**T-glottalling between stigma and prestige**

a sociolinguistic study of Modern RP

Fabricius, Anne H.

# T-GLOTTALLING

# BETWEEN STIGMA AND PRESTIGE:

# A SOCIOLINGUISTIC STUDY

# OF MODERN RP

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No part of this thesis has been submitted previously to any other institution.
*Ingen del af denne afhandling har været indleveret til bedømmelse før ved nogen anden institution.*

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# RESUME PÅ DANSK

T-glottalisering mellem stigma og prestige:

En sociolingvistisk undersøgelse af *modern Received Pronunciation* (*RP*)


I denne afhandling beskrives resultaterne af en kvantitativ sociolingvistisk undersøgelse af udtalen af ordfinalt /t/ i moderne engelsk rigsmål (RP). Datamaterialet består af samtaler med 24 unge Cambridge-studerende med en *public school* baggrund. Ordfinalt /t/ kan realiseres på forskellige måder i moderne RP, men hovedmålet med denne afhandling var at undersøge hvor udbredt [ʔ] (glottal erstatning) er i denne kontekst, og hvor meget prestige der er forbundet med denne variant.

I kapitel 1 introduceres forskningshypotesen og afhandlingens opbygning skitseres.

Kapitel 2 giver et overblik over såvel tidligere litteratur omhandlende glottalisering i RP, som den seneste udvikling i studiet af området. Der præsenteres en kort diskussion af de formodede fonologiske mekanismer bag dette udtaleskift og de sociolingvistiske årsager til dets forøgede udbredelse.

I kapitel 3 fokuseres der på problemerne i forbindelse med afgrænsningen af RP ud fra både sociologiske og lingvistiske kriterier. Der gøres summarisk rede for det fonologiske system, RP's prestige i det britiske samfund, og dets rolle i undervisningen af engelsk som fremmedsprog. Endvidere diskuteres begrebet *non-localisability* (dvs. manglen på identificerbare regionale udtaletræk) og sammensætningen af den sociale gruppe med hvilken moderne RP normalt forbindes. Kapitlet afrundes med en argumentation for, at det er muligt at anvende sociologiske og fonologiske kriterier til at definere et talesprogskorpus, som – når det analyseres kvantitativt – kan give konkrete data, der kan bruges til at fastslå den aktuelle sociolingvistiske status for nye udtaleformer.

Kapitel 4 trækker sociolingvistisk teori ind i diskussionen, eftersom den teoretiske styrke af sociolingvistisk arbejde beror på identifikationen og undersøgelsen af sprogets indbyggede variation. Der argumenteres for, at sociolingvistisk metodik muliggør undersøgelsen af nye udtaleformer på en måde, som ikke er mulig med den strukturelle lingvistiks metoder.

I kapitel 5 beskrives metodikken i afhandlingens kvantitative arbejde, som bygger på de principper Labov og hans efterfølgere har udviklet. Indsamlingen af afhandlingens korpus af data beskrives, ligesom analysemetoderne præsenteres. To former af talesproget, som repræsenterer

to forskellige grader af formalitet, blev eliciteret: Interviewform, via uformel samtale styret af spørgsmål, og Oplæsningsform, via formel oplæsning af en tekst. I dette kapitel præsenteres også en diskriminationstest hvor de interviewede blev bedt om at foretage en subjektiv vurdering af korrektheden af t-glottalisering i forskellige lingvistiske kontekster.

I kapitel 6 vises resultaterne af en række statistiske analyser af de kvantitative data (med ANOVA-testen). Analyserne sammenligner t-glottalisering i de to talesprogsformer med henblik på fem fonetiske kontekster og adskillige sociale opdelinger. Resultaterne præsenteres i graf- og tabelform.

I kapitel 7 præsenteres afhandlingens konklusioner. Fire hovedobservationer diskuteres:

- den geografiske spredning ud fra London af ordfinal t-glottalisering;
- den efterfølgende fonetiske konteksts betydning for såvel produktion som reception af t-glottalisering (både brugen og accepten af [ʔ] for /t/ er betinget af om /t/ efterfølges af en konsonant, vokal eller pause);
- den udprægede ensartethed i brugen af t-glottalisering uanset privatskolernes relative prestige;
- fraværet af kønsforskelle i brugen af t-glottalisering.

Ud fra disse iagttagelser argumenteres der for, at der i den undersøgte generation af RP-talere foregår et – endnu uafsluttet – skift i holdningen til ordfinal t-glottalisering: fra stigmatisering til generel accept – eller ligefrem prestige.

# ACKNOWLEDGMENTS

# CHAPTER 1: THE SCOPE AND STRUCTURE OF THE PRESENT STUDY

> There is certainly plenty of anecdotal evidence that many people these days wish to avoid the 'establishment' connotations of Received Pronunciation, and try to speak in a way which they perceive to be more down to earth…What seems to be happening…is the gradual replacement of one kind of standard by another – a process which was characterized by several newspaper commentators in 1993 as the linguistic cornerstone of a future classless British society. (David Crystal, *Cambridge Encyclopedia of the English Language*, 1995: 327)

> Once, people aspired to be posh: it was the voice of the people in power – in the law, in the City, in the Establishment. Now there are plenty of people who would be ashamed to speak like that. A posh voice is seen as naff and unfashionable.
> (John Morrish, *Independent on Sunday*, London, 22 March 1999)

> The increased use of glottal stops within RP may reasonably be attributed to influence from Cockney and other working-class urban speech. What started as a vulgarism is becoming respectable.
> (J.C. Wells. *The Cockneyfication of R.P.?* 1994a: 201)

A sociolinguistic study aims to relate aspects of language to aspects of society. The present study is no exception. As the quotes above suggest, we cannot examine certain linguistic features in modern British English without considering the social surroundings, in this case, modern British society.

The present study is a sociolinguistic analysis of t-glottalling, the use of glottal stop for syllable-final /t/, a feature that has been described as "one of the …most heavily-stigmatised features of British English" (Milroy, Milroy and Hartley 1994: 4). From its beginnings in regional varieties of English, in Scotland and London (see Wells 1982: 261, Andrésen 1968: 18), this linguistic feature has spread to other parts of Britain. T-glottalling is generally seen as a linguistic sound change which has gone 'upmarket', a shibboleth of the new 'classless accent' for the 'classless society'. It has for some time been entering the standard accent of Britain, Re-

ceived Pronunciation, or RP as it is also known, and has now become prominent in linguistic and popular discussion alike.

The last half of the twentieth century has wrought many changes in British society. These include changes in individual social mobility, through increased access to higher education (mainly for the middle class, as we shall see in chapter 4). Contact between different parts of society has increased, through the new availability of more prestigious forms of employment to a larger part of the middle class than was the case before World War Two. The same period has also seen a change in demographic patterns, as the migration of large numbers of people from London led to the establishment of new towns such as Stevenage and Milton Keynes. People living in many parts of Britain have also had increased contact with London speakers because of improved transportation reducing travelling times to London.

Linguistic studies are beginning to show that these recent changes have also had a profound influence upon British English speech. Accents are beginning to reflect new patterns of contact. We are now seeing a levelling of previous class and regional differences in speech, and this is perhaps most visible in the South of England (e.g. Kerswill and Williams 1994). At the same time, as the quotations by Morrish and Crystal above suggest, it has become unfashionable to flaunt a privileged background in the form of a 'public school' accent. The signs seem to be unmistakable: the former bastion of RP in the public domain, the BBC, has recently changed its policy to include "more energetic and vigorous voices from the regions" (Culf 1994).

But, we may ask, just how far have these changes progressed? Is it true that there is no class accent anymore?

The present study seeks to explore this question from a sociolinguistic starting point, using an empirical method to explore one area of speech: the previously 'vulgar' glottal stop for /t/ (see the quote from Wells 1994a above). By means of an investigation of this micro-level sound change, we can obtain concrete linguistic data which help us to add some detail to the broad-brush picture sometimes painted in journalistic claims that 'no-one speaks RP anymore'.

This thesis is an empirical investigation of the status of t-glottalling in the speech of a group of ex-public school students at Cambridge. The study was designed to explore several research questions:

1. What is the current status of t-glottalling in the speech of young RP speakers?
2. Is t-glottalling in their speech showing signs of becoming 'a new standard feature' or is it still seen as a 'vulgarism' by these speakers, and if so, in which phonetic environments?
3. Is t-glottalling correlated with any particular features of the speakers' backgrounds?
4. Do overt judgments about correctness reflect the idea that t-glottalling has a new status?

As we shall see in later chapters, the definition and delimitation of RP itself which we adopt has crucial bearing on the answers we obtain to the research questions above. Wells, in a recent commentary on developments in RP, has pointed to "3 different criteria for defining RP" (Wells 1997a: 13-14):

- sociolinguistic
- ideal
- EFL teaching (model)

The first criterion bases RP on the description of the speech of a socially defined group. The second considers RP from the point of view of what its speakers regard as "correct… beautiful, admired, imitated", or, alternatively "widely accepted, or … widely understood" (1997a: 14). The third criterion examines RP from the point of view of the model for foreign language teaching. The present study aims to begin with a sociolinguistically-based description of t-glottalling in RP, to add data on the overt evaluation of this linguistic feature, and on that basis, to make decisions concerning the place of t-glottalling in an EFL model. In addition, more generally, it aims to determine the 'sociolinguistic status' of t-glottalling for the generation of speakers under examination.

The thesis is structured as follows. Chapters 2, 3 and 4 present the theoretical background to this study. The ordering of these three chapters reflects a progression from a micro-lingusitic to a macro-linguistic level of discussion of t-glottalling. We begin in chapter 2 by examining descriptions of glottalisation in general and t-glottalling in particular. These micro-linguistic descriptions of a particular linguistic variant then lead us to consider the variety of speech in which it is said to be increasingly found. Thus we proceed in chapter 3 to discussion of Received Pronunciation: a subject of no little debate and disagreement among linguistic specialists. We will examine several works on RP by looking in detail at a number of themes which are common to different viewpoints. We discuss the posited sub-varieties of RP, as well as a phonological descriptive basis. We also examine the notion of an accent's prestige, and the idea of RP as non-localisable. The social background of the accent is also investigated, focussing on its relationship to independent school education. Sociological and sociolinguistic issues will be drawn into the discussion. This leads to Chapter 4, which will examine sociolinguistic theory in some detail, in order to justify the choice of a sociolinguistic approach to t-glottalling as a way of finding answers to some of the problems surrounding Received Pronunciation. Chapter 4 examines some key concepts within sociolinguistic theory, as well as presenting the overarching view of language which sociolinguistics encompasses. In this chapter we look at such notions as *variation* and *variety*, the *speech community*, *social class*, *speech style* and *sociolinguistic prestige*. In summary then, chapters 2, 3 and 4 lead us from the more specific to the more general, in order to

widen the scope of our discussion from t-glottalling in particular, to t-glottalling in a sociolinguistic context.

The remaining chapters of the thesis present an empirical study of t-glottalling in the speech of a group of ex-independent-school students at Cambridge. Chapter 5 discusses the methodological procedures employed, including detail of research problems and their resolution. Chapter 6 presents the quantitative results of the study and their statistical analysis. Several common threads in the data are drawn together at various points in the chapter. Chapter 7 ends the study by examining the results of chapter 6 together with the theoretical bases established in the first half of the thesis. It unites sociolinguistic theory and methodology, phonology and descriptions of Received Pronunciation in order to provide a coherent, empirically-grounded account of the current status of t-glottalling in modern RP.

# CHAPTER 2: GLOTTALISATION IN RECEIVED PRONUNCIATION

We have now established the aims of the present study, and so we turn to an examination of the specific phonological feature which forms the central part of this work. The present chapter begins with a chronological overview of previous studies of glottalisation in Received Pronunciation (for a discussion of RP, see chapter 3 of this study). We will be concerned with observations made by professional phoneticians of both types of glottalisation: **glottal reinforcement** (also called pre-glottalisation) and **t-glottalling**, also known as glottal replacement.[1] We also include an examination of recent data from London speakers of English, as well as of glottalling in Cockney, the variety of English repeatedly identified as the source of recent t-glottalling innovations in RP (see e.g. Wells 1994a). In this chapter we will also briefly examine the place of glottalisation in phonological theory, as well as its place in sociolinguistic theory.

As a starting point, we note that several writers have speculated on the possible time-depth of glottalisation in Britain. Wells (1982: 260), for example, writes of glottal reinforcement: "either this is a new, twentieth-century phenomenon, or else no phonetician had previously noticed it". Roach (1983: 44) also claims that "[this pronunciation] is undoubtedly becoming more widely used within RP". Milroy, Milroy and Hartley (1994: 3-4) suggest that the wide distribution of glottal reinforcement, especially in the north of England and Scotland, indicates it has some time depth, perhaps going back to the 17th century. Collins and Mees (1996) have examined early recordings of RP speakers which suggest t-glottalling and glottal reinforcement can be found in RP earlier than 1900, perhaps as early as the latter half of the 19th century (1996: 185). T-glottalling is widely recognised as having spread rapidly to urban centres in Britain during this century (Foulkes and Docherty 1999: 11). Milroy, Milroy and Hartley's (1994) study of Newcastle English shows that t-glottalling seems to be newer than glottal reinforcement, as the two features are shown to be quite different sociolinguistically in this variety. The relative chronology of the two types of glottalisation is a fascinating area of historical research that obviously calls for further investigation.

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[1] See Appendix 11 for a chart which presents the observations of glottalisation made in the studies discussed below. The chart contains greater detail than it is necessary to present in this chapter.

Historical surveys of early comments on glottalisation can be found in Andrésen (1968), Collins and Mees (1996) and Roach (1978). Andrésen summarises his survey thus (1968: 18):

1. The use of the glottal stop for reinforcement or replacement is first recorded in the West of Scotland (1860), and then, step by step, in the East of Scotland (1889), in the North of England (1908), in places in the Midlands and in London (1909), and in Kent (1913)…
2. The first references to the glottal stop are to its occurrence in local dialects…
3. The earliest references are to the glottal stop reinforcing or replacing [t]. Not until 1909 are [p] and [k] explicitly mentioned.

Collins and Mees (1996: 179) also refer to some early observations by Daniel Jones, which are lacking in Andrésen's survey. They write that Jones' first reference to glottalisation in RP was in a footnote in his publication on Russian pronunciation, Trofimov and Jones (1923), where he refers to glottal replacement of /t/ before syllabic /n/. In later publications Jones listed other possible environments, adding "at the termination of a syllable when a consonant follows, especially before **m**, **n**, **r**, **j**, and **w**" (Jones 1932: 139 footnote).

Further, Collins and Mees (1996: 179) observe the scanty reference to glottalisation in the period 1900 to 1939, and note that all such references can be linked to the one source, Jones' Department of Phonetics at University College London. They write that "[b]y the end of the [2nd World] war, there seems to have been general acceptance of [ʔ] in RP". It is in this period that glottal reinforcement begins to appear in phonetic transcriptions such as O'Connor (1948) and in detailed descriptions of RP, of which O'Connor (1952) and Christophersen (1952) are the most comprehensive early ones.

Christophersen (1952) examines various word-internal positions where glottal reinforcement and replacement[2] of /p, t, k, tʃ/ can occur. He makes a distinction between several morphologically disparate environments, separating compounds (*leapfrog*) from polysyllabic words containing bound morphemes (*thoughtful*) and from other mono-morphemic polysyllabic items (*curtsey*). The conditions for glottalisation do not differ greatly between them, however. Word-final positions are also discussed.

O'Connor (1952: 214-215) corroborates many of Christophersen's findings, although he disagrees with Christophersen on several points. These include the question of whether glottalisation is affected by the quantity of the preceding vowel, a condition later writers have also abandoned. Another point O'Connor makes is that he finds glottalisation to be independent of

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[2] Holmes (1995: 461) writes that Christophersen discusses only glottal reinforcement, but Christophersen (1952: 156) writes in his introduction that he intends to discuss those uses of glottal stop in RP on which he thinks "we shall have to modify our views, namely, the use before or in place of a voiceless plosive *p*, *t*, *k*," [emphasis added]. The remainder of his discussion does not however draw out distinctions between the two glottalisation types.

intonational factors, and not, as Christophersen suggests, linked specifically with a falling into-nation. No later writers mention an intonational conditioning factor either. O'Connor agrees with Christophersen that words such as *neutral*, *surplice*, *equal* do not normally contain glottalisation, although he also cites Ida Ward's (1929) comment that this usage does occur among "London speakers". This particular class of foot-internal glottalisations, where the consonant following the voiceless plosive is a Liquid or Semivowel are among those examined empirically by Roach (1973). Roach places this type of glottalisation in a category of its own, which he calls Type 2 glottalisation, and he finds that this special type has its own patterns of occurrence separate from more general word-internal glottal reinforcement (for details see Roach 1973: 16). O'Connor offers the following generalisation (1952: 217):

> I would suggest that the glottal stop preceding [tʃ] may conveniently be regarded as a simple phonetic marker of syllable structure on the phonological level, i.e. that glottal reinforcement marks [tʃ] as adhering syllabically to a preceding vowel, and that lack of reinforcement, in cases of phonological indeterminacy of syllable boundaries, marks [tʃ] as ad-hering syllabically to the following vowel. The exact implications of the more complex rules for the reinforcement of [p,t,k] are not clear to me, but I believe that the solution will be found along the lines indicated for [tʃ], particularly in view of the very indicative lack of reinforcement…of the possible syllable-initial clusters P[losive] + [l, r, w, j][3]

Larger-scale empirical investigation of glottalisation followed this early post-war research. Studies such as Andrésen (1968), Eustace (1967) and Roach (1973, 1978) began to explore glottalisation using speech data from groups of subjects, usually relying upon elicited texts. Their results began to show the variable nature of glottalisation. Roach (1973), for example, identifies several sub-types of glottal reinforcement showing complex patterns in his data.

