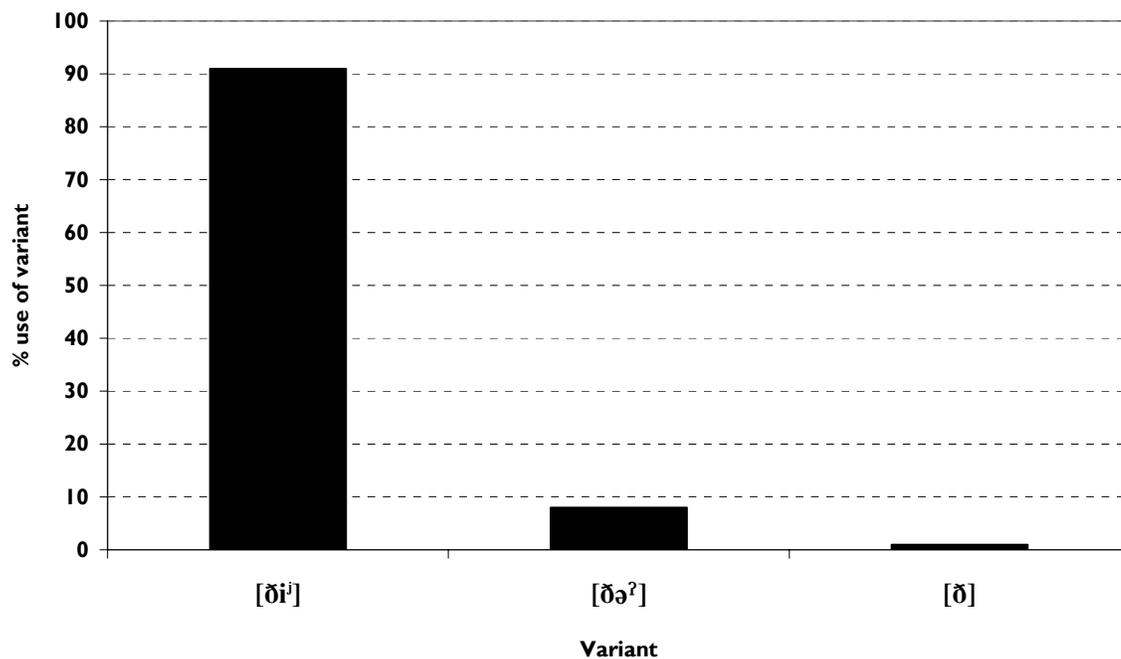


Table 1: Allomorphy in small function words in the Fens

Function word	Preconsonantly	Prevocalically
OF	[ə] 100%	[əv ~ ðv] 100%
TO	[tə] 100%	[tu:] 100%
YOU	[jə] 95.2% [ju:] 4.8% (esp. before [w])	[ju:] 100%

Hiatus resolution in London

Our London corpus of data comes from the ‘traditional’ East End, an area which corresponds to the present-day Tower Hamlets, the inner London Borough directly to the east of the City of London. Traditionally, this area has been associated with the Cockney dialect of what was the predominantly White working class population but in the last fifty years or so, the area has undergone rapid social and economic change and is now one of great social and ethnic diversity.

Over 55% of the population come from a large range of ethnic minority groups, with the largest single group being the Bangladeshis who represent 33.43% of the total population. The Bangladeshi community, however, is not spread evenly across the borough but tends to be situated in the neighbourhoods to the west and in some of these neighbourhoods the Bangladeshi population reaches 75-90% of the total. Another defining feature of the borough’s population is the high percentage of young people. The ‘under 16’ age group makes up 22.9% of the population (compared to 20.2% nationally) and of this total 38% are Bangladeshis. The ‘20-29’ category comprises 24.1% of the total population (compared to 12.6% nationally)¹¹. Over 57% of all school-age pupils in Tower Hamlets come from Bangladeshi backgrounds and over 70% are from ethnic minority groups. The percentage of pupils who have English as an additional language is 65% compared to 8% of pupils nationally¹².

The data for this part of the analysis come from the recorded informal conversations of 39 adolescents, either born in Tower Hamlets or settled there before the age of three. They comprise 9 white British girls, 11 white British boys, 9

¹¹ Source: Census 2001

¹² Borough Profile: www.towerhamlets.gov.uk (July 2004)

Bangladeshi boys and 2 boys of mixed race¹³. For the purpose of the analysis the mixed-race boys were included with the white British boys on the basis that they both lived with one white British parent and they were part of a largely white British friendship network.

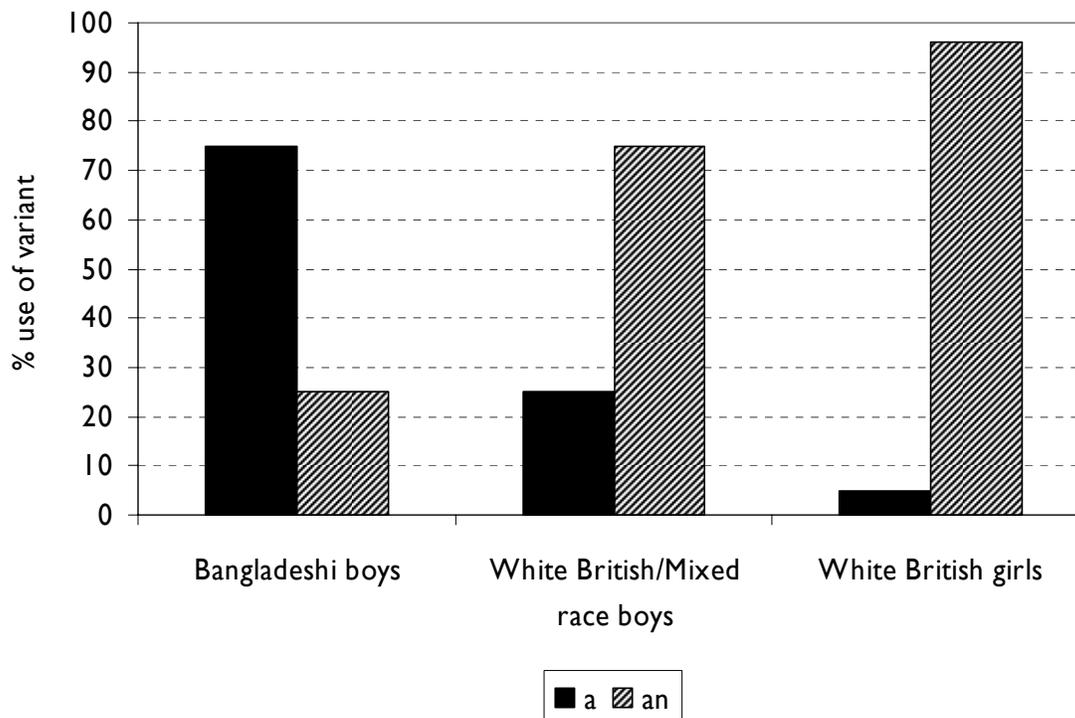
In addition, to provide a real-time comparison with today's East End of London, we were able to examine transcripts from a study conducted by Sivertsen (1960) in Bethnal Green, also part of Tower Hamlets. These results show that the indefinite article was consistently *a* before consonants and *an* before vowels and similarly that the definite article was consistently [ðə] before consonants and [ði] or [ði] before vowels at that time. The results from the present day study of Tower Hamlets show a very different picture.