Some of these writers began to use quantitative measures of various kinds to discuss glottalisation.[4] Eustace (1967: 303) for example contrasts his own speech with that of five (upper-middle class) boys then at Eton: given the size of the samples, the results are not reliable, but a trend showing increasing glottalisation is apparent.[5] Eustace has a plausible explanation for this increase (1967: 305):[6]

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[3] See Harris (1994: 194-225) for a generative treatment of t-glottalling, which regards the *petrol* class of words as not susceptible to this process.
[4] Some of these were more statistically- and sociolinguistically-informed than others. See e.g. Wells (1969).
[5] Eustace presents the results thus (1967: 303-304):
> In the case of [p], mine was glottalised in 36% of cases, theirs in 54%
> In the case of [t] and [ʔ] replacing [t]: for me 55%, for them 70%
> In the case of [k], and the [ʔ] here and there replacing [k]: for me 44%, for them 61%.
> There was also glottalisation of [tʃ] after a stressed vowel. Of these cases, I had glottalisation in 67% and they had it in 89%.
[6] For a link between Eustace's results and a posited 'metropolitan sub-variety' of RP, see Windsor Lewis (1985), discussed here in chapter 3.

Although the new features often seem to resemble Cockney, their origin is rather to be sought in the English of the middle classes, a vast but ill-documented dialect with which the informants have had an increased contact; as a formative influence, the governesses of a former generation have now vanished, and are replaced by the somewhat wider social range of the infant school.

The most recent descriptions of RP such as Wells (1982), Gimson (1989: 169-170),[7] Cruttenden (1994: 155-156) can be seen to reflect the increasing occurrence and generality of both types of glottalisation. The two latter works report a slightly more restricted range for t-glottalling than Wells does. Gimson (1989: 169-170), as well as Cruttenden (1994: 155-156), restrict t-glottalling to word-final, pre-consonantal positions, while Wells includes other word-final positions.

Wells (1982: 260) notes, "[t]he precise details of the environments favouring pre-glottalization are intricate and variable." His summary of possible glottalisation sites (to use the term in Collins and Mees 1996) in British English is as follows (ibid.):

(i) it occurs only when /p, t, k, tʃ/ are in syllable-final position (including in certain syllable-final clusters)
(ii) it occurs only when /p, t, k, tʃ/ are preceded by a vowel, a liquid or a nasal.

For RP in particular, Wells (1982: 260) lists the following environments for glottal reinforcement (which he refers to as "pre-glottalization"):

(a) __ # true C
(b) __ # L or S
(c) __ pause
(d) __ true C
(e) __ L or S

Wells (1982: 261) also claims that glottalling in RP is more restricted than glottal reinforcement, being found only in our environments (a, b, d) above. He adds however that some younger RP speakers also use t-glottalling word-finally before a vowel.

In 1982 Wells described U-RP (upper-class RP; see chapter 3) thus: "U-RP plosives are never glottalled [t-glottalling], they are usually not glottalized either" (p. 282). Mainstream RP, however, was said to exhibit "glottalling in certain pre-consonantal environments" (1982: 299). The pre-consonantal environments are specified on page 261 as being pre-obstruent (which Wells calls True Consonant; see also Hyman 1975: 34) and pre-Liquid/Semivowel word finally. The word-internal environment before obstruents was also included in the specification. Wells' examples include the following:

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[7] This 4th edition was edited by Ramsaran after Gimson's death in 1985.

| | |
|---|---|
| *quite good* | _# true C |
| *quite likely* | _# L S |
| *nights*, *curtsey* | _true C |

T-glottalling in the absolute final, pre-pausal environment is also included within RP in Wells' (1982) account. Pre-vocalic glottalling was excluded from RP (Wells 1982: 299), although on page 261 it is mentioned that "some younger RP speakers even use it prevocalically". On page 324, the word-final prevocalic environment is explicitly classified as 'educated London', and not RP. Although it is not mentioned specifically, perhaps the difference between younger RP and 'educated London' was felt to be a quantitative one, rather than a qualitative one. Another interpretation could be that young RP was seen to be increasingly under influence from London, moving towards educated London at the forefront of the "new non-localizable but more democratic standard" which Wells also wrote of in 1982 (1982: 118). His use of the word **Cockneyfication** in a later article on RP (1994a) also relates changes in young RP to a London source.

Wells' paper, "A phonetic update on RP" includes the following comments on RP t-glottalling (1990b: 6):

> The phonetic environments in which this replacing [ʔ] is used are those where the preceding sound is a vowel, /n/ or /l/ and the following sound is a consonant (particularly a plosive or a fricative). In these positions the glottal stop as a replacement for syllable-final /t/ is by now very general, at least in casual RP speech; even before a following zero (pause) or vowel sound it is by no means unusual… Perhaps the day has not yet quite come…when we shall need to teach the glottal stop as an obligatory positional allophone of /t/, but it is certainly approaching. There are already plenty of speakers whose **usual** pronunciation of *it* is [ɪʔ] rather than [ɪt].

Some years later, Wells' article "The Cockneyfication of R.P.?" (1994a) appeared. In that article, a similar observation is made (1994a: 201):

> Glottalling is the switch from an alveolar to a glottal articulation of /t/, whereby /t/ → [ʔ] in a range of syllable-final environments. This is by now very firmly established in casual RP before obstruents… and is increasingly heard before other consonants (m, l, w). Among younger RP speakers it can even be heard finally before vowels… or in absolute final position.

T-glottalling can however still be used to draw a line between RP and non-RP (ibid):

> Intervocalically within a word, it remains firmly excluded from RP… Nevertheless, the increased use of glottal stops within RP may reasonably

be attributed to influence from Cockney and other working-class urban speech. What started as a vulgarism is becoming respectable.[8]

Other recent changes in RP discussed in Wells' article, such as l-vocalisation, intrusive r, and yod coalescence, are also examples of Cockneyfication. Wells also argues here that the two varieties, Cockney and RP, remain distinct, since other linguistic features of Cockney such as g-dropping (for an explanation see chapter 3, section 3.2) remain "clearly outside RP and have been firmly resisted by it" (1994a: 198).

In 1997, Wells published another description of changes in RP, entitled "What's happening to Received Pronunciation" (Wells 1997a). He lists t-glottalling before obstruents and sonorants as a change which began in RP in the mid-twentieth century, while t-glottalling in word-final pre-vocalic and pre-pausal environments is a more recent change (1997a: 21).

> The environments for the glottal stop replacing [t] now extend to word-final position even when the next word does not [*sic - the opposite is intended*] begin with a vowel, as in *quite easy*…or absolute-final (pre-pausal) *right* ‖ . …Intervocalically within a word, as in *city, water*, glottal stops are still regarded as Cockney.

Ramsaran also supports this latter observation (1990a: 181): "/t/ has many allophones of which [ʔ] has a complex distribution, one constraint being that as a realisation of /t/ the glottal stop never occurs between vowels within a word."

To summarise then, the current status of t-glottalling in RP as reported in Wells (1997a) seems to be that all word-final environments can show t-glottalling (especially in casual speech), while the word-internal environments are clearly divided into those which are recognised as RP and those which are not. Glottalling in certain word-internal syllable-final environments is accepted as being RP (*football*, *Gatwick*), as is glottalling before syllabic /n/ (*cotton*, *mutton*), while intervocalically (as in *water*) and before syllabic /l/ (as in *bottle*), t-glottalling remains outside RP. The picture we have drawn here is complicated by the fact that, especially in the last decade, commentators have begun to write of a new development in British English, a variety which is most often labelled Estuary English (EE).[9] This is reported to be a variety of middle-class English dominating the Southeast of England, linguistically somewhere between RP and Cockney. Furthermore, EE is said to be levelling out the regional differences earlier found in this area. T-glottalling is commonly mentioned as a feature of Estuary English (Rosewarne 1984, 1994; Wells 1994b, 1997b; Crystal 1995; Maidment 1994; Altendorf 1999a, 1999b; Haenni

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[8] This last comment is intriguing from a sociolinguistic point of view: how and why does a vulgarism become respectable? We return to this point in chapter 7.
[9] Other names have also been proposed (see Maidment 1994, Haenni 1999).

1999, Schmid 1999).[10] However, commentary on Estuary English has mainly been based on casual observations; corpus-based empirical investigations of this 'variety' are only now beginning to emerge, and the evidence for a clear-cut 'middle variety' is limited (see e.g. Kerswill and Williams 1994: 11).

Altendorf (1999a), for example, examines t-glottalling (alongside l-vocalisation and th-fronting) in word-medial and word-final environments in the speech of three groups of school students in London. These three groups are divided socially according to the 'exclusiveness' of the schools they attend, whether comprehensive, or independent, and if independent, what level of fees are charged (Public School II being the more expensive of the two).[11] In addition, regional factors play a minor part in her analysis, as different parts of London were chosen to represent the different social groups. The charts which illustrate her findings on t-glottalling are reproduced below.
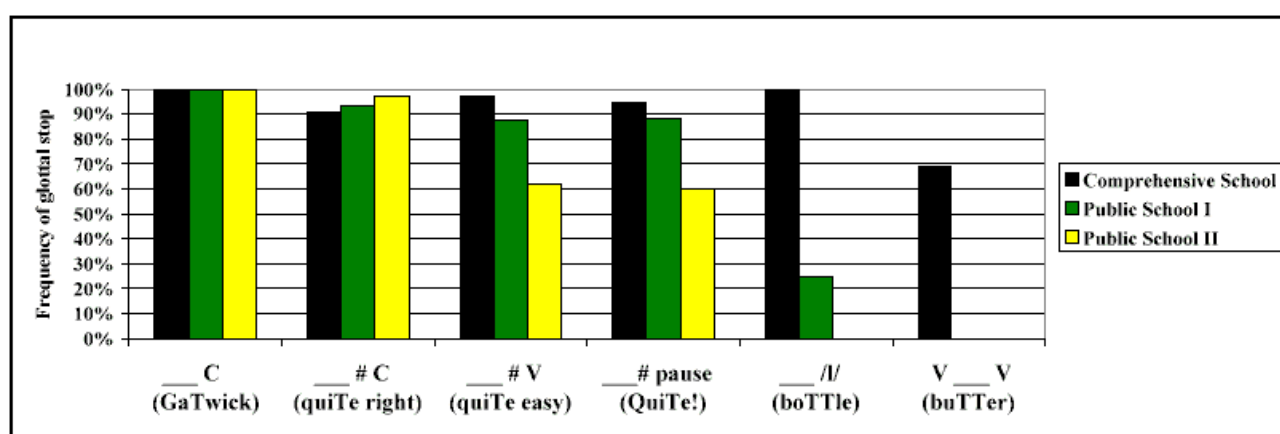


Figure 3: Variable (t) by school and position: Interview Style
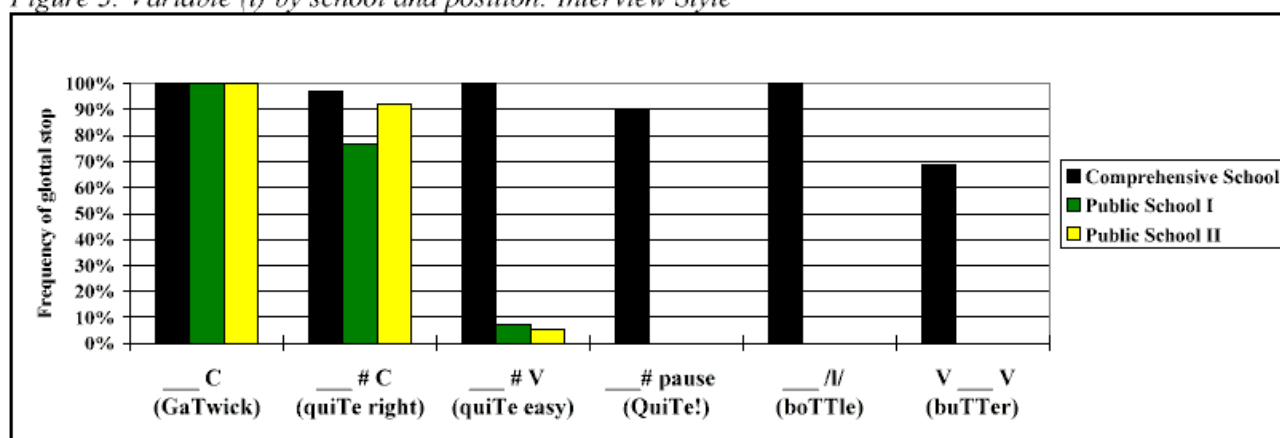


Figure 4: Variable (t) by school and position: Reading Style

**Figure 1 T-glottalling in London in Altendorf's study**

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[10] Prof. J.C. Wells at University College London has recently established an Estuary English home page which is an active research forum for Estuary English at the present time. See http://www.phon.ucl.ac.uk/home/estuary.

[11] This type of classification, as Altendorf points out, is reminiscent of Labov's (1966a) department store survey in New York.

As Altendorf (1999a) notes, and as we have seen in numerous commentaries on RP, the different phonetic environments are crucial to a description of t-glottalling. Word-internal t-glottalling before a consonant (*football*) is indisputably part of RP, as well as other varieties. Her three groups of speakers all use categorical glottalling here. At the other end of the spectrum are the word-medial intervocalic (*butter*) and pre-syllabic lateral (*bottle*) environments, which are regarded as stigmatised and outside RP, as we have seen in the comments on t-glottalling in this chapter. Altendorf (1999a: 6) notes that only her 'Cockney' group of speakers use a high rate of t-glottalling here, and so she suggests that in these particular word-internal environments, t-glottalling "can therefore serve as a 'boundary marker' between Cockney and EE."[12]

Altendorf does not however comment extensively on her word-final results, although they do in fact suggest there is evidence of quantitative differences between RP (London-based) speakers (her Public School II group) and EE speakers (the Public School I group). This can be seen by comparing the word-final #C environment with the #V and #P environments in the Interview Style[13] table above. The difference between Interview Style and Reading Style is crucial here: both public school groups style-shift away from t-glottalling in reading style before #V and #P, but not before #C (see also chapter 6 of the present study). Furthermore, while both public school groups use a high-rate of word-final pre-consonantal t-glottalling in Interview Style, there is a difference of about 30% between the public school I and public school II groups word-finally before Vowel and Pause. The public school II group, representing the most expensive school, use around 60% t-glottalling in these positions, while the comprehensive and public school I groups use around 90% glottalling in the same positions.

It should be noted that Altendorf's sample consists of only two (female) speakers per cell, and is thus too small to allow statistical tests to be carried out.[14] However, if the 30% difference held in a larger sample, it could well prove to be statistically significant. Her figures for London 'RP' speakers' t-glottalling word-finally before Vowel and Pause, at an average rate of around 60% overall, tally well with the results found in this study, as we shall see in chapter 6.

Independent corroboration of Altendorf's comprehensive school ('Cockney') results (1999a) can be found in recent work by Pointner (1996). His study examines rates of glottalling word-internally and word-finally in the speech of seven male speakers living in Romford, in the London borough of Havering (Pointner 1996: I); see the London map in Appendix 15. Cockney glottalling ranges over /p/ and /k/ as well as /t/ (Cruttenden 1994: 156). Pointner's sample in-

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[12] See also Altendorf (1999b), which considers eight speakers (seven female, 1 male) individually, placing them along a linguistic continuum from RP through Estuary to Cockney. Her sample is too small to enable statistical analysis. Her conclusion is that "t-glottalling and l-vocalisation are necessary but not sufficient criteria for the description of EE".

[13] For the definition of Interview Style used in the present study see chapter 5, section 5.2

[14] Altendorf (1999a: 3, 1999b: 15) refers to further follow-up studies presently being carried out.

cludes only male speakers using casual speech style. He does not distinguish between word-final before Consonant, Vowel or Pause as other writers have done (and as we have done in the present study), but between word-final /Vt/, /nt/ and /lt/, so that the percentages shown below represent word–final /Vt/ before Consonant, Vowel and Pause (Pointner 1996: 102-104):

Speaker 1  88.2%
Speaker 2  89.3%
Speaker 3  94.9%
Speaker 4  87.8%
Speaker 5  93.8%
Speaker 6  98.3%
Speaker 7  91.8%
Average    92%

Both Altendorf's public school I group and her comprehensive school group show word-final averages which are close to Pointner's speakers. Only Altendorf's comprehensive school speakers show the typical Cockney word-internal t-glottalling (e.g. in *butter*, *bottle*), which Pointner's speakers also display.[15] By comparison, the public-school educated speakers in my sample show an Interview Style average over all word-final environments of 56% for males, and 54% for females. (Further details of my own empirical study are presented in chapters 5 and 6.)

Overall, we can see that several common strands in the discussion of t-glottalling in RP suggest where research is currently needed. Altendorf's results in word-final #V and #P environments match well with Wells' comments on the advancement of t-glottalling in word-final environments (1990b, 1994a, 1997a). In addition, as we saw above, many writers have suggested that, in RP, the word-internal environments are either categorically glottalled (word-internal syllable-finally, excluding before syllabic /l/) or categorically non-glottalled (word-internal intervocalically, and before syllabic /l/). The area which is interesting for sociolinguistic investigation is the word-final environments, before #C, #V, #P, as this is where quantitative variation appears to occur. For these reasons, word-final environments are the focus of my own empirical investigation.

As a conclusion to this chapter on glottalisation, we briefly examine the place of t-glottalling in linguistic theory. As well as being empirically interesting, t-glottalling is also a theoretically interesting phenomenon. Two areas of theoretical linguistics which deal with t-glottalling in various ways are phonology and sociolinguistic theory.

Within phonological theory, t-glottalling is generally regarded as one of several possible modes of consonantal lenition, or weakening. This process, first recognised through studies of historical change, can be defined pre-theoretically, for example in Hock (1986: 80):

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[15] At around 66% for intervocalic t-glottalling (see Pointner 1996: 105), a figure which is also corroborated by Altendorf's data.

weakening or lenition… [w]hat the otherwise disparate changes covered by these terms share is a 'relaxation' or 'weakening' of articulatory effort…This relaxation of effort may take many forms…between the full presence of a segment and its ultimate loss, intermediate stages can often be observed, in which the pronunciation of the segment becomes increasingly relaxed.

Pennington (1996: 60) explains weakening and strengthening as the result of environmental influences between segments in connected speech:

When consonants are affected by environmental influences, they are generally either strengthened or weakened in their articulation. Consonants are weakened by loss of distinctive features of their articulation and by opening of aperture. Consonants are strengthened in their articulation when they gain a distinctive feature or have their articulation sharpened or closed by the influence of a neighbouring sound.

Certain positions in the word typically recur in discussions of consonant lenition: syllable final consonants have been shown to be overwhelmingly more susceptible to weakening than syllable-initial consonants in the languages of the world.

Carr (1999: 118) explicitly defines t-glottalling[16] as an example of weakening, with the following justification:

Since glottal stops require no oral articulation, the tongue is free, during the articulation of the glottal stop, to assume its position for the following segment, and this means a saving in articulatory time and effort.

Some theoretical accounts of lenition propose weakening hierarchies, indicating the typical directions this weakening may take. In this way, t-glottalling is usually seen as an intermediate stage between the oral plosive and elision, as in Harris' "opening trajectory" (1994: 120):

plosive > ʔ (Glottalling) > ∅ (deletion)

This is also the position of Hyman (1975: 165) in his definition of weakening: "[a] segment X is said to be weaker than a segment Y if Y goes through an X stage on its way to zero."

Within generative phonological theory, furthermore, phonological units are understood to be made up of collections of more primitive elements making up the phonological feature specifications of a syllable. These feature specifications are distinct from the syllable's constituent

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[16] The presentations discussed here (e.g. Harris 1984, Carr 1999) do not state whether pre-glottalisation is regarded as an example of weakening or strengthening. Pennington's definition above might for example be interpreted as suggesting that glottal reinforcement might be an example of strengthening or fortition. Kreidler's (1989: 107) discussion of variation in /t/ suggests that glottal reinforcement is related to concepts of onset and release of consonants, while t-glottalling is a more straightforward example of weakening. Cf. Milroy, Milroy and Hartley (1994: 25) who find sociolinguistic evidence that Tyneside glottalisation is different from t-glottalling, and they note that this "does not align well with phonological accounts which treat glottal stops and glottalised segments alike as part of a general process of weakening".

structure (see for example, Harris 1994: 122). Lenition is described as the erosion of the primitive elements making up a phonological segment, under conditions specified in terms of constituent structure, so that the segment progresses (derivationally) along a weakening path leading to complete elision. The conditions under which /t/ is susceptible to t-glottalling are dependent upon independent parameters of the language in question, as well as universal principles of phonological structure, expressed as constraints on the well-formedness of hierarchical consituent structures (in a manner similar to syntactic trees).

The latter conditions are not under scrutiny here. Rather, our concern is to examine the theoretical relationship between generative and sociolinguistic accounts of t-glottalling. As we shall see in the results in chapter 6, t-glottalling is subject to quantitative variation, and categorical descriptions of t-glottalling occurring or not occurring in particular phonetic environments do not give us the whole picture. Because of ongoing linguistic change, the system is not stable enough to be represented in terms of 'either/or'. Harris explicitly acknowledges that his model does not deal with the question of variability (1994: 195):

> the focus will be on the phonological conditions under which the appearance of a lenited reflex is grammatical (even if optional).

Nor does a generative account consider aspects of speech production such as style-shifting, the production of speech under different circumstances owing to the situation of speaking. As we shall see, considerations of style-shifting and of variation can contribute to our phonological understanding of t-glottalling (chapter 7).

These differences between generative and sociolinguistic accounts of t-glottalling are referred to as the problem of 'descriptive adequacy'. This is discussed at length from a sociolinguistic perspective in an article by Docherty et al. (1997). They argue for a desirable (but as yet unachieved) interdependency of phonology and sociolinguistics, narrowly understood as Labovian quantitative sociolinguistics, in these terms (1997: 275):

> On the one hand, socially situated language samples which have been systematically collected and analysed constitute a legitimate – indeed often vital – source of evidence to be utilised by linguists for assessing and refining theoretical models. On the other hand, variationists cannot operate in isolation from theoretical concerns, and can benefit from an evaluation of the competing theoretical frameworks available to them.

If this union were achieved, it would pave the way for "a theoretical model that takes adequate account of both inter-speaker and intra-speaker variation" (1997: 275). Furthermore, they note that

> Variationist approaches generally differ from strongly theory-led approaches in a number of respects. First, prior specification of a closed set of precisely formulated theoretical assumptions is not usual: the theoreti-

cal base is initially relatively broad, and theoretically important insights frequently emerge in the form of working hypotheses, many of which are formulated in the course of systematic analysis of a substantial body of data… the aims of the subject are just as 'theoretical' as any other branch of lingusitics.

On the basis of an investigation of glottal reinforcement and glottalling in Tyneside and Derby varieties of English, Docherty et al. argue that the sociolinguistically-sensitive observations they make present several problems for phonological analyses. Their general point is that structuralist-generative models proceed from the starting point of a theory to be defended; the data has a different role from that in sociolinguistic studies as described in the quotation above. The idealisation which characterises phonological models cannot always be made to fit with subtle variations within single speakers' repertoires or between speakers as representatives of various social groupings (see also the discussion in chapter 4).

Sociolinguistic theory, on the other hand, is built up on the basis of "external evidence and a-posterioristic reasoning" (Docherty et al. 1997: 276). The present section here concerns only the specific sociolinguistic characteristics of t-glottalling; a more complete discussion of sociolinguistic theory will be reserved for chapter 4. Discussions of t-glottalling in sociolinguistic studies usually centre around its position as a vernacular, working-class variant, and its absence from the 'prestige' dialect (although Mees 1987 and Holmes 1995 are exceptions; see further in chapter 7). Milroy, Milroy and Hartley (1994: 4) write that "T-glottalling (in certain phonetic environments) arguably shares with H-dropping the distinction of being one of the two most heavily stigmatised features of BrE pronunciation".

In sociolinguistic terms, t-glottalling in certain phonetic contexts is referred to as a **sociolinguistic stereotype**. The three-way distinction between sociolinguistic **indicators**, **markers** and **stereotypes** (see Trudgill 1986) describes sociolinguistic variables in interaction with the social structure of the speech community. A sociolinguistic indicator is a linguistic feature which is regularly stratified, occurring at different rates for different social groups, but below the level of awareness, so that its rate of occurrence is not affected by the level of **formality** of the speech situation. This means that a sociolinguistic indicator will show similar rates of occurrence for a single speaker across different speech styles (casual speech versus reading aloud, for example). Sociolinguistic markers are features of which speakers are more aware. Trudgill (1986: 10) writes that "the high level of awareness associated with a marker leads speakers to modify their pronunciation of it in situations (such as formal occasions) where they are monitoring their speech most closely". Some speech variables become so salient that members of the community can make overt comments about them; these variables are called sociolinguistic stereotypes. T-glottalling illustrates this last category: it is accessible to speakers, and is often commented upon.

My interviewees referred to it as 'dropping a *t*'. It has long been well-recognised as a Cockney/London feature, and is "sharply stigmatised" in some phonetic environments such as in words like *bottle* and *water* (Wells 1982: 261).

Trudgill (1986: 11) lists several factors which contribute to sociolinguistic indicators becoming salient for speakers, and thus markers or even stereotypes. The four factors are (italics in original):

(1) Greater awareness attaches to forms which are overtly stigmatized in a particular community. Very often, this overt stigmatization is because there is a high-status variant of the stigmatized form *and* this high-status variant tallies with the orthography while the stigmatized variant does not…

(2) Greater awareness also attaches to forms that are currently involved in linguistic change

(3) Speakers are also more aware of variables whose variants are phonetically radically different.

(4) Increased awareness is also attached to variables that are involved in the maintenance of phonological contrasts.

We have seen in the earlier part of this chapter that t-glottalling has become widely known as a working–class variant, identifiable in urban speech in several locations in Britain. It has long been a socially-stratified variable, and examination of Trudgill's four points above show that it fits with the criteria for a sociolinguistic marker/stereotype as well. Point (1) applies to t-glottalling, in that the orthographic *t* corresponds to the statusful alveolar [t] pronunciation, and not to the glottal pronunciation (hence the name 'dropping a t'). Point (2) also applies, because, as we have seen above in commentaries on t-glottalling in the course of the past fifty years or so, t-glottalling has been and still is spreading in British English. Point (3) also applies to t-glottalling, in that in terms of auditory reception and articulatory production, the alveolar and glottal stops are distinct. Point (4) is a slightly more subtle one, in that glottal /t/ is not generally involved in maintenance of a phonemic contrast. It is an allophonic variant; see e.g. Wells (1990a: 307). We can see this in the case of certain monosyllabic function words commonly pronounced with glottal replacement: *that, at, but, it, what, not* and so on, which all contain short vowels. There is no possibility of phonemic confusion between [ðæʔ] 'that' and *[ðæ], as the latter is not a possible word according to the phonotactic constraints of English. However, an added complication is that in the case of certain words containing vowels or diphthongs, as Wells (1999a) remarks, the glottal stop "is in clear and strong contrast with zero". He cites pairs such as *tie* [taɪ] versus *tight* [taɪʔ], and includes the following comment (1999a, in answer to question number 12 in the list of 'Frequently Asked Questions' ):

> No-one can know what will happen in the future: if the glottal stop is indeed a stage on the route to disappearance [elision], we shall be overwhelmed with new homophones. (One possibility is that English will compensate by becoming a tone language, as happened in the history of Vietnamese)

As we have seen in the discussion in this chapter, and as we shall see further in chapters 6 and 7 of this study, empirical data shows t-glottalling's presence in middle class and upper middle class varieties of British English, but only in very specific environments. It becomes less clear whether t-glottalling is still a stigmatised form in all of these environments. Related to the concept of stigma is the idea of prestige in language, and the distinction between overt and covert prestige has been influential (e.g. Trudgill 1972, Labov 1966b; see further the discussion in chapter 4). The posited relationship between prestige forms in language and gender, summarised as the Sex/Prestige Pattern in Hudson (1996: 195) is also important in the context of this study, and will be examined further in chapters 4 and 7.

Having completed our survey of descriptions of glottalisation, we turn now to examining aspects of 'Received Pronunciation' in general.

# CHAPTER 3: ASPECTS OF RECEIVED PRONUNCIATION

The aim of the present chapter is to separate out the different strands of previous discussions of RP and to unite them under several themes. We start by looking at the tradition of naming RP and its subvarieties, and again consider Estuary English briefly. We then turn to a consideration of such phonological facts as can be used to identify a common core of RP features, as well as recent changes reported in the literature (section 3.2). Having identified the phonological core of the accent, we turn to other factors which have been mentioned in connection with RP. Partly because of its prestige (section 3.3), the accent is used as a teaching model (section 3.4) for foreign learners. If we look further at the sociological background of RP, it is considered to be a non-localisable accent (section 3.5), associated with a particular class background (section 3.6).

## 3.1 RP, its subvarieties, and Estuary English

Received Pronunciation is the most common name given to a specific form of British English pronunciation. Definitions of this variety combine phonological criteria (as codified in pronunciation dictionaries such as *EPD,* Roach and Hartman 1997 and *LPD*, Wells 1990a) with social characteristics (generally, the speech of those from the upper end of the social scale) and aesthetic definitions (speech that is widely regarded as being 'correct' or 'good') (see for example Wells 1990a:xii, 1997a). But where does the term originally come from?

The history of the term 'Received Pronunciation' is usually traced back to the work of Alexander J. Ellis (1869-89: 23), who described:

> a received pronunciation all over the country, not widely differing in any locality, and admitting a certain degree of variety. It may be considered as the educated pronunciation of the metropolis, of the court, the pulpit, and the bar.

Ellis was referring to a distinctive and socially acceptable form of pronunciation current in certain professional circles as well as at Court (in royal and aristocratic circles) and in the metropolis (London) generally. That is, Ellis seems to have regarded this form of pronunciation as being concentrated in London, but also used by speakers from other locations, with some variation or "variety" as Ellis called it.

The term **Received Pronunciation** appeared again in the publications of Daniel Jones, the most eminent phonetician of the first half of this century. Jones was the first Professor of Phonetics at University College London. One of Jones' major academic achievements was to create a standardised model of English pronunciation on the basis of observations of his own speech and in the speech of those around him (Collins and Mees 1999a, Wells 1994a: 198). The first edition of Jones' *English Pronouncing Dictionary* (1917) defines the source of its pronunciation model as the speech of "the families of Southern English persons whose men-folk have been educated at the great public boarding schools" (1917: viii). Here Jones used the term **Public School Pronunciation**. In the third edition of the dictionary (1926) Jones began to use the label **Received Pronunciation**, which subsequently became the common term used by phoneticians. Jones did not exclude non-southerners from his social definition of RP, as pointed out by Collins and Mees (1999a: 166) who state that Jones concedes that such pronunciation is [also] used by ex-public school pupils not hailing from the South of England. As Collins and Mees also point out, Jones included educated speakers from schools other than the public schools mentioned above. All in all, Jones used a wide social definition, and according to Collins and Mees (ibid), "Jones retained much the same view of the British English pronunciation standard all his life." This view is also reflected in Windsor Lewis' work, where he notes that (1985: 249)

> Jones always gave the same definition of the narrow range of English accents which he called "RP": he always identified RP as the speech of "the families of Southern English people who have been educated at the Public schools", and of people not from Southern England "but who have been educated at these schools", but he added that it was his impression that most graduate Londoners spoke with much the same accent, and to an extent "considerable though difficult to specify" so did Southerners not educated in public schools.

Collins and Mees (1999a: 166) suggest that the term RP was popularised by Jones' work: this is certainly true within professional linguistic circles. Windsor Lewis (1985: 251) writes that

> It should be noted that the term Received Pronunciation has never become part of the general vocabulary of educated English speakers. It didn't get into an Oxford dictionary until 1964. It remains a technical term of linguistics while they [educated English speakers] employ vague unsatisfactory terms like Standard English pronunciation, BBC English, Oxford English or more old-fashionedly "polite" English.

Whether the term has become well known amongst the general public is perhaps more doubtful. Haenni (1999) is one writer who casts doubt on the idea that the term is well-known. Using a methodology inspired by Dennis Preston's work on 'folk dialectology'(see, for example, Preston 1999), Haenni investigated people's knowledge of such terms as 'Received Pronunciation' and 'Estuary English'. The low rates of recognition of these terms (around or under 20%;

for details see Haenni 1999: chapters 6.2, 6.3) lead Haenni to suggest that "professional linguists should take heed that their theoretical constructs even if they are made with the best intentions and based on as objective a basis as possible do not lose touch with 'real' people's views" (1999: 127).[17] It should be noted, however, that some of my interviewees did spontaneously use the terms 'Received Pronunciation' and **'RP'**.

The label Jones adopted in 1926 has remained in use ever since in the work of professional phoneticians, although it is also commonly lamented. Wells' (1982: 117) comment is typical**: "Received Pronunciation** …[t]his name is less than happy, relying as it does on an outmoded meaning of *received* ('generally accepted'). But it is so well established that I have decided to retain it here." In this connection Windsor Lewis also notes the archaicness of this particular adjective (1985: 245):

> It is probable that … a sociological application of the term 'received' had already become rather old-fashioned in the latter part of the last century: it is now quite obsolete outside of the usage of British phoneticians in a single expression and those wishing to suggest a direct explicit parallel to the usage 'RP'.

It should also be noted that not all commentators agree on falling in with the term Received Pronunciation as the most appropriate label for this accent variety. Windsor Lewis uses the term **General British** (in Windsor Lewis 1972); Wells and Colson (1971: 6 and throughout) use RP alongside **Southern British Standard**[18] (see also an extended discussion of naming practices in Wotschke 1996). As Windsor Lewis (1985: 244) remarks:

> What to call this least-regional accent of Great Britain has always been a problem for the scientific observer. Popular expressions abound but they are all highly ambiguous and difficult to interpret without full knowledge of the background and outlook of the user. A century or more ago Henry Sweet's term 'educated' was no doubt a reasonable label but today a very clear majority of the most highly educated inhabitants of Great Britain have markedly regionally-affiliated speech.

Assuming we take the most widely known term, Received Pronunciation, we can see that it is of course used ambiguously.[19] It refers to a codified norm which we will call **c-RP (constructed RP)**, the normative pronunciation described in dictionaries, especially pronunciation dictionaries. Jones' *English Pronouncing Dictionary*, now in its fifteenth edition, Roach and Hartman (1997), and the *Longman Pronunciation Dictionary*, Wells (1990a) are the best known. In addition, the term can be said to refer to the accent which we will call **n-RP (native RP),** an

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[17] Note also the rather odd claim, in a work on sociology and the class system of Britain (Adonis and Pollard 1997: 218), that "until the 1950s there was no such thing as received pronunciation". It is not clear from their text what this observation is based on.