For the indefinite article, *a* is consistently used before consonants but there is variation in the use of *a* and *an* in prevocalic position. There were a total of 94 tokens of the indefinite article in prevocalic position; the Bangladeshi boys produced 27 tokens, the white British/Mixed race boys produced 47 tokens and the white British girls produced 20 tokens. The results are shown in Figure 2 below. The Bangladeshi boys are clearly the most frequent users of *a* in prevocalic position (76%) but the white British/Mixed race boys also display variation, using *a* before vowels 25% of the time. The girls show only a small amount of variation, the use of *a* before a vowel occurring in only one token out of a possible twenty (5%). In those cases where *a* occurs before a vowel, hiatus is resolved by inserting a glottal stop.

The same pattern emerges with the definite article. Although [ðə] occurs consistently before consonants, there is variation in the use of [ðə] and [ði] in

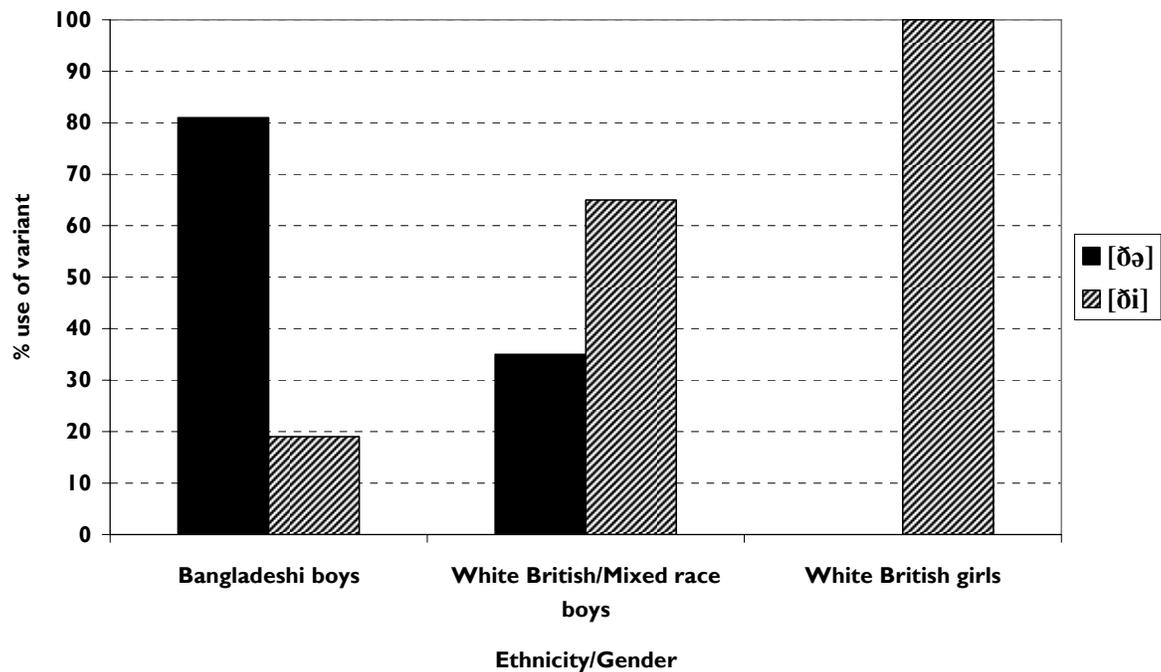
¹³ Fieldwork took place at a mixed-gender youth club and for cultural reasons, Bangladeshi girls are discouraged from social mixing in this context. Therefore, no data were sampled from this section of the population (see Fox 2007 for more details).

Figure 2: Use of prevocalic indefinite article in Tower Hamlets, London.



prevocalic position. There were a total of 312 tokens of definite article in prevocalic position; the Bangladeshi boys produced 100 tokens, the white British/Mixed race boys produced 132 tokens and the girls produced 80 tokens. The results are shown in Figure 3 below. Lack of allomorphy again occurs most frequently among the Bangladeshi boys who use [ðə] prevocalically 81% of the time. Following the same pattern as the indefinite article, the white British/mixed race boys also show variation with the use of [ðə] occurring in 35% of tokens. In all cases where [ðə] is used before a vowel, hiatus is resolved by inserting a glottal stop. As before, though, the girls use the traditional allomorphy sensitive to following segment.

Figure 3: Use of prevocalic definite article in Tower Hamlets, London.



To a lesser degree, the same pattern emerges with the use of linking [r]. From a subset of 21 speakers, there were a total of 341 contexts where 'r' occurred word-finally after a non-high vowel and before a following vowel; 103 tokens produced by the Bangladeshi boys, 101 tokens produced by the white British/mixed race boys and 137 tokens produced by the girls. The results are shown in Table 2 below:

Table 2: Linking /r/ in Tower Hamlets

White British girls	[ɹ] 97%	[r] 3%
White British/Mixed race boys	[ɹ] 94%	[r] 6%
Bangladeshi boys	[ɹ] 55%	[r] 45%

Among the Bangladeshi boys, the use of a glottal stop as the epenthetic consonant between the two vowels is a high figure of 45%. There is also a small amount of variation among both the white British/mixed race boys and the white girls.

In function words there is also a degree of variation, particularly among the Bangladeshi boys, presented in Table 3 below. Furthermore, what is clear from the table is that the Bangladeshi boys show a general avoidance of the 'weak forms' in these function words, which seems to support the idea that the variety used by the Bangladeshi boys shows similarities with other varieties where language contact has been central to their development. The degree to which this pattern of use has been adopted by the white/mixed race adolescents in the study is much smaller but nevertheless, the pattern that emerges is the same as for the previous features analysed, with the boys showing more frequent use of the full forms than the girls.

In other cases, where a high vowel was followed by a vowel, there was also variation in the epenthetic consonant selected to resolve hiatus, primarily among the Bangladeshi boys, as presented in Table 4 below.

We were able, for the indefinite and definite articles, to examine the relationship between social network ties and the use of glottal stops to break hiatus among the adolescents studied in Tower Hamlets. The data collected for this project were the result of several months' ethnographic participant observation and recording in a youth club (see Fox 2007) and consequently ongoing close friendships within the club could be observed. As a result of this ethnography, Fox developed a 'sociogram' modelling the peer groups within the larger youth club setting which enabled her to identify any relationship between language use and friendship group membership. The advantage of this model is that it is able to graphically demonstrate how variants

Table 3: Allomorphy in small function words in Tower Hamlets, London.