[18] The choice of name possibly reflects the audience for which the book is intended (see Wells and Colson 1971: v).

[19] This idea was first suggested to me in discussions with Professor Wells in 1997.

accent used by those who acquire it as native speakers, a small group of people who have grown up within Great Britain.[20] Wells (1982: 283) makes another distinction as well: he refers to **adoptive RP** as the RP of those who did not speak RP as children. No age limit for 'children' is given, however. My term **native RP** does not make a distinction between 'adoptive' and 'native', since in the present work, n-RP is defined on the basis of a social group. Secondary education spans from age 11-18, and in this period it is possible for speakers with somewhat 'locally-flavoured' speech to adapt to 'public school' speech norms, as a result of influence from the peer group as well as the speaker's acquisition of a range of speech styles, a phenomenon which begins in childhood and continues through adolescence into young adulthood, when "standardization tends to increase" (Chambers 1995: 159, see also ibid pp. 155ff). Several speakers in my corpus refer to their own accents as having become 'posher' once they began to attend an independent school.

In general, the variability of native-speaker RP is to some extent removed from the codified form of RP. The latter has specific applications in areas where a standardised, non-variable pronunciation is required, most likely in formal situations such as certain broadcasting genres, while the former exhibits all of the variation we expect of naturally-occurring speech. The two are closely linked, but separate, perhaps a classic case of the distinction between 'langue' and 'parole' as in Saussure's work (Saussure 1916), the basis of structuralist thought.

We have now considered the origin of the term RP, but this is not the whole story. Discussion over the years has frequently split RP into several named varieties. A comparison between these different characterisations of the sub-varieties of RP shows clear commonalities, but also subtle distinctions.

All commentators seem to agree that a term needs to be reserved for a form of RP which exhibits 'conspicuous' features, a form of RP which is characteristically upper class, encompassing the royal family[21] and the aristocracy (and perhaps most typically the older members of such). Wells (1982: 280) refers to it as **U-RP**, an abbreviation of **upper-crust RP**, using the term 'U' as in Ross (1954) and Mitford (1956). Windsor Lewis (1985: 253) uses **Conspicuous GB** (**General British**) for this variety. The latest edition of *Gimson's Pronunciation of English* (originally 1962, 5th edition revised by Alan Cruttenden, 1994) uses the term **Refined RP** (Cruttenden 1994: 80). An earlier edition, Gimson (1970), used a slightly different categorisation, which split the Wellsian **U-RP** into two chronologically related sub-varieties: the older, **conservative RP** and the younger, **advanced RP**. Gimson (1970: 88) writes of advanced RP:

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[20] Wells (1982: 301) uses the term **near-RP** to refer to some native accents within the British Commonwealth (Australia, New Zealand and South Africa).
[21] See also Wales (1994) for a discussion of 'Royal' English which describes lexical and syntactic use as well as pronunciation patterns in the speech of Britain's royal family.

> the advanced RP forms [are] mainly used by young people of exclusive
> social groups – mostly of the upper classes, but also, for prestige value,
> in certain professional circles. In its most exaggerated variety, this last
> type would usually be judged 'affected' by other RP speakers.

Both conservative RP and advanced RP are considered to be 'upper-class'.[22] As we saw above, these two are collapsed into the single term **Refined RP** in Cruttenden (1994). Some traces of the fact that Refined RP includes an older age group can be found in the comment (Cruttenden 1994: 80) that "[w]here formerly it was very common, the number of speakers using Refined RP is increasingly declining". Perhaps this decline is at least partly due to the death of generations of older speakers, but Cruttenden suggests that it may also be because of recent attitudinal shifts (see section 3 below), so that speakers coming from families within the native RP population shift away from traditional forms of speech. Cruttenden's choice of the term **Refined**, he notes, reflects the fact that this form of speech is sometimes considered "affected" by the general public. Thus, "the adjective …has been chosen deliberately as having positive overtones for some people and negative overtones for others" (1994: 80). Indeed, Wells' slightly tongue-in-cheek categorisation of the stereotypes which form the basis of popular understanding of U-RP reflects this 'affectedness' idea: "the popular image of an elderly Oxbridge don… a jolly-hockey-sticks schoolmistress at an expensive private girls' school" (Wells 1982: 280). Windsor Lewis notes also that this variety of the accent can sometimes arouse antipathy (1985: 286). The humour of, for example, *Monty Python's Flying Circus*, tended to exploit such 'affected' accent stereotypes, while Disney films for children seem to reflect the more negative, slightly sinister (because of being exclusive and arrogant) aspects of U-RP speech: most of the villains of these films have been U-RP or conservative RP speakers.[23]

Some writers on RP feel the need to distinguish certain accents which form an intermediate category between RP and non-RP accents in Britain. Within this category we can include Wells' (1982) terms **adoptive RP** and **near-RP**. The former is glossed as "that variety of RP spoken by adults who did not speak RP as children" (1982: 283), while the latter term (1982: 297):

> refers to an accent, which, while not falling within the definition of RP,
> nevertheless includes very little in the way of regionalisms which would
> enable the provenance of the speaker to be localized within England (or
> even as Australian, New Zealand or South African).

The distinction made here is not easy to pin down, although Wells offers several phonemic, phonotactic, phonetic and lexical criteria. In the case of near-RP, the criteria generally relate

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[22] For this reason, the speech described in this study is given the label 'modern' rather than 'advanced RP', so as to reserve the latter term for upper-class speech (cf. Altendorf 1999b).
[23] The *Lion King* and *Tarzan* films are cases in point.

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to phonemic distinctions or lack of same which differ from RP (such as a lack of contrast be-tween the STRUT vowel and schwa in stressed syllables), while the category of adoptive RP seems to involve fast speech phenomena[24] which the latter group of speakers seem not to control to the same extent as true 'native RP' speakers. In general though, Wells observes that (1982: 297):

> Drawing a boundary line between RP and near-RP is in many ways a subjective and contentious task. English phoneticians have not infre-quently been in implicit disagreement over the problem of the circum-scription of RP. Successive versions of the preliminary 'Explanations' of *EPD* reflect Jones's, and later Gimson's, changing views.

According to Wells, Windsor Lewis' term **General British** (1972, 1985: 255) includes **adoptive RP** and **near-RP** alongside Wells' **mainstream RP** (discussed below). This does not quite seem to fit with Windsor Lewis' later description of GB as a "non-regional socially rela-tively neutral [in effect encompassing upper and middle class speakers] development of RP" which is also "the ideal type for the EFL teacher to take as his target" (1985: 255). Windsor Lewis emphasises this accent's wide regional distribution, and the absence of regional indicators. Wells' claim is that near-RP has "very little in the way of regionalisms" (1982: 297). The differ-ence seems to be matter of the degree to which regionally-identifiable features are admitted at the boundary of RP.

The status of 'regionalisms' or regionally identifiable features in speech provides a problem for discussions of RP. Cruttenden's analysis (Cruttenden 1994) faces the regional issue head-on, by admitting a new term into the debate, **Regional RP**. Cruttenden admits that "[s]ome phoneticians, on the basis that part of the definition of RP is that it should not tell you where someone comes from, would regard **Regional RP** as a contradiction in terms"(1994: 80). Re-gional RP is used by Cruttenden to try to reflect recent changes in the acceptability of accents containing slight traces of localisable features "which go unnoticed even by other speakers of RP" (ibid).[25] The whole concept of 'acceptability' of an accent will be explored further below (section 5). Windsor Lewis (personal communication) does not accept the term **Regional RP**, since he regards the criterion of wide areal distribution of accent features as being more impor-tant in defining RP (General British) than the evaluation of 'acceptability'. There is clearly not a professional consensus on this matter.

Cruttenden writes further that Regional RP will "vary according to which region is in-volved in 'regional'." (1994: 80), and he explicitly identifies the London-influenced form of RP

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[24] See also discussions of Connected Speech Processes (Nolan and Kerswill 1990).
[25] Cf. Cruttenden's usage of Regional RP and Windsor Lewis' (1985) 'metropolitan sub-variety of RP,' located in London (see chapter 3, section 3.1).

with **Estuary English** (1994: 86). This name was coined by David Rosewarne and first published in his article in the *Times Educational Supplement* in 1984. It took several years for Estuary English to come to public attention, but by the late 1990s the term was well-known in journalistic and academic circles at least, and it is now frequently mentioned in discussions of the development of accents in the Southeast of England (see chapter 2, p 18). Estuary English was originally conceptualised as a middle-ground variety between RP and Cockney speech, on some sort of continuum between the two. Rosewarne (1994: 3) writes that his motivation for coining the term Estuary English ten years earlier was that he:

> …felt that existing descriptions of pronunciation varieties made no real mention of accents intermediate between R.P. and localisable British forms. There appeared to be a particularly important gap in the descriptions of accent varieties in London and the South-East of England.

The name eventually caught on, especially in journalistic writings on language. The Estuary English Home page (http://www.phon.ucl.ac.uk/home/estuary ), established by John Wells, contains a large bibliography including academic papers as well as many (more or less serious) newspaper articles on the topic. Neal Ascherson (a British journalist with the *Independent* and *Guardian* newspapers), for example, uses the term in an article from the *Independent on Sunday*, 7th August 1994, where he writes that "[t]he upper-class young already talk 'estuary English', the faintly Cockneyfied accent of the Southeast". Other commentators are less neutral about Estuary English. One letter to the editor of the *Sunday Times* from 1993 exemplifies this attitude:

> The spread of Estuary English can only be described as horrifying. We are plagued with idiots on radio and television who speak English like the dregs of humanity, to the detriment of our children (Sunday Times, 21 March 1993)

This type of prescriptive attitude, ironically labelled the "DTWS"or "Disgusted of Tunbridge Wells Syndrome" by Maidment (1994) is particularly common among those members of the population for whom EE can never represent a standard form of speech.

> What [David Rosewarne and Paul Coggle] have done […] by giving this purported phenomenon a name and by publicising it in rather simplistic terms is, wittingly or unwittingly (perhaps half-wittingly) built the image of an ogre which threatens the imagined static, pure condition of the English language. Nothing is likely to enrage DTW more than the suggestion that the standard language which he/she holds so dear, the grail of which he/she sees him/herself the guardian, is being usurped by the usage of people who are NOT OUR CLASS. DTW is not going down without a fight, you may be sure.

Wells (1998) has recently provided a somewhat clearer definition of Estuary English than those definitions available earlier: **"**standard English spoken with an accent that includes features localizable in the southeast of England". As Wells notes in a series of comments on 'frequently-

asked questions' on Estuary English, (Wells 1999a) "This [definition] highlights the two chief points: that it is standard [*i.e. uses Standard Grammar*] (unlike Cockney) and that it is localized in the southeast (unlike RP)".[26]

Other writers have sought to determine the nature of EE on the basis of its reported linguistic features. Haenni (1999: 18-42), in an examination of EE's linguistic identity, discusses selected accent features (such as t-glottalling, l-vocalisation, and certain vowel phenomena) to determine whether they can define a rigid boundary between Received Pronunciation, Estuary English and Cockney. His survey fails to find any single clear-cut 'marker of Estuary English' (1999: 42). On the basis of this examination of academic and journalistic comments on the linguistic features of EE, as well as of people's awareness of the term, he concludes that (1999: 123)

> It is thus very difficult to uphold the notion of EE as a distinct variety in its own right. … it appears rather daring to assign it a place among the most stereo-typed (or, at least, the most 'dialectally prominent') accents of Britain.

As we saw in chapter two, the first available empirical evidence (Altendorf 1999a and b) suggests that the relationship between RP and EE, at least in the case of t-glottalling, is a quantitative rather than qualitative one. Detailed examination of other speech variables is needed before we can establish the existence of a distinct variety; professional opinion, it must be noted, is largely sceptical as to whether a distinct variety can be identified.[27]

Leaving aside the problem of Estuary English for the moment, we return to RP. There is more (although not complete) professional consensus on the idea that we can identify a variety of speech, that which Wells (1982: 279, 285-297) calls **mainstream RP**, Cruttenden (1994: 80) **General RP**, and Windsor Lewis (1972, 1985) **General British**. It has also been called **Southern British Standard** (Wells and Colson 1971) and **BBC English** (Roach and Hartman 1997). This accent, as Wells (1982: 117) notes "is what English people mean when they say that someone 'hasn't got an accent' (though to Americans it is a typical British accent)".

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[26] It should be noted that Coggle regards double negatives such as 'I don't have no money' as being at the Cockney end of the spectrum of Estuary English, but within EE. (http://www.phon.ucl.ac.uk/home/estuary/estufaqs.htm)

[27] Cf. Nolan (fc: 11-12):

> [responding to the claim that *Estuary English is an emerging 'sub-RP' dialect which levels the differences between previously distinct South-East accents*] There is undoubtedly some levelling in the counties surrounding London, but it has not been demonstrated that, for example, one can't tell whether a (non-RP) speaker from near London is from north, south, east, or west of London. This is perhaps the most interesting and testable aspect of the EE hypothesis. What is required is systematic sociolinguistic research based in a number of crucial locations surrounding London, for instance in Essex, Kent, Hertfordshire, and Berkshire.

This 'standard' accent has always been a fuzzy concept, with all writers acknowledging the difficulties of drawing boundaries around the accent variety. Wells (1982: 279) writes that "no accent is a homogeneous invariant monolith – certainly not RP". Expanding on this, and commenting on the idea that "some people deny that RP exists", Wells states the following.

> [W]e may hesitate about a particular person's speech which might or might not be RP or Near RP; we may prefer to call it 'BBC English', 'southern British standard', 'General British', 'a la-di-da accent' or even 'Standard English', and define it more narrowly or more widely than I have done; but anyone who has grown up in England knows it when he hears a typical instance of it.

Windsor Lewis comments in this respect that "no two British phoneticians are likely to agree on where the line between RP and non-RP is to be drawn", and indeed that this disagreement goes back to the very beginning of the descriptive enterprise: "Jones himself had trouble in deciding whether he 'received' certain usages" (1985: 247). Cruttenden (1994: 81) also echoes this idea of the fuzziness of RP, and also mentions individual variation specifically.

> RP, Refined RP and Regional RP are not accents with precisely enumerable lists of features but rather represent clusterings of features, such clusterings varying from individual to individual. Thus there are not categorial boundaries between the three types of RP nor between RP and regional pronunciation; a speaker may, for example, generally be an RP speaker but have one noticeable feature of Refined RP.

Similarly, there is variation within RP itself. An anecdote from my interview corpus shows this: the speaker refers to a conversation with her father where she was corrected for her pronunciation of *Grantchester* (a small town near Cambridge):

> F12: last time my dad came to pick me up we were talking about Grant/æ/chester and I said that's the road to Grant/æ/chester and he said …Grant/æ/chester he said it's Grant/ɑː/chester which actually gave me a bit of a shock… cause I never hear Grant/ɑː/chester here…

Both forms are considered to be within RP. The *LPD* (Wells 1990a: 313), for example, gives both forms, with the /ɑː/ pronunciation listed first.

It is often emphasised in writings on RP that the concept of RP is an inherently fuzzy one. There are problems in finding agreement among professional linguists as to which usages to include within the model. These problems are compounded because of any individual speaker's variations, and because of the ongoing process of language change which provides us with a constant state of flux from which to draw generalisations.[28] This fuzziness does not mean that it is worthless to try to circumscribe RP, only that, if we retain the idea of RP as a distinct language

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[28] This is not a new idea, of course. The linguistic enterprise has always been one of drawing generalisations out of a mass of observed data.

variety, we should be aware of the effect of definitions on the limits of the accent (as pointed out in Wells 1997a).

## 3.2 Defining a variety: the phonological core of RP

We now have to try to examine the central variety of RP phonologically. This description will provide a minimal set of phonemic distinctions; only a limited set of phonetic specifications will be considered here.

For the purposes of the present study, and following Wells (1982), Ramsaran (1990a), and Cruttenden (1994), we define RP as including the following 20 contrastive vowels and diphthongs listed below (Wells 1982: 119 and Cruttenden 1994: 88 include sets of minimal pairs).

/iː, ɪ, e, æ, ɑː, ɒ, ɔː, ʊ, uː, ʌ, ɜː, ə, eɪ, aɪ, ɔɪ, əʊ, aʊ, ɪə, eə, ʊə/

The last of these, /ʊə/, has a very restricted occurrence. As Wells point out (1982: 287) "An RP speaker will usually have at least some words with .../ʊə/ and they will often furnish one or two minimal pairs". As a phoneme it is perhaps receding, but Ramsaran (1990a) is still willing to accord it phonemic status, on the basis of minimal pairs such as *door* versus *dour*. The consonants of RP are uncontroversial: they are the twenty-four listed in *LPD* (Wells 1990a).[29] This is not to say that agreement will always be found on the incidence of certain phonemes in individual lexical items or sets of items: the *LPD* and *EPD* record many alternative pronunciations, and this kind of lexical variation is commonly accepted in descriptions of RP (see also Wells' (1999b) survey of pronunciation preferences). Lexical variation does not form part of the present study.

Some distinctive phonetic characteristics are also important in delimiting RP. Smoothing, for example, is "the process whereby a diphthong may lose its second element when followed by another vowel" (Wells 1997a: 15), as in *power* /ˈpaʊə/ pronounced as [paə]. This is not restricted to younger speakers: smoothing has been part of RP for a long time. Younger speakers also tend to show the following recent phonetic innovations in RP:

1. HAPPY-tensing: "a change in the preferred phonetic quality of the weak vowel", from [ɪ] to [i], not only word-finally as in *happy*, *coffee*, *valley*, but also prevocalically as in *various*, *happier* (Wells 1997a: 20).

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[29] /p, b, t, d, k, g, tʃ, dʒ, f, v, θ, ð, s, z, ʃ, ʒ, h, m, n, ŋ, l, r, j, w/. The voiceless labio-dental fricative /ʍ/ is not included in the 24, but is clearly a possible phoneme on the basis of minimal pairs such as *which* versus *witch*. The /ʍ/ is referred to as a 'speech conscious' usage in British English by Wells (1982: 285, 1990a: 770).

2. The rounded diphthong of /əʊ/ before dark /l/, [oʊ], as in *cold*, *gold*, *goal*, regarded as part of RP e.g. in Wells (1997a: 20).

3. l-vocalisation, where the dark allophone of /l/ is becoming a vowel, as in *film* [fɪʊm]. This is most favoured before a labial consonant according to Wells (1997a: 21).

4. Yod coalescence in stressed syllables so that *Tuesday* is pronounced [ˈtʃuːzdeɪ] (Wells, ibid).

5. The GOOSE and FOOT vowels have changed quality to become more front and unrounded.

In addition, as we saw in the previous chapter, t-glottalling can occur in word-internal syllable-final as well as word-final positions in RP, and its current status in word-final environments is the object of the empirical investigation here (see chapters 5 and 6).

It is also helpful to some extent to circumscribe RP by mentioning the major phonological features which are agreed upon as being outside RP (an approach Wells chooses in his 1982 study), because of these being strongly associated with specific regional and class accents (Cockney, for example, being a working-class metropolitan accent). These can be found in Wells (1982: 297-300) and Cruttenden (1994: 83-87). An uncontroversial list would perhaps include the following:

1. post vocalic /r/ as is found in the west of England (and American English).

2. no contrast between the vowels in STRUT and FOOT words, so that *butter* and *butcher* both have /ʊ/, found in the north of England.

3. h-dropping in stressed syllables, *happy* [ˈæpi], *hand* [ænd].

4. TH-fronting, *think* [fɪŋk], also a Cockney characteristic.[30]

5. Yod dropping, so that *new* is pronounced [nuː], a feature of Cockney[31] and General American.

6. [æ] for the BATH words, such as *grass* and *past*, found in the north of England.

7. G-dropping: use of [n] in –ING forms such as *running*, *sleeping*, *ceiling*, a non-standard feature of English almost worldwide (see e.g. Chambers 1995: 242).

8. weakening of *you* to [jə].

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[30] Spreading to non-standard varieties of the Southeast, e.g. in Milton Keynes (Kerswill and Williams 1994, Williams and Kerswill 1999).
[31] Some commentators regard this as a recessive feature (see the evidence cited in Wells 1982: 330-331).

## 3.3 The prestige accent

There is no doubt that RP has had in the past and continues to have some sort of prestige,[32] although just what that prestige might be is somewhat difficult to determine on the basis of commentary alone.[33] All of the writers we have mentioned above include prestige as a factor of their descriptions of RP. Cruttenden, for example, writes that "[s]ome prestige is still attached to this implicitly accepted social standard of pronunciation" (1994: 78). The formulation in Gimson (1970: 85) began "Great prestige..". Wells (1982: 115) writes that "the accent which enjoys the highest overt prestige in England is known to phoneticians as **Received Pronunciation**". Windsor Lewis assesses the situation thus (1985: 244):

> Within England there is little doubt that a fair degree of social prestige is generally associated with all speech which is completely non-regional. The more distinctly regionally affiliated a particular type of speech happens to be the less uniform is social reaction to it.

However, the idea of RP's prestige has been diluted somewhat in other writings on RP. While writing that "great prestige" was associated with RP, Gimson (1970: 86) wrote of recent developments which had shifted prestige away from an exclusive-sounding accent, because of its associations with tradition and social exclusiveness, and perhaps also negative concepts such as arrogance. This comment is repeated in Gimson (1989: 86) and Cruttenden (1994: 79):

> …some members of the present younger generation reject RP because of its association with the 'Establishment' in the same way that they question the validity of other forms of traditional authority. For them, real or assumed regional or popular accent has a greater (and less committed) prestige.

In response to these purported recent shifts in popular attitude, the BBC has recently instituted a policy of using fewer exclusive-sounding RP speakers in certain broadcasting genres, although this is not universally seen as a 'good thing'. Indeed, we could say that RP still fits a particular media genre, such as newsreading or other 'serious' presentation, and here strong regional (urban?) affiliation is probably still stigmatised. On the more exclusive social class accent, Cruttenden comments that "a speaker of Refined RP has become a figure of fun, and the type of speech itself is often regarded as affected" (1994: 80). That very marked RP is considered affected is supported by some comments from my interview sample. The old-fashioned ('1950s'

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[32] A socio-historical study could be made of the association between RP and accent and social prestige, but is not within the scope of the present work. See also the references in Windsor Lewis (1985). For a summary of the many studies of reactions to RP using the matched-guise technique, a methodology originating within social psychology, see Giles et al. (1990).

[33] For example, Wells (1997b) "[w]e're told it's [Estuary English] going to replace *fuddy-duddy* old Received Pronunciation as the standard accent" (emphasis added).

was a common term used) form of RP is seen as 'out of touch', although perhaps still valued in some ways.

> AF: …what do you think about accents on the BBC?

> M4: I think they've certainly changed a lot, I think um, perhaps the traditional sort of world service view was sort of "This is London calling" … the English that was sent out to the rest of the world…I mean there was a certain amount of English language that was fairly traditional almost 1950s sort of affected English and by and large I think there's still an emphasis on clarity.

> AF: What do you think about [accents on the BBC]?

> M7: um I think that the voice of the BBC on the World Service at sort of two in the morning is one of the most reassuring things you know, I know, um, and I.. I mean obviously I have no problem with the BBC's attempt to bring Mancunians or people from Birmingham in to present the news … obviously the Received Pronunciation of the 1930s is quite remarkable, a kind of clipped English um, but… that's not where this country is at the moment so let's, let's leave it behind.

The decline of 'conspicious' or U-RP in the public media and the subsequent rise of 'slightly regionally flavoured' speech in that same forum could perhaps be seen to be either a cause or an effect of what Cruttenden (1994: 81) claims is apparent: "a far greater tolerance of dialectal variation in all walks of life". He also notes that RP is the norm in certain contexts and that "where RP is the norm, only certain types of regional dilution of RP are acceptable" (ibid).

Tolerance of dialectal/accentual variation, whether of British regional varieties or of international varieties of English,[34] certainly comes about through increased exposure to these varieties. As access to higher education became available to an increasing percentage of the A-level population of any one year, especially with the establishment of 'red-brick' universities in the 1960s, the social backgrounds of people with higher education became more varied (although still largely recruited from within the middle class; see Adonis and Pollard 1997). Through sheer weight of numbers, this large group of middle class speakers (near- and non-RP speakers) came more and more into the public arena. This led to a breakdown of older forms of prejudice against speech which was, according to Windsor Lewis (1985: 249):

> really only quite slightly different from ordinary "RP" in that fairly obvious regional influences show … After some decades in which the media of radio and most powerfully television have presented daily to the whole nation the speech of those in the positions of the highest prestige in the land, people in government, in industry, in science, in the arts, in sport

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[34] The example of American English is mentioned in Gimson (1970: 86), which refers to the pre-World War Two situation, when American English in the first sound films coming to Britain was "considered strange and even difficult to understand."

and entertainment, people with obviously regionally-affiliated accents have been observed to occupy a large proportion of leading positions. This has naturally weakened the old exclusive association of authority and distinction with a non-regional accent.

Windsor Lewis (1985: 255) even claims that "the problem [of accent prejudice] is evaporating. The present younger generation are less and less in sympathy with the attitudes that sustained it." This observation is to some extent supported by my interviewees' comments. When asked, almost all speakers claimed not to object to the BBC policy of using 'regional accents' (see also M7's comment above). Some did acknowledge that standard forms of speech can have an effect on listeners, and can even accord the speaker some advantage (emphasis added):

> M3: I think it would be …you'd be hard pushed to say at the moment that your accent doesn't make a difference to your chances of getting into Cambridge for example, and and I don't think *at least I would like to think that none of it's deliberate* but I think if you have you know if you have a very strong north Welsh accent for example, it's or strong Scottish accents or something which seems quite alien I don't think I think if you're having to concentrate that much more on listening to it, I can well believe that you're not consciously saying "dear oh dear they're not as good" but somehow you feel as if you're not getting on with them as well because you're having to put so much more effort in just talking to them um and I don't *I hope none of this is done deliberately* but I can see that if you're… as inevitably happens at your interview, hundreds of people, you're relying to an extent on on a gut feeling.

The overt comments that the speaker makes with regard to 'deliberate' or conscious favouring of standard accents can be interpreted as suggesting that this form of behaviour is undesirable or even 'politically incorrect', to use a phrase of the 1990s.[35] The following speaker's father is characterised as someone for whom accents matter, but the speaker also suggests that this sort of prejudice is not entirely acceptable (e.g. the comment about him *not* being a 'horrible snob'), although it does occur.

> AF:… do you think perhaps that the way you speak will make a difference as far as your future job is concerned and your work?
>
> F6: I don't think it'll be an advantage as such but I think that not having a strong regional accent is probably an advantage, yes.
>
> AF: Have you ever come across that in your own situation?

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[35] Dr. Paul Kerswill (Lecturer in Linguistics at the University of Reading) in a letter to the Editor of the *Independent on Sunday* (25 June 1995) makes the following comments linking accent prejudice and the idea of 'political correctness':

> "Does she [Gillian Shepherd, then Minister of Education] not know that true Scousers, Brummies and Cockneys have no hope of winning 'good English' competitions, and that friendly Dorset, Yorkshire and Highland folk, not to mention the polished verbal products of our best public schools, would come top of the class? Read "women" or "black people" for "Scousers" or "Cockneys" and you have a form of blatant discrimination that would be unthinkable even to the least politically correct among us."

> F6: Not really but it's a perception among, obviously it depends who is interviewing you but I know say if it were my father and *I'm going to make him sound like a horrible snob which he's not*, but he would prefer to have girl x with no regional accent than girl x with a regional accent if you see what I mean, um, it just, there are certain accents and certain people who respond badly to those accents (emphasis added).

Responding positively and negatively to certain accents seems to persist[36] according to these speakers, and awareness of accent differences (and named accent varieties) is certainly high. The following speaker's account of 'arguments' between herself and her sister's Geordie boyfriend reflects the linguistic self-assurance of this particular Northern speaker.

> F7: My sister's boyfriend comes from Newcastle and and if you take the mickey out of him and you'll say something or you'll joke about his accent, he'll say "well I could I could do exactly the same for you I mean you say [bɑːθ] instead of [bæθ]" you know he always says to me "where's the *r* between the *a* and the *t*, there's no *r*" and then you know well I'm trying to say "yeah but I speak normal English and the standard English" and he's saying "no no no how can you say that" and I say "well cause it's the Queen's English, so look, you turn the news on and that's how they speak".

These comments seem to send mixed signals. While perhaps Windsor Lewis is right in that prejudice against (perhaps mildly) regionally-flavoured speech is disappearing, there still seems to be a persistent notion of a prestigious form of speech which can afford social advantage in the right context.

Rosewarne (1994) and Coggle (1993), for example, have pursued the line that RP eventually will be replaced by Estuary English as the new standard English. If by 'the new standard English' they mean the accent which takes over the role of RP, Haenni (1999: 124) at least is sceptical of this:

> Britain is still too accent-sensitive a society that this could be done without provoking fierce resistance from the many self-proclaimed 'language mavens'. Probably more than anyone else's, their linguistic world order is structured around static stereo-types of the most rigid kind, with (U)RP undisputedly regarded as 'the good thing'. Everything that does not fit into the latter category is immediately stigmatized as 'the other' and this is what happened (and still happens) to EE as well.

Nolan also explicitly rejects the idea that EE is the new prestige form (fc: 10), "[m]ost evaluative comment on EE is negative ('all those terrible glottal stops')". While this very London-flavoured form of middle class speech (EE) is flourishing in the media, it is not well-accepted by all, and thus does not clearly correspond to the idea of a prestige accent.

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[36] As can be found in the popular press (see e.g. Maidment 1994) and in academic studies (see Giles et al. 1990).

Further research could be carried out on older and younger RP speakers' overt evaluations of new and spreading linguistic features, in order to determine their current status in particular contexts, whether prestigious, non-prestigious, or neutral. For the purposes of the present study, I have conducted a small-scale experiment on reactions to glottal stop for /t/ (see chapter 5 section 5.9), but this one feature cannot give us the whole picture.

## 3.4 The teaching model

Another crucial aspect of RP is its role in foreign language teaching, as a model of pronunciation to be consciously taught and imitated.[37] Arguments for using RP as a model of pronunciation usually range over the idea of it being accepted by many people — a similar reason was important for the BBC's choice of RP in the early part of this century (McCrum, Cran, MacNeil 1986: 26-27) — or of it being widely understood. RP lacks a regional affiliation, and thus is not suggestive of regional stereotypes. As Wells (1997a: 14) observes, these features are all difficult to specify and demonstrate empirically.

Nonetheless, the idea that RP is the suitable reference model persists in recent textbooks; this partly reflects the added practical advantage that RP is already well described. Mees and Collins (1996: 16), for example, explain their motivation for using RP in a textbook intended for Danish students in these terms:

> Every language has a number of different accents. You probably know that London and Glasgow both have quite distinct accents, spoken by most of the people who live in these areas. Nevertheless, unless you want to take on board the specific regional associations, neither is really suitable for you to imitate. However, there's one variety of British English which is generally used as a model for the foreigner. This is **Received Pronunciation** – or RP, as it's usually called. If you listen regularly to English programmes on television, or to English radio, you're probably familiar with this type of English since it's the accent used by perhaps the majority of BBC announcers. In fact, RP is sometimes loosely called 'BBC English'. It can be taken as the common denominator of the speech of educated English people. Though RP is often associated with London and the South East, it's actually possible to hear this accent from educated speakers in all parts of the country. The English we describe in this book is the speech of the average modern RP speaker. Old-fashioned usages have been excluded, as have any 'trendy' pronunciations which are too recent to have gained widespread acceptance.

Nolan (fc: 13) echoes this in his argument for the 'slightly out of date' rather than the most 'up-to-date' teaching model.

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[37] Not all commentators accept RP's 'right of precedence' as a teaching norm. One of its strongest opponents is R. Macaulay, who in his dramatically titled article 'RP R.I.P' (Macaulay 1988) argues for RP's dethronement as a prescribed teaching norm in foreign language pedagogy.

Teaching a slightly out-of-date prestige norm has a number of advantages:
- it is widely and uncontroversially prestigious, albeit not 'trendy'
- descriptions of it are available
- it is stable, reflecting innovations which have survived and not those which were short-lived.

So although standard textbooks, even their most updated editions, describe a variety which is already being left behind by younger speakers, it is not a great disadvantage in my view to lag behind current trends in pronunciation.

Wells on the other hand emphasises keeping RP 'up-to-date', writing that RP "must not remain fossilized in the form codified by Daniel Jones almost a century ago. We must modernize it by gradually incorporating one or two of the changes typical of EE" (1997b). Just how we might go about defining changes in RP on this basis will be discussed in more detail in chapter 7.

## 3.5 Non-localisability

We turn now to the idea of non-localisability. This is an important characteristic of Received Pronunciation which is often cited above all others: that RP, while it is a British accent, is non-localisable within Britain. Indeed, it is the one defining characteristic separating RP and EE, according to Wells' (1998) definition of EE: "standard English spoken with an accent that includes features localisable in the southeast of England." RP, by contrast, is non-localisable.

The idea that an accent could be characterised as 'non-localisable' is a complex one, and raises several questions, not all of which can be answered within the scope of the present study. Where does the idea of non-localisability come from? Is it an absolute value, something we can precisely define? How is non-localisability to be judged?

The idea that a prestige pronunciation originating in the south can be found elsewhere in England among speakers who are 'educated' reflects a general accent ideology which developed during the eighteenth and nineteenth centuries in Britain. The history of this development has been described by Lynda Mugglestone (1995) in her study *Talking Proper: The Rise of Accent as Social Symbol*. Mugglestone documents this development of a standard accent and its social concomitants, so that by the time of Henry Sweet's work (*The Sounds of English*, Sweet 1908: 7), quoted in Mugglestone (1995: 5):

Notions of a non-localized accent (and assimilation to it) had come to act as a dominant social symbol, the salient element in what the phonetician Henry Sweet defined as "a class-dialect more than a local dialect… the language of the educated all over Great Britain… the best speakers of Standard English are those whose pronunciation, and language generally, least betray their locality".

Of the modern commentators on RP, most seem to agree that non-localisability is relevant to RP. Windsor Lewis (1985: 244) begins:

> For centuries there has existed in Great Britain "a rather small minority" [quoting Jones 1917] of speakers in whose speech no features can be readily observed (even by experts in such matters) which suggest affiliation with any particular region of the country.