	Preconsonantly		Prevocally
OF			
White British girls	[ə] 95%	[əv ~ ɒv] 5%	[əv ~ ɒv] 100%
White British/mixed race boys	[ə] 94%	[əv ~ ɒv] 6%	[əv ~ ɒv] 100%
Bangladeshi boys	[ə] 39%	[əv ~ ɒv] 61%	[əv ~ ɒv] 100%
TO			
White British girls	[tə] 100%		[tu:ˀ] 100%
White British/mixed race boys	[tə] 98%	[tu:] 2%	[tu:ˀ] 100%
Bangladeshi boys	[tə] 27%	[tu:] 73%	[tu:ˀ] 82% [tu:ʔ] 18%
YOU			
White British girls	[jə ~ ja:] 89%	[ju:] 11%	[ju:ˀ] 100%
White British/mixed race boys	[jə ~ ja:] 88%	[ju:] 12%	[ju:ˀ] 100%
Bangladeshi boys	[jə] 15%	[ju:] 85%	[ju:ˀ] 100%

of different variables are used differentially across the club's membership, and how close friendships and connections between friendship groups may act as conduits for the diffusion of particular linguistic variants (see Fox 2007 for further details). Figure 4 below shows the sociogram for the use of [əʔ] as a *prevocalic* indefinite article and Figure 5 for the use of [ðəʔ] as a *prevocalic* definite article.

The Figures make it clear that it is the older Bangladeshi boys that lead in the use of [ə] and [ðə] accompanied by glottal stops to break hiatus before following vowels, with younger Bangladeshi boys following closely behind. The younger White

Table 4: Hiatus resolution in V(+high)#V contexts in Tower Hamlets, London.

V (+ high + front) # V:

White British girls	[ɪ]	100%	
White British/mixed race boys	[ɪ]	96%	[ʔ] 4%
Bangladeshi boys	[ɪ]	62%	[ʔ] 38%

V (+ high + back) # V:

White British girls	[ʊ]	100%	
White British/mixed race boys	[ʊ]	100%	
Bangladeshi boys	[ʊ]	85%	[ʔ] 15%

and Mixed raced boys and older White boys also show relatively significant levels of [ə] and [ðə], though as the sociogram importantly shows, this is because their friendship groups maintain close links with others whose members use high levels of these forms too. The White girls rarely if at all use [ə] and [ðə] in this way. Notice, though, that the sociograms point to the fact that they have no direct close connections with the Bangladeshis who use them most – the distribution patterns for this variable feature, therefore, are likely to be due to interaction levels between individuals and their friendship groups, rather than being essential characteristics of particular gender or ethnic groups. Importantly, very similarly patterned sociograms to these were found for several other linguistic variables that Fox studied, notably front and almost monophthongal realisations of the PRICE diphthong and close, also almost monophthongal realisations of the FACE diphthong (see Fox 2003, 2007 for further details). Close contact within the youth club setting, then, can be seen to be

Figure 4: Prevocalic [əʔ] as an indefinite article among different friendship groups in the Tower Hamlets Youth Club (based on Fox 2007)

Key: Each speaker is represented by a circle; circled groups of speakers represent small friendship groups; the lines between the friendship show intergroup connections. A cross through a circle shows there were no tokens for that speaker.

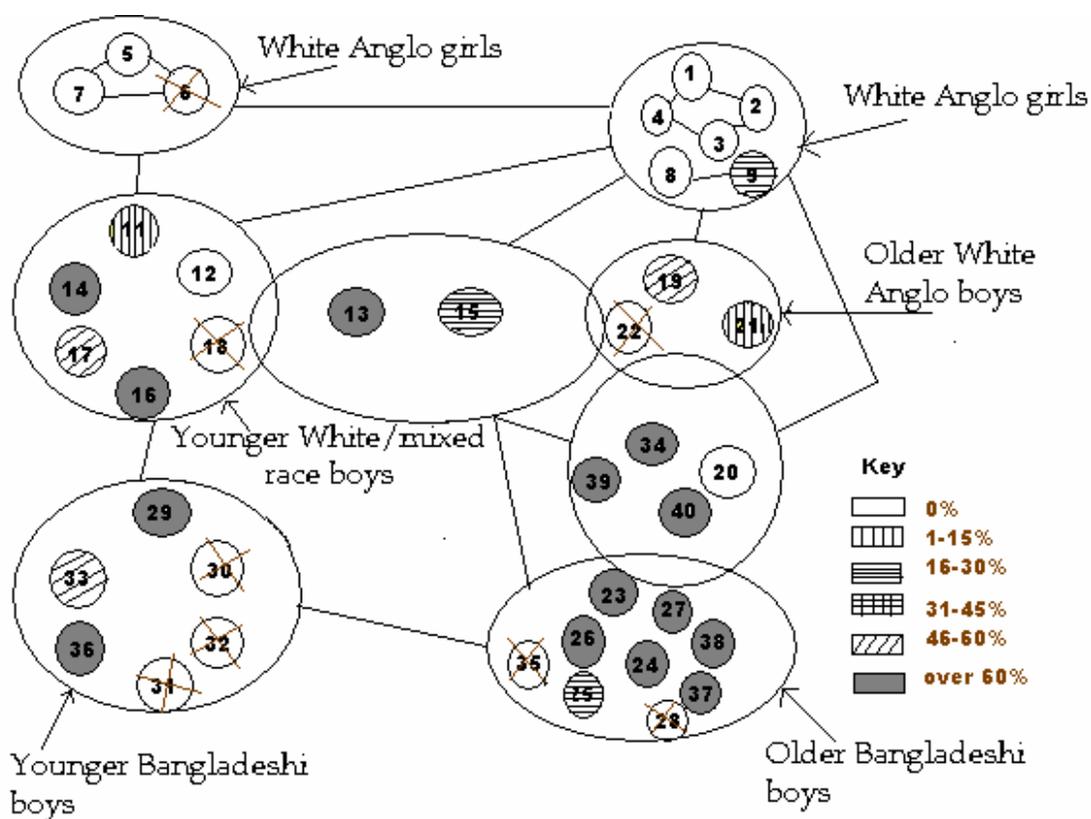
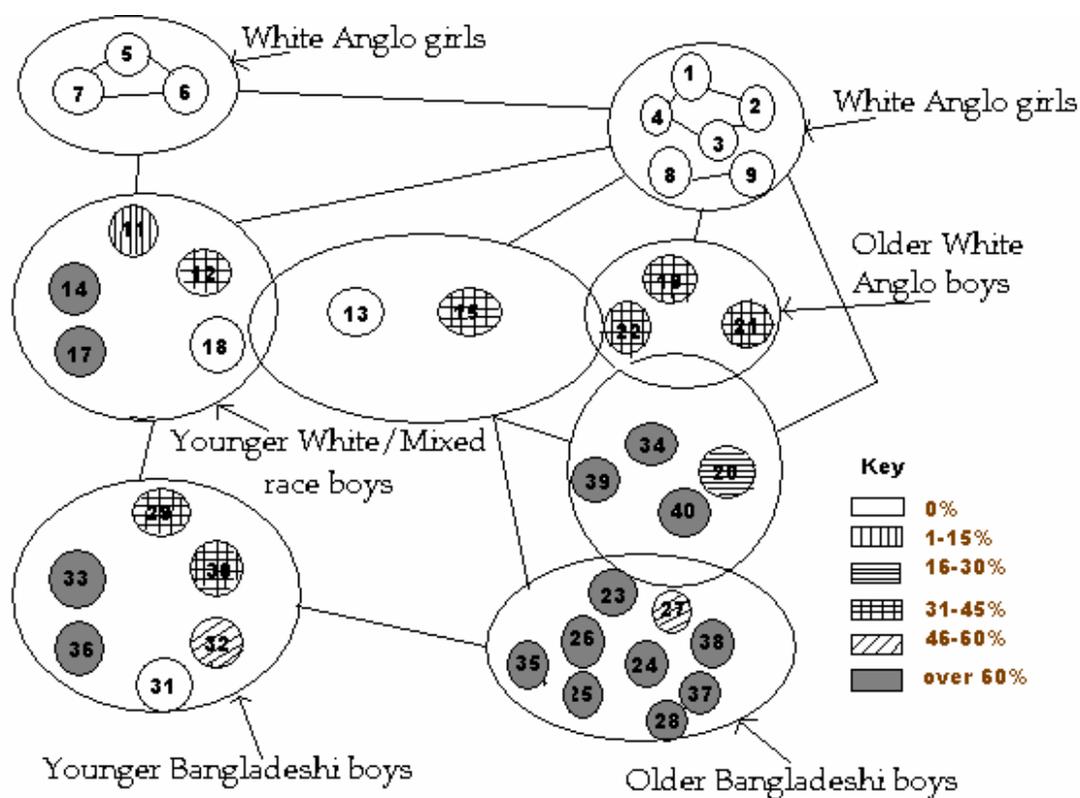