For Ramsaran (1990a: 179) RP "may be encountered as the native accent of people who come from all over Britain". Hughes and Trudgill (1996: 3) state that "[i]t is quite impossible to tell from pronunciation alone where an RP speaker comes from". Hughes and Trudgill (1996: 8) use the following triangle to illustrate the relationship between social and regional variation in accent in Britain. At the top of the triangle is RP, the non-regional accent associated with the highest social prestige. The widest regional differentiation can be found at the bottom of the triangle, representing the lowest end of the social scale.
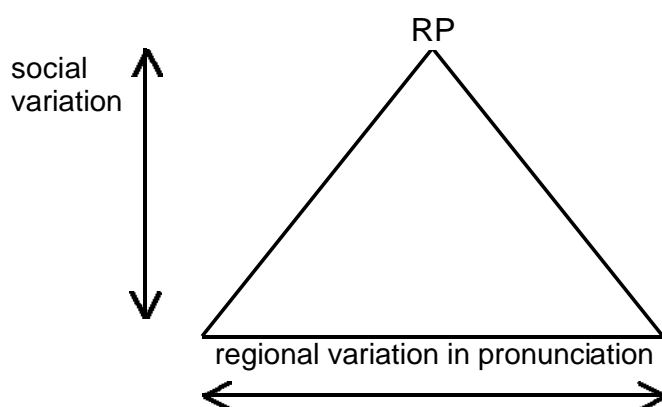


(After Hughes and Trudgill 1996: 8)[38]

**Figure 2 The accent pyramid**

However, non-localisability understood in this way is not the whole picture. Ramsaran (1990a), for example, makes a distinction between synchronic and diachronic aspects of RP. She admits that it is plain that RP "has its origins in the speech of southern England and more particularly in that of the south east" (1990a: 179), but that it is "no longer *synchronically* southern". Jones' original formulation (1917: viii) of Public School Pronunciation (the term used before RP was adopted) locates it primarily in the speech of "the families of *Southern English* persons whose men-folk have been educated at the great public boarding-schools" (emphasis

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[38] The triangle diagram above resembles a similar cone diagram in Ward (1929), where it is attributed to Daniel Jones. Ward (1929: 5) describes it thus: "The base of the cone represents a map of England, and the lines joining various points on its base to the apex [represent] the different types of speech used at each place, the apex … representing a kind of pronunciation which bears no signs of any particular district."

added). Public school pupils could of course hail from other parts of the country, and their speech is also included within Jones' definition of Received Pronunciation.

Nolan (forthcoming) explicitly rejects a stronger version of non-localisablity, which he characterises as the "common view which refuses to locate RP geographically, and instead views it as a non-regional prestige variety"(fc: 9). Nolan's definition of RP is as follows (quoted from Nolan and Kerswill 1990: 316): "Received Pronunciation (RP) is the long-established term for the prestige accent of South East England which also serves as a prestige norm in varying degrees elsewhere in Britain."

Nolan contends that RP forms a phonetic and phonological continuum with local accents in the Southeast, giving the example of the GOAT vowel (disregarding the special allophone before /l/) where the narrow first element of the diphthong in RP [əʊ] can be seen as one end of a phonetic continuum "in which increasingly open first elements correlate with decreasing socio-economic prestige (culminating in 'Cockney' [aʊ])." Nolan (fc: 9) argues that no such phonetic continuum can be found to link RP and northern varieties of English, where, for example in South Yorkshire, the low prestige vowel would be [ʊə], and the more prestigious form [ɔː] "neither of which can be straightforwardly placed on a continuum with the RP form".

Furthermore, Nolan claims that "the majority of RP speakers are in contact with one set of regional varieties, namely those of the London area, and since RP forms a continuum with those varieties, it is not surprising that there should be some parallels betweeen the historical development of RP and that of these other varieties" (fc: 10). In summary then, according to Nolan's conceptualisation, RP and the accents of the south are undergoing similar changes, and this linguistic change is sweeping across all varieties in the region. Non-localisability does not play a role in this scenario, since RP is envisaged as a prestige southeastern-based accent. In his formulation, it is prestige, not non-localisability, which should be regarded as the core of a definition of RP.

Windsor Lewis in this regard makes an interesting point on the recent development of GB (his General British term, see section 3.1). He writes that (1985: 250)

> it has become evident in the last few years that GB has been undergoing kinds of changes that it has not experienced before in several hundred years of its existence. It has begun to develop new streams diverging from the mainstream which are not regionally neutral, though the regions they are associated with are very broad ones.

Windsor Lewis identifies two subvarieties of GB, one, a metropolitan sub-variety, which has taken in certain features of London working class accents, and a non-metropolitan, "regionally-neutral, socially inconspicuous [not U-RP, in Wells' terms]" variety (Windsor Lewis 1985: 251), most typically characterised by BBC broadcasting staff. Windsor Lewis (1985: 250) men-

tions Eustace's survey of the speech of five boys at Eton (Eustace 1967) as an example of a variety of GB influenced by London features.

Alongside these postulated new broadly regional subvarieties of RP/GB, we can place the comment in Gimson (1970: 86),[39] that "some members of the present younger generation reject RP because of its association with the 'Establishment' in the same way". Wells also acknowledges this flux and change in the following quote (1982: 118):

> With the loosening of social stratification and the recent trend for people of working class or lower-middle class origins to set the fashion in many areas of life, it may be that RP is on the way out. By the end of the century everyone growing up in Britain may have some degree of local accent. Or instead, some new non-localizable but more democratic standard may have arisen from the ashes of RP: if so, it seems likely to be based on popular London English.

This leaves us with a complex view of non-localisability. The historical roots of the RP accent are to be found in the Southeast, and, according to several commentators, RP is still participating in linguistic change which is happening in the Southeast (or perhaps the South in general) as it always has done. This may be going so far that regional varieties of RP can be identified (viz Cruttenden's (1994) use of the term 'Regional RP' and the recent coining of the term 'Estuary English') which dilute the dominance of non-localisable accents. If we accept Wells' definition which simply delimits RP as a non-localisable accent, the important criterion for identification of RP must be whether the new features are localisable or not. The quotation above from Wells (1982: 118) suggests that it is possible that a new *non-localisable* standard form based on London English, but different from it, could be the outcome of recent changes. The results of the present study are in part intended to contribute to determining the role of non-localisability in present-day British accents.

## 3.6 RP and social background

In order to look at the question of the 'survival' of a non-localisable variety, we will examine the social background of RP. As Wells has noted (1997a: 13), one approach to defining RP could be to identify a social group whose speech can then be described. Wells chooses to identify RP speakers on the basis of social class: members of the upper and upper middle classes (ibid). In the present study, we use two features of social background to define a social group as the basis for RP: social position and educational background.

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[39] See also Gimson (1989: 86) and Cruttenden (1994: 79).

Much has changed in British society since Daniel Jones wrote of RP speech as the speech of those families whose male members were educated at the 'greater public schools'. As Collins and Mees' biography points out, Daniel Jones' own career at public school at the turn of the century lasted only for a short time (Collins and Mees 1999a: 6-7). Jones spent just two years at Radley College, then a newly-founded Victorian minor public school with spartan conditions and indifferent teaching standards, now a prestigious HMC[40] boarding school charging expensive school fees and achieving excellent academic results. He finished his secondary education at University College School, not then generally regarded as a 'public school' (Collins and Mees 1999a: 10), but now also a high-achieving expensive boys' day school. While Jones wrote later that he had "no recollections of school life that are worth chronicling", Collins and Mees point out that if his time at public school gave him nothing else he later valued, it at least provided him with experience of the public school system, which helped him in his career in the area of judging pronunciation standards (ibid).

This system of Victorian education for boys[41] which provided them with gentlemanly manners and accents has been described in detail by Mugglestone (1995: chapter 6, entitled *Educating Accents*). It arose chiefly during the nineteenth century, when in response to the development of an accent ideology and notions of prescription and 'correct speech' in general (which Mugglestone also describes), the old established public schools began an explicit teaching of a standard and 'proper' English alongside the traditional teaching of Latin and Greek. A thorough education in the proprieties of English grammar and pronunciation thence became part of the curriculum of any school which aspired to the 'public school' label. This development coincided with a general period of reform of the public schools, especially following the Clarendon Commission, an inquiry into the public schools conducted from 1861 to 1864.[42] In the same period, state-funded education began following the Education Act of 1870, which instituted a government-funded system of primary education (Djursaa and Murphy 1993: 44). The private school sector at the same time experienced "a boom in English preparatory schools [private schools preparing students for public school] "(McCrum, Cran, MacNiel 1986: 24).

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[40] Head Masters Conference: the Independent Schools association having the most exclusive boys' and coeducational schools in Britain as its members; see http://www.isis.org.uk

[41] The situation for girls was slightly different; see Mugglestone (1995, chapter 5), on the education of 'Ladylike accents'.

[42] "The Clarendon Commission was appointed in 1861 to inquire into the state of the education provided in the public schools of Winchester, Eton, Westminster, Charterhouse, Harrow, Rugby, Shrewsbury, St Paul's, and Merchant Taylor's" (Mugglestone 1995: 290 fn 100). 'Company' schools (established by trade companies around 1500) historically belong to a slightly different category from other older public schools, but are also considered to be 'public schools' today.

The oldest exclusive public schools (such as Eton, Westminster, Winchester[43]), which had begun several centuries before as charities teaching boys from poorer families, had largely become exclusive institutions catering for pupils from wealthy families only by the end of the eighteenth century. In the Victorian era, in response to the rise of the new prosperous industrial middle class, more schools were founded, such as Radley, Haileybury, Lancing, Marlborough, among many others, aiming at emulating the traditions and standards of the older public schools.[44] These two groups of schools, which were mainly boarding schools, likewise rapidly became associated with social and linguistic homogenisation. Families with the necessary means had greater access to distant boarding schools from all parts of the country through increased communication and access to new modes of transportation. This helped to establish boarding as an important part of public school education (Mugglestone 1995: 270). Thus Mugglestone states that (1995: 271):

> though in previous decades it had been acceptable and even advisable for a gentleman to be educated at home…by the end of the nineteenth century, the dominance of the public school tradition was such that this was the archetypical education for a gentleman, or for those who wished to be numbered amongst such.

Removing boys from their local areas and the influence of local age-mates, and gathering them in a place where linguistic conformity was enforced not only by teachers but also by the boys themselves meant that adapting to the non-localised norms of speech ensured social survival. Failure to conform was punished in several ways, some more brutal than others. Many contemporary comments on the effectiveness of this process survive. Thomas Arnold, the reforming headmaster of Rugby School, emphasised the fact that "at no place or time of life are people so much the slaves of custom as boys at school" (cited in Mugglestone 1995: 280). Places at the public school became increasingly unavailable to those from the 'lower classes', and those few who were given access to such schooling were often made to feel the stigma of their circumstances. The homogenising effects a public school could have upon a pupil were often regarded with delight by those parents who felt the need to give their children the 'right influence', a factor which to some extent remains on parental agendas to this day (although other factors are also coming to be important, see below). In summary then, we can note Mugglestone's (1995: 282) conclusion that in the nineteenth century:

> it was… the homogenization of social environment amongst the pupils at such schools which in itself prepared the ground for the homogenization of accent later associated with them. They reinforced notions of 'proper'

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[43] Winchester College's motto, *Manners makyth man* (the College's foundation charter dates from 1382) long predates this Victorian ideology, but fits admirably into the ethos of the nineteenth century.
[44] This emulation even involved the adoption of school rituals and school slang, features which persist in many very traditional schools to this day.

English through a sense of collective identity in which this too operated as a sign of membership and integration…Conceptions such as these tended to function as a self-perpetuating paradigm, confirming the associations of the 'best' accent and the 'best' education in schools of this order by means of the emphasis given to the social composition (and social sensibilities) of their intake.

How do traditional public schools fare today? Today the term 'public school' is not always officially used, and is often subsumed under the 'independent school' label. But this is slightly misleading, since the 'public school' sector remains an identifiable part of the wider independent sector. The independent sector now covers a wide range of schools, exclusive and selective schools alongside other less selective, less expensive schools. Judging differences of status between schools is a very difficult task. Subjective opinions are of no use in a study such as this, although it is easy enough to elicit personal or caricatured opinions of schools' relative status. For the purposes of this study, I was able to identify two concrete factors which could be used to separate schools into more or less prestigious groups. The first was the schools' membership of the leading Independent Schools associations. The HMC, the Head Masters' Conference, represents the schools which were traditionally regarded as public schools. These include the male boarding schools, some coeducational schools, many of which were formerly male-only, and day schools. The GSA, or Girls' Schools' Association forms a different group representing the exclusively female-intake schools. The second factor I used to determine a school's status was its position (as calculated in 1998) on the Department of Education's School League tables for A level results. Details of these school categorisations are given in chapter 5 section 5.7.2.

The traditional public schools retain some hallmarks of a distinctive culture, parts of it known to the general public through works of fiction or autobiographical accounts of 'school days'. This distinctiveness has been allayed somewhat since the 1960s, when social pressures forced schools to become more 'down to earth'. But as one interviewee remarked, remembering her arrival at boarding school at age 9: "I'd read the Enid Blyton books, I knew what to expect!" Its particular trappings are hierarchy amongst students (made concrete in the prefect and monitor systems), school mottoes and school songs, school traditions, including rituals and language, restrictions on time outside the school for boarders, and uniform regulations. In the interviews I asked the students about how traditional their schools had been, and their comments ranged from "very traditional" to "rather laid back really".

The most traditional schools are probably the oldest and most expensive single-sex boarding schools.[45] The public relations material for such schools, however, usually has an em-

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[45] According to Adonis and Pollard (1996) and ISIS (http://www.isis.org ), some 91,000 pupils, or 15% of the independent school population in Britain are boarders.

phasis on the school's ability to combine the best from its past with modern developments.[46] Fussy traditions, as one speaker suggested, tend not to survive in a mixed-sex and day-pupil environment, so co-education (an option for economic survival which many boys-only schools took in the 1980s) and boarding-plus-day school or day-school status tend to discourage what are seen as outdated school practices. The abolition of 'fagging'[47] in the 1970s (see Sampson 1982: 122) is one example of this.

Asked about the hierarchical structure of their school, most interviewees could report that their school had a prefect system which enforced a particular order of authority within the school. Hierarchical differences between pupils could in the past be quite pronounced within the most traditional schools, but this changed somewhat after the 1960s. Sampson (1982: 121) writes of the late 1960s in Britain as an era, marked not only by university students' revolt (as in other European countries) but also by public schoolboy revolt: "the schoolboys in Britain were often more ferocious, seeing their masters and prefects as hate figures associated with military discipline". Schools today vary in the extent to which hierarchy has been abolished. One of the interviewees in my corpus expressed the difference between her preparatory school and her public school in the following way:

> F6: I went from there to X which is a very very very traditional girl's public school um and there's a very strict, not obviously not codified but very strict sort of system of …you know… who you have to show respect to and who you are above and below in the sort of pecking order of people …and I found it very difficult when I got there because at Y [prep school] there wasn't at all I mean if you were seven and a new person you could go up to a prefect and say whatever you wanted you didn't have to sort of shrink back when someone older than you walked past or I don't think… it was very free and easy everybody was treated as an equal which I found or at least yes I did find it at X certainly my first couple of years wasn't the case

Regulations about uniforms and clothes worn in free hours is another area which schools frequently seek to control. Some schools were more relaxed on clothing requirements:[48]

> AF: what about um, was it a fairly traditional school?
>
> F5: oh yes, yes, but although it wasn't too bad you know we could wear jeans for example in the sixth form, which I know of ..a lot of girls' public schools that was a sort of like a huge thing that wow you know you could wear jeans and you know short skirts and ripped jeans and you know people wore whatever.

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[46] See e.g. Winchester College's prospectus http://www.wincoll.ac.uk/external/docs/prosp/index.htm
[47] Only one speaker had experienced fagging personally, and only in the early years of his secondary schooling.
[48] Note that in the following quote the speaker is referring of course to clothing worn in non-school time: most if not all independent schools in the UK maintain a uniform of some sort, even though for boys' schools it may consist only of a simple suit and plain tie.

Other schools had more restrictive measures in place:

> F6: we had regulations… I mean you could only wear your home clothes on Wednesdays and Saturday, Sunday evenings, the rest of the time it was uniform all the time um oh no Sundays after chapel you could change into home clothes, no Sat-, no sorry…(the) only weekday you could wear home clothes was Wednesday evenings, Saturdays and Sundays it was home clothes sort of all day, on Saturdays and after chapel on Sundays, it had to be a skirt on a Saturday, um, and um, I mean things were very controlled I mean TV-watching only weekends and Wednesdays um, you know yes, so very much, I mean uniform right down to the colour of your hair band

The two following comments show the continuing close relationship in the public school culture between tradition, the prefect and house[49] systems, and other trappings such as school uniform and sporting traditions.

> M9: yeah there was yeah there was the prefect system I mean each house had one head of house who was also a monitor throughout the school there are sort of how many twelve people they wore purple gowns as well which was quite amusing so yeah and within the house there were certain monitors as well you had sort of, a certain amount of authority over the rest of the kids in the house… talking about the traditional thing, the uniform was extraordinary there were winged collars yeah black jackets pin striped trousers.

> F6: I mean traditional in a way that my uniform was the same as my mother's had been and she wasn't at the same school but you know, she was at a different school identical uniform basically forty years, well, thirty years before um you know traditional sports, lacrosse, traditional dormitories.

Many interviewees could also remember their school mottoes, either in Latin or English. Some of those who attended boarding schools could remember special vocabulary:

> AF: was there a lot of vocabulary special vocabulary for the school that people used?

> M12: yeah yeah loads absolutely

> AF: can you remember any ?

> M12: yeah some of it I mean… there are particular words um like um baths were called toshes ah someone going for a tosh um teachers were called beaks um sport and exercise was called ekker, sort of contraction of exercise um there was ah there were loads of them …

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[49] The 'house' system - the division of pupils into different 'houses' (often named after school founders, military heroes or other famous figures) which compete on the sports field and sometimes in other areas such as debating or drama.

AF…this idea of um a school language, can you tell me a bit more about that?

M7: om, just a items like I don't know, what did we have, bikes were bo-gels, fielding practice in cricket was bartering, um, and it the beauty of the language is is it's still evolving but at a smaller degree I remember the small boxes, the internet server boxes, you know the sort of pitch of modern technology are called, they're called scobs, because of small boxes that used to be handed to boys in the fourteenth century to keep all their belongings in and it's just it's it's landmarks, it's shops, it's um archways, it's it's all different you know the things around which life re-volves um were given were given distinctive and individual names probably at all as in if you do shut people in you know two foot stone walls, they are going to invent their own way of saying things and their own I mean it's a language study in itself.

The unspoken idea of which the public school culture is the physical expression can be directly linked to the Victorian idea that an exclusive, isolated milieu will produce students con-forming to the ideals of 'ladies and gentlemen', a topic which Mugglestone (1995) discusses at length. One speaker summed it up in this way:

F6: when I got there we were not allowed into the town full stop, bang, ever… until you got to sixteen and then it was only on Saturdays and then only in groups of you know… two hundred and fifty, exaggeration but you know… very much we were protected, we were nice young la-dies and they didn't want us mixing with, you know, the locals.

Another speaker talked about the contrast between earlier times and now, with the school opening up to the community much more than in the past:

M7: this idea of rebellion… in the 1960s the [school] language used to be about six times the size that it is now because in the sixties this idea that there was the college and the outside world, they tried desperately to shove off all these old archaic terms and become more like the people outside… nowadays, because the school is so much more open, and there's so much more contact with the um there's the big state school up in the town called X and there's lots of friendships between…because there's this sort of more open atmosphere, rebellion tends to be far less sort of against the school but just as you would expect normal teenagers to be but I believe in the sixties and the seventies there was active reac-tion against the ideas that the school propagated.

Nonetheless, schools remain traditional in other ways:

AF: um have you ever done any sort of drama or speech and drama or…

M7: yes, we did there's quite a strong drama section in the school but interesting… I mean it shows how traditional the school is that there we-re very definitely elements within the school teachers, groups of teachers within the school who viewed drama as a kind of dangerous area… that level of tradition um… and, but no I did a lot of drama at school.

Traditional sports such as rugby for boys and lacrosse for girls (mentioned above) also form an important part of a school's ethos. One interviewee described the animosity the school administration had to the popular idea among the boys of introducing football (soccer).

> M8: …like it was it's a big rugby school so I mean you have I mean not that big, I mean given its size it only had like five rugby teams in each year but it was noticeable that they were very much against people playing football even though that was obviously what everyone wanted to play, and I think about five or six years before I got there was the first time they'd actually got a football team together and had officially made it's like a games half that you could do and by the time I left they still only had basically a senior team and a junior team and it was not really given as much attention as was, as it deserved as far as the students were concerned… we were trying to get it going and they did actually strange things like in in like my second last year they created this like student committee where like about ten ten or fifteen people from each year kind of got to represent the student body and football was one of the big motions they were talking about, um and I don't know if it ever achieved anything but I suppose it's something that they actually decided to create it and listen to it even.

How do the public schools see themselves in the 1990s? For many schools, their public face is more visible than it has been in the past. Schools tend to be more integrated with the community in many ways. Official websites[50] are becoming more common, although some very exclusive schools (Eton, for instance) do not have their own official internet home page. Independent schools are now very concerned with academic success: a wide range of academic subject options and 'extra-curricular' facilities, as well as high success rates in national exams are among the advertising plusses for any individual school. Since the 1970s, when the grammar schools were forced to become either comprehensive or independent, the independent schools have become (Sampson 1982: 122):

> the new meritocracy, competing much more systematically for Oxbridge… The best public schools have undoubtedly adapted, realising that they must justify themselves both to politicians, parents and the public. They have become much more competitive with each other, comparing their scholarships and entries into Oxbridge and other universities, and concentrating more than ever on the rigours of A-level examinations which are the keys to university entry…The intensive training for A-levels and university entrance adds to their attractions to parents.

Competition for gifted pupils in the independent sector is fierce: the school league tables of the 1990s resulted in the sacking of a headmaster in an independent school owing to failing standards (Adonis and Pollard 1997: 44), and all schools have an interest in protecting their pub-

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[50] Links to school websites can be found in the school pages of the ISIS website. http://www.isis.org.uk.

lic images. Their outward face (as expressed through the website of their organisation, the Independent Schools Information Service, see footnote 50) emphasises academic achievement:

> UK independent schools achieve the very highest academic standards. Of the 500 schools listed by The Times as achieving the highest GCSE results in 1999, about 380 were independent schools. About 80% of pupils at independent schools (including special schools) gain five or more GCSE passes at grades A-C (compared with a national average of 43%). Eighty per cent of independent school A-level candidates gain three or more passes, compared with a national average of 61%. Nine out of ten post-A-level leavers from independent schools go on to higher education. At the primary level, most prep schools taking part in national curriculum testing report attainment levels well above the national average.
>
> It is sometimes claimed that this academic success is due to selective admissions policies. Some independent schools do admit only children of the highest academic ability; many, however, admit a much wider range of ability. Evidence from the Department for Education and Employment (DfEE Statistical Bulletin no 4/95) suggests that pupils at all levels of ability do better in independent schools. Comparing A-level results from schools of all kinds, it concluded that, at every level of ability, "there was a clear tendency for candidates in independent schools to achieve higher A/AS[51] level scores than those in maintained schools."

Scholarship places notwithstanding, the major factor in deciding entry to such schools is still economic.[52] Fees vary widely, with the most exclusive boarding schools charging over £5000 per term for full boarding. The least expensive day schools tend to charge around £1000 per term. It is an economically-select (middle class and above) clientele which dominates the independent sector.

On the basis of this sociological evidence that the elite school persists, what of the fate of the elite accent? The idea of a 'public school accent' seems to be a fairly well-known one, judging by some of the comments of my interviewees:

> AF:… do you ever remember changing the way you spoke after you went to school
>
> M7: I think it happens entirely involuntarily um, so many times I've rung home and my sister had picked up on something I've said and maybe a phrase I've used or even just the way that I've formed you know just said the word and pointed out quite how you know public school it sounds but when you're living amongst you know boys who are all speaking the same effectively then then it doesn't it doesn't you don't doesn't occur to you but it's sad because I mean in the same way as all dialects in this country are all sort of gradually you know meandering towards a form of London English, the boys at school who who came from Yorkshire (or) whatever were… people did pick up on their accents and joke about them

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[51] Advanced Subsidiary level. This is an exit examination equivalent to the first year of A levels for those pupils not wishing to finish A levels.
[52] The recent (1997) abolition of the 'assisted places' scheme has probably reinforced the economic exclusiveness of independent schools.

you know they all ganged up on them you know because so many of us all came from um the south and all spoke the same way it was you know kind of group mentality I mean not in a nasty way of course but it was noticed and to notice it is as much to say that's not the norm

AF: do you ever yourself remember changing the way you spoke after you went to school?

F6: not, after I left school yes, um because when I came out of [public school] I I played it down basically I my… both my brother and my sister um, it's something you notice more in boys or at least I notice more in boys that they tend to have a more plummy accent or that they're not, less aware of having it… when I came out of school, I had a very very very plummy accent and I I still do but not as much as I used to I've played it down a lot.

AF:…do you think that the way you speak will make a difference as far as future jobs are concerned?

M6: ah, yes, yes, um, quite I mean um I'm reluctant to to pander too much to it by adopting a plummy you know what I perceive to be my X public school voice which my wife has noticed I I switch into when I talk to my mum and at certain other times but um I mean I have done it … I think it will make a difference, I'm not sure quite in what direction.

As we saw above, some students also suggested a standard way of speaking might still make a difference to university selection through interview (see page 38-39). Once College life begins, the exclusiveness of public school circles can persist there as well (the following comment is from a female speaker who attended a GSA (girls' independent) school):

AF: and um what did you think of college life how did you find it

F1: I found it quite difficult to be honest, um it was a very very large college, I don't know if you know X… right… it's a really large college um it only allowed girls sort I think it was in the nineteen eighties so it was one of the later colleges to accept women um so it was fairly male dominated and it was also very public school dominated and I mean public school as dist- as distinct from independent school, as well as of course as distinct from comprehensives um so I found it very overwhelming.

And from a male speaker who had attended a male 'public school':

AF: … how do you like college life now that you've been there two or three years or so?

M5: um well I… college life in general is okay but I there are there's sort of the the drinking society side of it which I'm not too keen on, and the rugby boys you know the sort of singing in the bar making prats of them-

selves so I don't actually tend to associate that much with people in college I tend to go out with other [students in his year] from other colleges

AF: okay right um the people there, the people at college, the sort of the drinking group and all of that, are they sort of ex-public school people too?

M5: ah yeah mostly yes …there's one society where you have to have been to a public school to be a member

Turning now from education, we consider the broader category of class. This is "a term widely used in sociology to differentiate the population on grounds of *economic* considerations, such as inequality in terms of wealth or income" (Bilton et al. 1996: 138; emphasis added). The modern understanding of social class is itself a product of the industrialisation of the eighteenth and nineteenth centuries (Mugglestone 1995: 270). Industrialisation, the depopulation of rural areas and the concentration of workers in urban areas in the nineteenth century made large-scale production possible in a way it never was in earlier times in Britain. Large scale production meant a new group of owners of capital had access to generating wealth, where previously wealth had been in the hands of the aristocracy, the church, and a small group of merchants (or burgesses), some of whom might have 'purchased' a title and an estate (ibid). This newer access to wealth meant the possibility of access to forms of education previously available only to the wealthy, and, as Mugglestone points out, the rise of the Victorian public school was in direct response to a demand for 'gentlemanly' education from the new industrialist class (Mugglestone 1995: 274). The British Empire, due to a need for civil servants and army officers, provided employment for well-spoken public school graduates; in the first half of the twentieth century, the BBC, alongside the civil service, the military, and the Law, preferred to employ such people (on the role of BBC in propagating Received Pronunciation, see the discussion in Mugglestone 1995: 323-328).

At the present time there is no doubt in the minds of most sociologists that social stratification remains a central aspect of British society. Social stratification, defined as "[t]he division of a population into unequal layers or strata based on income, wealth [unearned income or profit], gender, ethnicity, power, status, age, religion or some other characteristic" (Bilton et al. 1996: 138), remains in place, although sociologists also state that certain changes in recent decades have "weakened the traditional social and economic bases on which the conventional model of social class has long stood" (Bilton et al. 1996: 141). Sociological work continues on the construction of socioeconomic indices (for example, the CAMSOC model employed in this study; see chapter 5). While newer factors such as the place of women in the workforce complicate the

process of mapping social class stratification, the work of defining and delimiting class positions continues (see e.g. Rose 1995).

Adonis and Pollard (1997), for example, in an examination of the "myth of classlessness" in British society, state that while the bases of determining social class may have changed, this is not synonymous with the claim that classes have disappeared. Inequalities in access to education (as can be seen in the case of the independent sector as discussed above), jobs, and living standards still exist (see also Sampson 1982: chapters 1 and 7). In their introductory chapter Adonis and Pollard summarise present-day Britain thus (1997: 10) :

> Cultural distinctions remain legion. Accents, houses, cars, schools, sports, food, fashion, drink, smoking, supermarkets, soap operas, holiday destinations, even training shoes: virtually everything in life is graded with subtle or unsubtle class tags attached. "Snobbery is the religion of England," wrote the historian Frank Harris in 1925. There has been no mass apostasy since. And underpinning these distinctions are fundamental differences in upbringing, education and occupations.

The idea that Britain is becoming a classless society is, according to Adonis and Pollard (1997: 14-15):

> a clever ruse to discredit the notion of class divisions without actually denying their existence… The classless society is therefore not a society without classes, but … a meritocratic society providing means for people to advance by ability regardless of class origins.

Adonis and Pollard claim that the professed goal of a meritocratic society obscures the fact that economically-determined segregation into different forms of education is a powerful factor in the ability of talented pupils to achieve. This segregation in Britain begins with the earliest levels of schooling, increasingly, as the ISIS website notes, at nursery level, as schools open creches (from age 1½) which act as feeders for their infant schools. As Adonis and Pollard write (1997: 21):

> Meritocracy in modern Britain is mostly the creed of the elite, not the mass, and it is practised most faithfully in the old public and grammar schools serving a predominantly professional and managerial clientele.

By the time selection for higher education comes around for such independent school pupils, years of social advantage and specialised training have placed them well at the front of the field in the race for good university places. The following figures give some indication of the disparities between the state and private education systems in Britain.

|                                         | State     | Private |
|-----------------------------------------|-----------|---------|
| Number of UK Schools                    | 31,000    | 2,540   |
| Number of pupils                        | 8,883,000 | 610,000 |
| A level classics (% of all candidates)  | 10        | 90      |
| Entry to higher education (%)           | 27        | 88      |
| Oxbridge, % of all entrants, 1994       | 54        | 46      |

(Walden 1996: 43, cited in Adonis and Pollard 1997: 50.)

**Table 1 Figures for state and private schools**

The last set of figures in the table above, which shows Oxbridge entrance rates lying around 50% for either educational sector, seems equitable until we compare this with the actual size of the two populations. Cambridge University's figures for admission show the private and state sectors on par in terms of the percentage of acceptances, but the admission system in 1998 still favoured independent-school pupils, who supplied only 36% of the applications but gained 45% of the places offered. As Adonis and Pollard (1997: 56) state, the trend away from public school dominance of the Oxbridge system which was evident in the 1960s has been fully reversed.

| Type of School     | Applications No. | Applications % | Acceptances No. | Acceptances % |
|--------------------|------------------|----------------|-----------------|---------------|
| Maintained         | 5198             | 48             | 1414            | 46            |
| Independent        | 3853             | 36             | 1390            | 45            |
| Other and Overseas | 1739             | 16             | 300             | 10            |

(From the Cambridge University Website[53])

**Table 2 Cambridge University Admisson Statistics 1998**

Oxbridge education and the schooling which precedes it are still segregating forces in British society. As recently as May 1999,[54] Decca Aitkenhead wrote of the interview system of selection for Oxbridge entrance continuing to favour private school students. She writes that "70 per cent of everyone who gets three grade As will do so at a state school"; three A's at A level is the "standard Oxbridge entrance requirement". She claims that only the interview selection process could explain the disparity between state schools' A level results and Oxbridge entrance.

The blending of class distinctions, the 'classless society' has been a feature of change within the upper and upper-middle classes, the same social groups whose children are enrolled in independent education. Halsey (1995: 64) writes:

> Although…inequalities persist between classes, the internal composition and hence the status assumptions and outlook of the classes have drastically changed. At one end, the old upper class of the landed aristocracy has virtually disappeared, to be replaced by a more varied collection of

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[53] Source: http://www.cam.ac.uk/CambUniv/UGProspectus/Applying/Adstats.html
[54] *Guardian* 24 May 1999.

employers, celebrities from the media and the arts, politicians, administrators and professional people, between whom social connections have loosened, to whom recruitment from white collar and manual origins has greatly increased, and among whom there is less agreement and confidence as to the symbols of social superiority.

One could speculate that this social mixing has also led to less agreement and confidence as to what a superior accent might be. As Windsor Lewis (1985: 255) points out, the "problem [of accent prejudice] is evaporating. The present younger generation are less and less in sympathy with the attitudes that sustained it".

We know very little about the sociolinguistic structure of upper class and upper-middle class communities.[55] But if we accept the evidence of network-based sociolinguistic analyses (e.g. Milroy 1980), then it seems that some distinctive features of speech can probably still be found in public-school circles, given their persistent social exclusiveness, at least during the period of school and university education. Comments by my interviewees on 'sounding public school' also suggest this (see p 54). As generation has succeeded generation, this form of speech has not remained static, as we can see from the well-documented changes in RP in the course of this century (e.g. Wells 1997a). As Wells predicted (1982: 106), the source of the changes largely seems to be London English.

In addition to changing forms of speech over generations, public-school accents face another sociolinguistic hurdle. The 1960s and 1970s saw an increase in the availability of education and training, through reforms in the comprehensive system of secondary education and the expansion of the university sector (the establishment of 'red-brick' universities, for example). These changes gave the possibility of more statusful employment to more of the middle class (see Adonis and Pollard 1997: 19-27). This in turn led to wider and more frequent social contacts between ex-independent and ex-comprehensive-school students. Increasingly, positions of influence were held by people with accents other than RP. More liberal policies in the media also contributed here, as RP's monopoly in broadcasting disappeared.

These sociological data suggest that the 'classless accent' may be similar to the 'classless society', a levelling between upper middle class and middle class accents, with a distinction remaining between this accent and working class accents. To use Ascherson's and Wells' terminology, the 'classless accent' may be 'Cockneyfied', but it is not Cockney. As we have seen, privilege persists, and so we would expect linguistic differences to remain. But the implications of privilege and exclusiveness, perhaps also of conservatism and prejudice, that a socially exclusive accent provoke are no longer always desirable or aspired to. The comments by Crystal and

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[55] See Kroch (1995) for a study of the speech of the upper-class of Philadelphia.

Morrish (see quote at start of chapter 1) suggest that a 'traditional' RP accent can be a distinct disadvantage in some contexts.