Figure 5: Prevocalic [ðəʔ] as a definite article among different friendship groups in the Tower Hamlets Youth Club (based on Fox 2007)

Key: Each speaker is represented by a circle; circled groups of speakers represent small friendship groups; the lines between the friendship show intergroup connections. A cross through a circle shows there were no tokens for that speaker.



the route by which the use of these non-allomorphic forms is spreading from one group to another.

The data presented clearly suggest robust variation in the hiatus resolution system in the English of this part of London. The Bangladeshi adolescents seem to

favour the use of glottal stop more than other speakers, but it is also being adopted by the adolescent White boys too. There is evidence that glottal stop use is widespread in inner London more generally. Recent research on the English of Hackney in London¹⁴ has found a parallel use of glottal stops for hiatus breaking, as is exemplified in Table 5 below. Although the glottals are used predominantly by members of London's ethnic minority groups, as the Table shows, they are also found among White Anglo speakers.

So whilst the rural Fens, with an overwhelmingly White population, have maintained the traditional, complex hiatus resolution system, multicultural London has witnessed the beginnings of its simplification and regularisation into a system that uses glottal stops to block hiatus and avoids 'weak' forms of function words. Further evidence that sociocultural contact seems implicated in these developments can be seen in the English of another community which has a substantial White but *non-Anglo* minority. Bedford, lying 65km to the south-west of the Fens and 90km north of London, has a large Italian minority which began to settle in the town in the early 1950s to work in the local brick works (see Guzzo 2005, 2007). Early analysis of recordings of third generation Bedford Italian adolescents shows a significant use, predominantly by young men, of the very same hiatus avoiding forms as we found in Tower Hamlets and Hackney (see Guzzo, Britain and Fox, forthcoming). Examples can be seen in Table 6 below.

Summary and discussion

The traditional complex hiatus resolution system of British English is exemplified by our data from the Fens. Allomorphy is found in the definite article system, where the high front vowel of the prevocalic allomorph [ði] facilitates a [ʔ] glide to the

¹⁴ Kerswill, P., Cheshire, J., Fox, S. and Torgersen, E., *Linguistic Innovators: the English of Adolescents in London*, ESRC Award 000 -23 – 0680.

Table 5: Use of glottal stops in hiatus contexts and “full” vowels in Hackney, London.

Example	IPA transcription	Gender	Ethnicity
“like a animal”	[laɪk ə ʔ ænɪmə:]	Male	Kuwaiti/Moroccan
“the older lot”	[ðə ʔ ɔʊldə lɒʔ]	Male	Kuwait/Moroccan
“do their own thing”	[du: ðeə ʔ əʊn fɪŋ]	Male	Kuwait/Moroccan
“fifteen to sixteen”	[fɪfti:n tu: sɪksti:n]	Male	Black African
“of your energy”	[ɒv je ʔ ɛnədʒi:]	Male	Black African
“used to go”	[ju:s tu: gəʊ]	Male	Black Caribbean
“their own hood”	[ðeə ʔ əʊn hʊd]	Male	Black Caribbean
“gonna end up”	[gɒnə ʔ ɛnd ʌp]	Male	White Anglo
“my older sister”	[mɑ: ʔ ɔʊldə sɪstə]	Female	Moroccan
“the African”	[ðə ʔ æfrɪkən]	Female	Black Caribbean

following vowel, in the indefinite article, where a relic [ŋ] is inserted to block hiatus, and in a number of small function words, which either have a prevocalic allomorph ending in a high vowel which can then trigger a glide to the following vowel (as in ‘to’: [tə] before consonants, [tʰ] + [w] before vowels) or have an allomorph which ends in a consonant to block hiatus (as in ‘of’, which is [ɒ] before consonants and [ɒv] before vowels). Linking and intrusive [r] are usually triggered where a non-high vowel is found in prevocalic position, and [ɹ] or [r̥] where the prevocalic vowel is high. In London (and in Bedford) this system appears to be breaking down and

Table 6: Use of glottal stops in hiatus contexts and “full” vowels in Bedford Italian English (Guzzo, Britain and Fox 2007).

Example	IPA transcription
“hard to socialise”	[hɑ:d tu səʊʃəlɑɪz]
“her address”	[hɜ: ʔədɹɛs]
“cheaper in Italy”	[tʃi:pə ʔɪn ɪʔəli:]
“River Island”	[ɪɪvə ʔaɪlənd]
“my auntie”	[mɪ ʔɑ:nʔi:]
“fifth of August”	[fɪf ə ʔɔ:gəst]
“going by aeroplane”	[gɒɪŋ bɑ: ʔɛ:ɹəplɛɪn]
“me and Kirsty”	[mi: ʔæn kɜ:sti]
“a apple”	[ə ʔæpʊ]
“the other one”	[ðə ʔɛvə wʌn]
“gone to Leicester”	[gɒn tu læstə]

regularised, however. Avoidance of ‘weak’ forms for function words means that allomorphy is less often resorted to generally, though the ‘full’ forms are beginning to adopt a glottal stop as a hiatus breaker instead of a glide. Typically preconsonantal forms of the articles are being used in prevocalic contexts, however, with a glottal stop again blocking hiatus. Glottal stops are also replacing [ʔ] and [ʔ] after high vowels and replacing [r] after non-high vowels.

One might reasonably ask why it is a glottal stop that is being adopted to replace the many different forms of hiatus resolution traditionally found in British

English. Lombardi (2002), reviewing examples of epenthesis from a wide range of languages, has argued that glottal stops, as pharyngeals, have the least marked place of articulation for a consonant and hence are to be expected as epenthetic consonants (to break hiatus, for example) ‘all things being equal’ (2002: 246-7). Coronals, she argues, are ‘the next best choice’ of epenthetic consonant (2002: 223) and so will appear when ‘for some reason constraint conflict results in glottal stop being impossible’ (2002: 223). She continues: “glottal stop has the least marked place, but conflicting requirements may force the choice of slightly more marked, but still relatively unmarked Coronal...careful analysis shows that interacting facts about position, inventory, etc. in a given language can explain why the least marked ... is not chosen” (2002: 246-7). English English, as we have seen, provides some evidence of coronals being used to resolve hiatus – /r/¹⁵ after non-high vowels, [n] after the indefinite article¹⁶ but both contexts are now keenly adopting the glottal stop to replace these historical artefact coronals, in our London data, in Bedford, as well as further afield in South Africa and Singapore, for example. Language and sociocultural contact is what seems to unite the locations undergoing a shift to glottal epenthesis to break hiatus¹⁷.

¹⁵ Admittedly, though, linking/intrusive /r/ could be actually realised as a non-coronal (e.g. as [v]). Many thanks to Paul Foulkes for reminding us of this fact.

¹⁶ But both of these forms are the result of historical relics from unrelated language changes: the loss of rhoticity in most of England for the emergence of intrusive and linking [r], and the inability of the indefinite article to follow *thy/thine*, *my/mine* and *no/none* to mark the distinction between pre-nominal and final/absolute respectively.

¹⁷ Allerton (2000) provides some examples of glottal stops being used to break hiatus in the formal English of BBC news reporters (where language contact is not likely to account for their occurrence). In his conclusion he speculates whether there is a relationship between these glottal stops and those used, in more informal styles, to replace [t] in many varieties of British English. He goes on to wonder whether there will be ‘a massive increase in the frequency of the glottal stop’ (2000: 581) but suggests that it is unlikely because ‘the glottal stop as part of liaison phenomena is clearly limited to a relatively careful formal pronunciation’ (2000: 581). Our London and Bedford data clearly contradict this claim of

Lombardi (2002: 224) also addresses the possibility that glides may be epenthesised instead of glottals. She says that a ‘common approach is to epenthesise a glide that agrees in features with an adjacent vowel, often a high vowel. Assuming some kind of spreading or multiple correspondence, insertion of an agreeing glide may incur fewer markedness violations, so a language may choose this where possible – where a corresponding glide exists’ and adds ‘with non-high vowels, for most languages a corresponding glide does not exist, and glottal stop will be inserted instead’. Although this is not straightforwardly the case in our data, if we see this claim as a variable constraint rather than as a categorical statement, it shows notable parallels with the use of glottal stop in Tower Hamlets. Yes, some [ɨ] and [ʷ] glides are being replaced by glottal stops in London, but less so than are the strategies traditionally used to break hiatus following non-high vowels – linking and intrusive [r].

Uffmann (2007a), whilst agreeing that glottal stops make good intrusive consonants, argues against approaches, like that of Lombardi, that suggest markedness can operate in a context-free way with respect to epenthesis. He proposed (2007a, b) that we need to distinguish between intrusion at word edges, on the one hand, and word-internally, on the other, with glottal stops being optimal epenthetic consonants at word edges because they provide a maximally steep sonority rise to the neighbouring sound. He considers (personal communication) that the emergence of the glottal stop as an all-purpose hiatus breaker in the Tower Hamlets data is perhaps symptomatic of a more deep-rooted change, namely the basic unit of prosodification changing from the phonological phrase to the word.

formality for the glottal stop in hiatus breaking contexts. Stene (1954: 43) provides examples from an analysis of the radio speeches of King George V which show the use of glottal stops as hiatus breakers before stressed syllables (but not unstressed ones) in slow and careful speech. An empirical quantitative analysis of such speech would be highly interesting, given that some forms of RP are supposed to resist, for example, intrusive and linking [r] as hiatus breakers.

The use of glottal stops to break hiatus, then, could validly be seen as an example of the ‘emergence of the unmarked’ (McCarthy and Prince 1994)¹⁸. One place in which the emergence of the unmarked is most clearly visible, according to Gnanadesikan (1996, 2004) amongst others, is in child language where initially markedness takes precedence, but gradually declines in importance as the adult norm is acquired. As we will see, there are remarkable parallels between our London data and the published evidence on hiatus breaking among children.

The London data suggested, as we saw earlier, that the shift towards glottal stops was contextually conditioned by linguistic factors. Glottal stops were used instead of article allomorphy in 75-80% of all possible cases; instead of linking [r] in 45% of all cases and instead of the glides [j] and [w] in 15-38% of all cases. Why might this patterning occur? Why is glottal stop more likely for the articles than as a replacement for linking and intrusive [r], and why is it more likely there than as a replacement for the glides [w] and [j]? Interesting parallels with child language acquisition may help us understand this better. Newton and Wells (1999, 2002) investigated children’s use of linking [r], [j] and [w], as well as article allomorphy and found that children acquired the (traditional) adult system of hiatus resolution *first* in those contexts where glottal stops are replacing the traditional breakers in the London data *least*. Newton and Wells (2002) is a longitudinal study of a boy, CW, between the ages of 2;4 and 3;4. They show that ‘liaison with [j] occurs in CW’s speech right from the beginning of the study’ and, very importantly for our argument here, ‘where /j/ liaison is not reported to have occurred open juncture is produced, *with a glottal stop inserted at the word boundary*, for example, ‘he in’: [hiʔɪn]’ (2002: 286, our emphasis). Liaison with [r] – intrusive or linking – however, is variably acquired later by CW, from around his 3rd birthday, and again, glottal stop is

¹⁸ See also Johnson and Britain (2007) for another example of the ‘emergence of the unmarked’, exemplified by data from non-standard varieties of English from Southern England.

inserted if [r] is not present (2002: 288). They argue that [ɹ] and [ʷ] may be produced for “‘low level” phonetic reasons’ (like Heselwood 2006: 80, see above), since one of the simplest ways of getting from a high vowel to a following vowel is via a glide, leading them to reject accounts (such as those of Broadbent 1991 and Gick 1999) which suggest [r] can be seen as being in the same group of glides as [ɹ] and [ʷ]. If this were so, they argue, ‘one would expect to observe /r/ appearing at around the same time as the other types of liaison. In fact, it does not; it emerges later’ and that this unified view of glides ‘is not born out by the developmental data’ (2002: 292). Our London data confirm Newton and Wells’ (2002) and Heselwood’s (2006) scepticism about the possibility that [r] behaves as a glide just like [ɹ] and [ʷ], since the adolescents in our study are more resistant to using a glottal stop to replace the glides [ʷ] and [ɹ] than they are to replace [r].

Newton and Wells in an earlier paper in 1999 consider [ɹ^w r] as hiatus breakers along with the adoption of article allomorphy among 94 children aged 3-7 years in the Western English city of Hereford. In this study of older children, they find that:

- [r] as a hiatus breaker is consistently produced less than [ʷ] and [ɹ] as breakers from the age of 3 right through to the age of 7 (1999: 73);
- Allomorphy in the definite and especially the indefinite articles is acquired really quite late. Allomorphy in the definite article does not reach an average of 75% of all examples until the children are aged 5, and for indefinite articles not until they are 6 years old;
- Before the adult forms are acquired, glottal stops are used to break hiatus.

We can see, therefore, that Newton and Wells’ results neatly parallel our own from Tower Hamlets – the later the ‘adult’ forms are acquired among children, the more likely glottal stops will be used (instead of traditional adult forms) to resolve hiatus in this contact-influenced variety of English spoken in London – see table 7 below.

Table 7: Parallelism between children’s acquisition of adult hiatus breakers (based on Newton and Wells (1999, 2002)) and adolescents’ adoption of new hiatus breakers in Tower Hamlets.

RETAIN [ʔ]			
LONGEST		LEAST	

BEFORE ACQUIRING ADULT FORM			
Children acquiring English	Definite and indefinite articles	V[-high]#V	V[+high]#V
Adolescents in East End of London			
USE [ʔ]			
MOST		LEAST	

INSTEAD OF TRADITIONAL HIATUS BREAKERS			

Conclusion

In this paper, we have been able to demonstrate that the well-established yet highly complex hiatus breaking system of British English is beginning to undergo radical reorganisation. In a number of communities witnessing language and sociocultural contact – Tower Hamlets and Hackney in London and Bedford in the East Midlands - glottal stops are beginning to replace the traditional paradigm of hiatus breakers. A widespread vernacular system once dominant in England appears to be undergoing changes that have already affected other contact-influenced Englishes, such as those

of Singapore, South Africa and New Zealand. That it is the glottal stop taking on this role is perhaps not surprising – phonologists have argued that it is the least marked epenthetic consonant, and have shown that it is the default form in children’s English until adult forms are acquired. Just as the shift from the unmarked, on the one hand, to a faithfulness to the adult norm, on the other, is linguistically conditioned, so, in exactly the same way, is the adoption of the glottal stop as a replacement for the complex hiatus breaking system among London’s adolescents, suggesting an orderly heterogeneity in the move towards a feature of the type that Chambers labels a ‘vernacular universal’. It is found in child and adult varieties, both in countries where English has long been the dominant and first language, as well as those where it is a relatively recent arrival, or a second or additional language. Contact is the factor that unites those varieties which are undergoing these changes first and most enthusiastically. Rather than being a disruptor of ‘vernacular universals’, therefore, contact may well be crucial to the very emergence of widely distributed non-standard forms in the first place.

References

- Ainsworth, H. (1993) *Rhythm in New Zealand English*, Unpublished BA dissertation. Wellington: Victoria University of Wellington.
- Allerton, D. (2000) ‘Articulatory inertia vs ‘Systemzwang’: changes in liaison phenomena in recent British English’, *English Studies* 6: 574-581.
- Anderson, N., Arnold, J., Barron, M., Evans, C., Hay, J., McConnel, D., McKenzie, J., Nielsen, J. and Walker, A. (2004) ‘To thee or not to thee’, paper presented at the New Zealand Language and Society Conference, Massey University, Palmerston North, New Zealand.
- Ash, S. and Myhill, J. (1986) ‘Linguistic correlates of inter-ethnic contact’, in David Sankoff (ed.) *Diversity and Diachrony*, Philadelphia, Benjamins. 33-44.
- Bauer, L. (1984). Linking /r/ in RP: some facts. *Journal of the International Phonetic Association* 14: 74-9.

- Bauer, L. (1995) 'Spelling pronunciation and related matters in New Zealand English', in J. Windsor Lewis (ed.) *Studies in General and English phonetics Essays in honour of Professor J D O'Connor*, London: Routledge. 320-325.
- Bauer, L. and Warren, P. (2004) 'New Zealand English: phonology', in E. Schneider, K. Burridge, B. Kortmann, R. Mesthrie and C. Upton (eds.) *A Handbook of Varieties of English: Phonology*, Berlin: Mouton de Gruyter. 580-602.
- Beal, J. (2004) 'English dialects in the North of England: morphology and syntax', in B. Kortmann, K. Burridge, R. Mesthrie, E. Schneider and C. Upton (eds.), *A Handbook of Varieties of English: Morphology and Syntax*, Berlin: Mouton de Gruyter. 114-141.
- Bell, A., Jurafsky, D., Fosler-Lussier, E., Girand, C., Gregory, M. and Gildea, D. (2003) 'Effects of disfluencies, predictability, and utterance position on word form variation in English conversation', *Journal of the Acoustical Society of America*, 113(2): 1001-1024.
- Benton, R. (1966) *Research into the English Language difficulties of Maori School children 1963-1964*, Wellington: Maori Education Foundation.
- Bowerman, S. (2004) 'White South African English: Phonology', in E. Schneider, K. Burridge, B. Kortmann, R. Mesthrie and C. Upton (eds.) *A Handbook of Varieties of English: Phonology*, Berlin: Mouton de Gruyter. 931-942.
- Britain, D. (1991) *Dialect and Space: A Geolinguistic Study of Speech Variables in the Fens*, Unpublished PhD dissertation. Colchester: University of Essex.
- Britain, D. (1997) 'Dialect Contact and Phonological Reallocation: 'Canadian Raising' in the English Fens', *Language in Society* 26: 15-46.
- Britain, D. (2002). 'Diffusion, levelling, simplification and reallocation in past tense BE in the English Fens', *Journal of Sociolinguistics*, 6 (1): 16-43.
- Britain, D. (2003) 'Exploring the importance of the outlier in sociolinguistic dialectology', in D. Britain and J. Cheshire (eds.) *Social Dialectology*, Amsterdam: Benjamins. 191-208.
- Broadbent, J. (1991) 'Linking and intrusive r in English', *University College London Working Papers in Linguistics*, 3: 281-302.
- Chambers, J. K. (2000) 'Universal sources of the vernacular', *Sociolinguistica*, 14: 1-15.
- Chambers, J. K. (2003) *Sociolinguistic theory*, Oxford: Blackwell.
- Chambers, J. K. (2004) 'Dynamic typology and vernacular universals', in B. Kortmann (ed.) *Dialectology meets typology: dialect grammar from a cross-linguistic perspective*, Berlin: Mouton de Gruyter. 127-145.

- Claxton, A. (1954) *The Suffolk dialect of the 20th century*, Ipswich: Adlard.
- Craig, H., Thompson, C., Washington, J. and Potter, S. (2003). 'Phonological features of child African American Vernacular English', *Journal of Speech, Language and Hearing Research*, 46: 623-635.
- Cruttenden, A. (2001) *Gimson's Pronunciation of English*, London: Arnold.
- Crystal, D. (1995) 'Documenting rhythmical change', in J Windsor Lewis (ed.), *Studies in General and English Phonetics: Essays in honour of Professor J D O'Connor*. London: Routledge. 174-179.
- Cutler, C. (1999) 'Yorkville Crossing: White Teens, hip hop and African American English'. *Journal of Sociolinguistics* 3 (4): 428-442.
- DeGraff, M. (1999) *Language creation and language change: creolization, diachrony and development*, Cambridge: MIT Press.
- Deterding, D. (2006). 'The pronunciation of English by speakers from China', *English World-Wide*, 27: 175-198.
- Foulkes, P. (1997) 'Rule inversion in a British English dialect: a sociolinguistic investigation of [r] sandhi in Newcastle', in C. Boberg, M. Meyerhoff and S. Strassel (eds.) *A Selection of Papers from NWAWE 25. Special issue of University of Pennsylvania Working Papers in Linguistics*. 259-270.
- Fox, S. (2003) *Linguistic and Sociocultural Contact in London's East End: the Bangladeshi presence*, paper presented at the conference on Consequences of Mobility: Linguistic and Sociocultural Contact Zones, Roskilde 23rd – 24th May 2003.
- Fox, S. (2007) *The demise of Cockneys? Language change among adolescents in the 'traditional' East End of London*, Unpublished PhD dissertation. Colchester: University of Essex.
- Fox Tree, J. and Clark, H. (1997) 'Pronouncing "the" as "thee" to signal problems in speaking', *Cognition*, 62: 151-167.
- Garofolo, J., Lamel, L., Fisher, W., Fiscus, J., Pallett, D., Dahlgren, N. and Zue, V. (1993) *TIMIT Acoustic-Phonetic Continuous Speech Corpus*, Philadelphia: Linguistic Data Consortium.
- Gaskell, M., Cox, H., Foley, K., Grieve, H. and O'Brien, R. (2003) 'Constraints on definite article alternation in speech production: To 'thee' or not to 'thee'?', *Memory and Cognition* 31 (5): 715-727.
- Gick, B. (1999) 'A gesture-based account of intrusive consonants in English', *Phonology* 16: 29-54.

- Gick, B. (2002). The American intrusive L. *American Speech* 77: 167-183.
- Gnanadesikan, A., (1996) 'Child phonology in optimality theory: ranking markedness and faithfulness constraints', in A. Stringfellow, D. Cahana-Amitay, E. Hughes, and A. Zukowski (eds.) *Proceedings of the 20th Annual Boston University Conference on Language Development*, Somerville: Cascadilla Press. 237-248.
- Gnanadesikan, A. (2004) 'Markedness and Faithfulness Constraints in Child Phonology', in R. Kager, J. Pater and W. Zonneveld (eds.) *Constraints in Phonological Acquisition*, Cambridge: Cambridge University Press, 73–108.
- Guzzo, S. (2005) *Language Shift: the case of the Bedford Italian Community*, Unpublished MA dissertation. Colchester: University of Essex.
- Guzzo, S. (2007). Multilingualism and Language Variation in the British Isles: The Case of the Bedford Italian Community. In Norman Fairclough, Giuseppina Cortese and Patrizia Ardizzone (eds.), *Discourse Analysis and Contemporary Social Change*, 233-258. Frankfurt: Peter Lang.
- Guzzo, S., Britain, D. and Fox, S. (forthcoming) 'From L2 to ethnic dialect: hiatus resolution strategies across the generations in Bedford Italian English', *Essex Research Reports in Linguistics*.
- Halle, M. and Idsardi, W. (1997) 'r, hypercorrection, and the Elsewhere Condition', in I. Roca (ed.) *Derivations and Constraints in Phonology*, Oxford: Clarendon, 331-348.
- Harris, J. (1994) *English Sound Structure*, Oxford: Blackwell.
- Hay, J. and Sudbury, A. (2005) 'How rhoticity became /r/ sandhi', *Language*, 81: 799-823.
- Healy, A. and Sherrod, N. (1994) *The/Thee pronunciation distinction: A local model of linguistic categories*, paper presented at the 35th Annual Meeting of the Psychonomic Society, St. Louis, Missouri.
- Heselwood, B. (2006) 'Final schwa and R-sandhi in RP English', *Leeds Working Papers in Linguistics*, 11: 78-95.
- Holmes, J. (1997) 'Maori and Pakeha English: some New Zealand social dialect data', *Language in Society*, 26: 65-102.
- Holmes, J. and Ainsworth, H. (1996). 'Syllable-timing and Maori English', *Te Reo* 39: 75-84.
- Holmes, J. and Ainsworth, H. (1997) 'Unpacking the research process: investigating syllable-timing in New Zealand English', *Language Awareness* 6: 32-47.

- Hopper, P. and Traugott, E. (1993) *Grammaticalisation*, Cambridge: Cambridge University Press.
- Johnson, W. and Britain, D. (2007) 'L – Vocalisation as a natural phenomenon: explorations in sociophonology'. *Language Sciences* 29: 294-315.
- Jones, M. (1999) 'The phonology of definite article reduction', in C. Upton and K. Wales (eds.) *Dialectal variation in English: Special issue of Leeds Studies in English*, 30: 103-21.
- Jones, M. (2002) 'The origin of definite article reduction in northern English dialects: evidence from dialect allomorphy', *English Language and Linguistics*, 6: 325-45.
- Jurafsky, D., Bell, A. and Girand, C. (2002). 'The Role of the Lemma in Form Variation', in C. Gussenhoven and N. Warner (eds.) *Papers in Laboratory Phonology 7*, Cambridge: Cambridge University Press. 3-34.
- Jurafsky, D., Bell, A., Fosler-Lussier, E., Girand, C. and Raymond W. (1998) 'Reduction of English function words in switchboard', *ICLSP-98*, 7:3111-3114.
- Keating, P., Byrd, D., Flemming, E. and Todaka, Y. (1994) 'Phonetic analyses of word and segment variation using the TIMIT corpus of American English', *Speech Communication* 14: 131-142.
- Kurath, H. and McDavid, R. (1961). *The pronunciation of English in the Atlantic States*. Ann Arbor: University of Michigan Press.
- Labov, W. (1972) *Language in the Inner City: Studies in Black English Vernacular*, Philadelphia: University of Pennsylvania Press.
- Lass, R. (1995) 'South African English', in R. Mesthrie (ed.) *Language and Social History: Studies in South African Sociolinguistics*, Cape Town: David Phillip. 89-106.
- Lodge, K. (1984) *Studies in the phonology of colloquial English*, London: Croom Helm.
- Lombardi, L. (2002) 'Coronal epenthesis and markedness', *Phonology*, 19: 219-251.
- McCarthy, J. (1993) 'A case of surface constraint violation', *Canadian Journal of Linguistics* 38: 169-195.
- McCarthy, J. (1999) 'Review of Iggy Roca (ed.) (1997) *Derivations and Constraints in Phonology*', *Phonology*, 16: 265-271.

- McCarthy J. and Prince, A. (1994) 'The Emergence of the Unmarked: Optimality in Prosodic Morphology', in M. González (ed.) *Proceedings of the North East Linguistics Society 24*, Amherst: GLSA. 333-379.
- McMahon, A. (2000) *Change, Chance and Optimality*, Oxford: Oxford University Press.
- Mufwene, S. (2001) 'African American English', in J. Algeo (ed.) *The Cambridge History of the English Language*, Cambridge: Cambridge University Press. 291-324.
- Newton, C. and Wells, B. (1999) 'The development of between-word processes in the connected speech of children aged between 3 and 7 years', in B. Maassen and P. Groenen (eds.) *Pathologies of Speech and Language Advances in Clinical Phonetics and Linguistics*, London: Whurr Publishers. 67-75.
- Newton, C. and Wells, B. (2002) 'Between-word junctures in early multi-word speech', *Journal of Child Language* 29: 275-299.
- Ojanen, A. (1982) *A syntax of the Cambridgeshire dialect*, Unpublished licentiate dissertation. Helsinki: University of Helsinki.
- Orgun, C. (2001) 'English r-insertion in Optimality Theory', *Natural Language and Linguistic Theory* 19: 737-749.
- Peitsara, K. (1996) 'Studies on the structure of the Suffolk dialect', in J. Klemola, M. Kytö and M. Rissanen (eds.) *Speech Past and Present: Studies in English Dialectology in Memory of Ossi Ihalainen*, Frankfurt am Main: Peter Lang. 284-307.
- Quirk, R., Greenbaum, S., Leech, G. and Svartvik, J. (1985) *A Comprehensive grammar of the English language*, Longman: London.
- Rampton, B. (1995) *Crossing: Language and Ethnicity Among Adolescents*, London, Longman.
- Raymond, W., Fisher, J., Healy, A. (2002) 'Linguistic knowledge and language performance in English article variant preference', *Language and Cognitive Processes*, 17 (6): 613-662.
- Rupp, L. and Page-Verhoeff, J. (2005) 'Pragmatic and historical aspects of Definite Article Reduction in northern English dialects', *English World-Wide*, 26: 325-346.
- Schreier, D. (2003) *Isolation and language change: contemporary and sociohistorical evidence from Tristan da Cunha English*, London: Palgrave.
- Sebregts, K. (2001) *English [r] liaison: Rule-Based Theories, Government Phonology and Optimality Theory*, Unpublished MA dissertation, Leiden: University of

Leiden.

- Shorrocks, G. (1999) *A grammar of the dialect of the Bolton area: Part II: Morphology and Syntax*, Frankfurt: Peter Lang.
- Sivertsen, E. (1960) *Cockney Phonology*, Oslo: Oslo University Press.
- Stene, A. (1954) *Hiatus in English*, Copenhagen: Rosenkilde and Bagger.
- Tay, M. (1982) 'The phonology of Educated Singapore English', *English World-Wide*, 3: 135-145.
- Taylor, B. (2003) 'Englishes in Sydney around 1850', *Australian Journal of Linguistics*, 23: 161-183.
- Thomas, E. (2001). *An acoustic analysis of vowel variation in New World English*. Durham: Duke University Press/American Dialect Society.
- Thomas, E. (2004) 'Rural Southern white accents', in E Schneider, K. Burridge, B. Kortmann, R. Mesthrie and C. Upton (eds.) *A Handbook of Varieties of English: Phonology*, Berlin: Mouton de Gruyter. 300-324.
- Todaka, Y. (1992) 'Phonetic variation of the determiner "the"', *UCLA Working Papers in Phonetics* 81: 39-47.
- Trudgill, P. (1986) *Dialects in contact*, Oxford: Blackwell.
- Trudgill, P. (2004) *New dialect formation: the inevitability of colonial Englishes*, Edinburgh: Edinburgh University Press.
- Trudgill, P. and Hannah, J. (2002) *International English: A Guide to the Varieties of Standard English (4th Ed)*, London, Arnold.
- Uffmann, C. (2007) 'Intrusive [r] and Optimal Epenthetic Consonants', *Language Sciences*. 29: 451-476.
- Uffmann, C. (2007b) A new idea-r about intrusive [r]. Paper presented to the Research on Languages and Linguistics at Sussex Seminar Series, University of Sussex, 26th November 2007.
- Vennemann, T. (1972) 'Rule inversion', *Lingua* 29: 209-242.
- Viereck, W. (1995) *Medieval Dialectology*, Berlin: Mouton de Gruyter.
- Wagner, S. (2004) 'English dialects in the southwest: morphology and syntax', in B. Kortmann, K. Burridge, R. Mesthrie, E. Schneider and C. Upton (eds.), *A Handbook of Varieties of English: Morphology and Syntax*, Berlin: Mouton de Gruyter. 154-174.

- Warren, P. (1998) 'Timing patterns in New Zealand English rhythm', *Te Reo* 41: 80-93.
- Warren, P. (1999) 'Timing properties of New Zealand English rhythm', in *Proceedings of the 14th International Congress of Phonetic Sciences, University of California at Berkeley*. 1843-1848.
- Warren, P and Britain, D. (1999) 'Intonation and prosody in New Zealand English', in A. Bell and K. Kuiper (eds.) *New Zealand English*, Amsterdam: Benjamins. 146-172.
- Watermeyer, S. (1996) 'Afrikaans English', in V de Klerk (ed.) *Focus on South Africa*, Amsterdam: John Benjamins. 99-124.
- Wells, J. (1982) *Accents of English*, Cambridge: Cambridge University Press.
- Wolfram, W. and Fasold, R. (1974) *The Study of Social Dialects in American English*, Englewood Cliffs, New Jersey: Prentice Hall.
- Wright, J. (1905) *The English Dialect Grammar*, Oxford: Oxford University Press.