In the light of these conflicting pressures and changing prestige, the time has come for renewed empirical investigation and attitudinal evaluation of many linguistic features of modern RP, amongst them t-glottalling. Writers such as Ramsaran (1990a) and Wells (1997a) have suggested that phonetic specification of RP is central to its definition. But if RP is inherently fuzzy, both at the level of 'langue' and at the level of 'parole', where can we go to discover the status of newer changes in RP? This can also lead to circularity: as Ramsaran (1990a: 180) points out, "[i]f one excludes certain non-traditional forms from one's data, how can one discover the ways in which the accent is changing?". The next chapter will follow up on Wells' suggestion (1997a) that a class-based (and, I would add, educational status-based) sociolinguistic investigation is the necessary starting point.

# CHAPTER 4: SOCIOLINGUISTIC THEORY

In chapter 3 we examined several different facets of the named variety RP, including the social class and educational background of this particular accent variety. As we saw above, recent reports of changes in the 'prestige' accent (and indeed in the level of its perceived 'prestige') leave us in some doubt as to the current state and status of RP in the speech community. One way to gain a fuller picture will be to examine the situation empirically. We have decided to use a quantitative sociolinguistic approach, and the present chapter considers its theoretical standpoint.

Quantitative sociolinguistics, as an influential empirical sub-discipline of linguistics, has been the source of many advances in theoretical areas, especially in the area of language change (e.g. Labov 1994).[56] The recent volume *Urban Voices* (Foulkes and Docherty 1999) provides an example of descriptions of regional accents in Britain[57] based on corpora of speech data collected and analysed by sociolinguists. Another edited collection, the *Handbook of Sociolinguistics* (Coulmas 1997) also bears witness to the vitality of the field, not just methodologically, but theoretically as well.

Why exactly would sociolinguistics have something to contribute to a discussion of Received Pronunciation? As we pointed out in the previous chapter, the term RP is ambiguous. It refers to what we have called 'constructed' RP (**c-RP**), a model of pronunciation as codified in pronunciation manuals and dictionaries used for various purposes, whether that be a standardised pronunciation for broadcasting, or a model to be imitated by foreign learners. It also refers to **n-RP**, the native speech of a small but economically affluent social class in Britain (the speech community within which most speakers of n-RP grow up; see Wells 1982: 301). Thus, as Wells (1997a) suggests, we can ensure every so often that c-RP is up-to-date by examining the current status and features of n-RP.

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[56] Much work on RP has always been highly empirically-driven. Daniel Jones' works (see Collins and Mees 1999a) represent the beginnnings of a descriptive tradition which places empirical observation in a central position. The difference in recent times is that technological advances (tape-recorders, computers) have radically increased the amount of data which can be handled systematically. See for example Wells' (1999b) examination of pronunciation preferences, which is based on over 1900 responses to a questionnaire made available over the Internet.

[57] RP is not included among the varieties discussed.

That n-RP continues to exist in the speech community is of course open to speculation. As I will show below, the social situation in Britain certainly leads us to deduce the continuing existence of a group of speakers who represent the upper end of the social scale, those speakers who reflect the modern equivalent of the traditionally-defined RP-speaking group. There is no reason to decide that RP no longer exists just because this socially-defined group no longer speak RP as originally described by Jones and Gimson (a point made in Wells 1994a). Language is constantly in a state of flux and in a process of change, as is the social situation in which the speech community lives. If the social group continues to exist, its own 'way of speaking' will probably persist to the extent that the social group wishes to maintain its separate identity, as suggested by network-based studies of language in the community (e.g. Milroy 1980, Eckert 1989). If this separate identity is no longer felt to be relevant, that is a different matter: we would expect linguistic change to follow.

The idea that there is an increasing degree of linguistic convergence (but not identity) between several socially-defined groups, and an increasing acceptance of non-RP speech in various contexts is probably a more appropriate reading of the current accent situation in Britain than proposals of a new variety called Estuary English (or any of the other names that have been proposed)[58] situated somewhere in the Southeast and somewhere between urban working class speech and RP.[59] As Nolan points out, EE generally attracts negative comment, and this hardly suggests it is a prestige form replacing RP in the social group with which RP is associated. There is also doubt within academic circles as to whether there is a variety EE that can be reliably identified (cf. Haenni 1999, Altendorf 1999a versus Crystal 1995). But as we have seen in the sociological data presented above, the social position of public schools in particular, and indeed of independent schools in general, and their students' access to exclusive post-secondary education is not under threat in any serious way. These schools hold their own well on league tables of A level results and at university entrance. Globalisation, the biggest factor of social change at the national level at the moment (Bilton et al. 1996: 147-148), is providing more privilege to those in position to take advantage of its possibilities. As a result, society becomes increasingly polarised between the 'top-end' of the social ladder and those (the so-called 'underclass') for whom the ladder itself is inaccessible (to use a metaphor in Adonis and Pollard 1997). The traditional barriers of birth have lessened, but only for those already near the top of the ladder, as Adonis and Pollard point out; for them, the comment below (by Prince Edward, in 1996, Adonis and Pollard 1997: 1) may well ring true:

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[58] See Haenni (1999) and Wells (1998).
[59] In a very recent MA thesis from the University of Vienna, Schmid (1999) concludes that "Estuary English is only a new name for a rather ordinary phenomenon. It is a continuation of a trend which had its beginnings when London became the capital city and the centre of political and cultural, and hence linguistic, importance" (1999: 153).

> We are forever being told we have a rigid class structure. That's a load of codswallop. In many cases, there are now more opportunities than ever to do just about whatever you want.

These observations call for closer examination and clarification. In this chapter, therefore, we lay the basis for examining n-RP sociolinguistically, by exploring such notions as 'the linguistic item', 'variation', 'social class', 'prestige' and 'the speech community' within a sociolinguistic paradigm.

Within sociolinguistics — a term that I will use as a convenient shorthand for Labovian quantitative sociolinguistics — the focus is not on a **language variety** but on the **linguistic item** (see Hudson 1996: chapter 2). The quantitative study of speech data begins by observing and quantifying the occurrence of different realisations of a linguistic item called the **linguistic variable**. Typically, sociolinguistic studies have examined variables at the level of phonology. The variable (h), for example, is a cover term for the different pronunciations of syllable-initial /h/ in words such as *happy*, *horse*, *hand*. Either (h) is realised as the variant [h], the standard form, or as the variant [∅], the well-known non-standard form often written as *'appy*. Because this group of h-initial words exhibits two possible pronunciations, (h) is a linguistic variable.

If the occurrence of one or other of the realisations of a variable shows a correlation with the social characteristics of a group of speakers, the linguistic variable is also referred to as a sociolinguistic variable. The non-standard pronunciation of (h) mentioned above, which is the phenomenon known as h-dropping (see section 3.2), is a feature which consistently occurs more frequently in the speech of people from lower-class backgrounds in Britain. The linguistic variable (h) is therefore also a sociolinguistic variable. Examples of other sociolinguistic variables in the literature which occur in British English include TH-fronting (*think* pronounced as [fɪŋk], and so-called 'G-dropping' as in *running* pronounced as [ˈrʌnɪn], amongst others. Several sociolinguistic variables have in fact emerged repeatedly in studies of English around the world, and sociolinguists are presently engaged in examining the different status of local and more widespread English variables (Chambers 1995: section 5.7).

Furthermore, variation in pronunciation (which we have now captured in the notion of a variable) may be widespread and established, or new and emerging in a particular area. In the ongoing and ever-present process of language change, it may or may not become clear to members of the community that certain variant forms of speech are 'typically' used more often by particular groups of people. As we saw in chapter 2, this was the basis of the division of sociolinguistic variables into indicators, markers, and stereotypes (e.g. Trudgill 1986). Syllable-final (t), the subject of the present study, is an example of a sociolinguistic stereotype in Britain. The pronunciation of /t/ in syllable-final position is closely linked to speakers' social class position,

and, in some areas, their age. Moreover, in certain phonetic environments, glottal realisations of /t/ are easily recognised, can be talked about overtly and are sometimes regarded negatively by speakers of British English.

The possibility of mapping and describing the process of language change, and the sociolinguistic forces which drive it, is one result of the shift from the 'variety' to 'variation' which is embodied in the concept of the 'variable'. This can be related to a shift in the philosophical basis of linguistics from structural to sociolinguistic thought, from the science of 'langue' to the science of 'parole', as Labov presented it (1972a: 186). What did this shift consist of, and what are its implications?[60]

Structuralism, the dominant linguistic philosophy of the first part of this century did not of course 'die out' with the Chomskyan generative revolution (a recent statement of structuralist thought is found in Dixon 1997, for example). The idea that deductive (top-down) generalisations about language were possible and valid (perhaps the only valid ones) has persisted throughout structuralist and generative linguistic thought. To take a banal example from the field of syntax, syntactic 'transformations' have been replaced by language 'principles and parameters', but the basic assumption remains the same: that there is a unitary underlying pattern in a single language (or at the level of universal grammar) about which it is possible to make valid generalisations. In the most extreme formulation of structuralism, variation in performance as observed in day-to-day speech was seen as irrelevant noise; another version was that which Sapir acknowledged: "[u]nfortunately, or luckily, no language is tyrannically consistent. All grammars leak." (Sapir 1921: 38; see also Chambers 1995: 12). The famous Saussurean and Chomskyan dichotomies of 'langue' and 'parole', 'competence' and 'performance' were intended to include the first of each of the pairs and exclude the second from theoretical consideration.

This situation changed somewhat during the 1960s.[61] Through technological advances such as portable recording equipment, the speech observed around us 'in the community' became available and gained validity as an object of study, largely through the efforts of William Labov, although a history of sociolinguistic thought would have to acknowledge earlier work as well (see e.g. Chambers 1995: section 1.3). In contrast to the study of 'varieties' which structuralist and generative schools have successfully represented, the newer sociolinguistic field abandoned the 'axiom of categoricity' (Chambers 1995: 25), best known in the Chomskyan formulation that (Chomsky 1965: 3):

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[60] The following paragraphs are based on the discussion in Labov (1972a: chapter 8) and Chambers (1995: section 1.3).

[61] There is an historical connection between social change in the 1960s and the development of socially-aware sociolinguistics (a central example being Labov's studies of Black English Vernacular, Labov 1972b). Labov's internet home page (http://www.ling.upenn.edu/~labov ) contains a paper, "How I got into linguistics, and what I got out of it", which casts some light on his own motivations and preoccupations in the field.

> Linguistic theory is concerned primarily with an ideal speaker-listener, in a completely homogeneous speech-community, who knows its language perfectly and is unaffected by such grammatically irrelevant conditions as memory limitations, distractions, shifts of attention and interest, and errors (random or characteristic) in applying his knowledge of the language in actual performance.

The axiom of categoricity ensured that linguistics was concerned with describing an abstract and categorical system which has a higher unity above the 'disorderly' mass of interactions as they existed in the community around us. This axiom was abandoned[62] with the introduction of the idea of the sociolinguistic variable. This was in a way a revolution in that it enabled researchers to begin to understand the 'disorderly mass' of 'parole' in an orderly manner. As Chambers (1995: 25) writes:

> The variable as a structural unit represents a momentous innovation in linguistics. Hitherto, all linguistic units – phones, phonemes, morphemes, phrases, clauses – had been invariant, discrete, and qualitative. The variable is none of these. Instead, it is variant, continuous, and quantitative.

From this emphasis on *parole*, the data has emerged which has enabled sociolinguistic researchers to work towards theoretical generalisation. Now generalisations about 'langue' are being made in various ways on the basis of interpretations of large corpora of recorded speech data. Notable examples include Labov (1994), which examines the Neo-grammarian model of language change on the basis of data on English vowel changes as observed in North America.

As well as the emphasis on 'parole', quantitative sociolinguistic methodology took as one of its starting points the idea that language is variable in an orderly way, the so-called principle of orderly heterogeneity. Contrasting heterogeneous speech with generative homogeneous idealisation, Weinreich, Labov and Herzog, (1968: 100) write:

> We will argue that the generative model for the description of language as a homogeneous object… is itself needlessly unrealistic and represents

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[62] This 'abandonment of categoricity' does not only apply to sociolinguistics. Other disciplines which are based on a non-categoric view of language include "some areas of psycholinguistics, instrumental phonetics, discourse analysis, dialectometry and the like" (Chambers 1995: 27). Furthermore, Chambers (1995: 32-33) sees links between these disciplines and recent developments in mathematics and other disciplines. In this context, note the title of a conference planned in association with the Language Origins Society meeting in the USA, September 2000 (posted in December 1999 to the Linguist List's Linguistic Anthropology mailing list): "Alternatives to Chomsky: a new paradigm for language studies for a new millenium". The conference advertisement includes the following rather polemical position:

> It has become very clear in recent years that Chomsky's generative calculus model of linguistics has no relevance at all to anything about actual language. It has also become clear that the main generative notion of the innateness of language is based on flimsy, non-existent evidence. Despite this…it still remains true, that to the world at large, Chomsky's theories are somehow considered an important "scientific breakthrough." So, the time has come that [sic] those of us who want to start a new paradigm for language studies … should simply explain why the entire Chomskyan method must be thrown away.

a backward step from structural theories capable of accomodating the facts of orderly heterogeneity. It seems to us quite pointless to construct a theory of change which accepts as its input unnecessarily idealized and counterfactual descriptions of language states. Long before predictive theories of language change can be attempted, it will be necessary to learn to see language— whether from a diachronic *or* a synchronic vantage— as an object possessing orderly heterogeneity.

The facts of heterogeneity have not so far jibed well with the structural approach to language…For the more linguists became impressed with the existence of structure of language, and the more they bolstered this observation with deductive arguments about the functional advantages of structure, the more mysterious became the transition of a language from state to state.

According to this view, the variability observed in pronunciation, in word forms and, sometimes, in syntactic structures[63] can be seen to be following distinct patterns, often linked to factors evident in the speaker's social backgrounds, or features of the speech situation (the context in which the speech data has been collected or observed) and in many cases, although not always, indicative of ongoing linguistic change.

Returning to the present study, we have noted above (chapter 3) that two social factors are relevant to our discussion of RP: exclusive education and social class. While exclusive education is a fairly transparent social factor in the British context, given the existence of the independent sector, social class is a more fuzzy category to deal with. Chambers (1995: 7) gives the following overview of the centrality of social position to sociolinguistics:

> Whenever we speak we reveal not only some personal qualities and a certain sensitivity to the contextual style but also a whole configuration of characteristics that we by and large share with everyone who resembles us socially. Usually without any conscious effort on our part, we embody in our speech, as in our dress, manners, and material possessions, the hallmarks of our social background. Our speech, from this perspective, is emblematic in the same sense as is the car we drive or the way we habitually dress for work but, obviously, our speech is much less manipulable, much harder to control consciously, and for that reason much more revealing. The **social class** to which we belong imposes some norms of behavior on us and reinforces them by the strength of the example of the people with whom we associate most closely. The sub-elements of social class include education, occupation and type of housing, all of which play a role in determining the people with whom we have daily contacts and more permanent relationships.

The overall fuzzy concept of social class has often been framed as differences in occupational status for the purposes of empirical sociolinguistic studies. This follows the sociological tradition of the division of occupations into social classes. The following broad classification

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[63] Syntactic variation is a more problematic area than phonological variation; see Milroy (1987: chapter 7) and Lavandera (1978).

into six social classes is called the Social Class based on Occupation scale (SOC). It is the successor (since 1990) to the governmental Registrar-General's Social Classes classification scale (RGSC), well known from sociolinguistic studies in Britain.

| | |
|---|---|
| I | Professional etc occupations |
| II | Managerial and Technical occupations |
| III N | Skilled occupations, non-manual |
| III M | Skilled occupations, manual |
| IV | Partly-skilled occupations |
| V | Unskilled occupations. |

**Table 3 Social Class based on Occupation**

For the purposes of my own study, however, I wanted to use a more-fine-grained classification of occupations. The social classification used in the present study, the CAMSOC scale, allocates scores to individual occupations, and was thus more useful to me than the six-way division above. It will be discussed in greater detail in chapter 5; see also Appendix 9.

The theme of this thesis is that RP can of course also be seen in this sociolinguistic light. Sociolinguistically-sensitive generalisations can be made on the basis of observations of n-RP (the data), generalisations which will influence the prescribed model c-RP. This matches the sociolinguistic process described above, with the added level of abstraction that c-RP embodies a certain amount of *prescription* (the 'ideal' factor in Wells 1997a), as well as *description*, when it is to be used as a standard model. Sociolinguistics points the way forward: it embodies a conception of how an empirical database is obtained, and how it is analysed. The sociolinguistic interview is at the heart of the methodology, and the point of departure for the analysis is the sociolinguistic variable.

As we can see, this type of analysis does not at all imply that the variety RP disappears from view. On the contrary, from a sociolinguistic perspective, bundles of sociolinguistic variables of different kinds and statuses join together to define distinct or united varieties of language (in this case, British English). The subject of this thesis, the examination of the present status of t-glottalling in the speech of a group defined in social terms, represents just the beginning of a more extensive sociolinguistic enterprise. The status of t-glottalling can be compared with other sociolinguistic variables within the speech community we are interested in examining, in this case, upper middle class and upper class speakers with an exclusive educational background. The mass of variability can be sorted into different variables with different rates of occurrence, the whole showing a speech community which may reveal itself to be either stable or

in flux. As Haenni (1999) suggests, the sociolinguistic 'truth' may be a more or less fluctuating mass of interacting sociolinguistic variables, but it is as near to a 'truth' as we can come in the light of language's constant variation and change.

We can see that Hudson's description of the sociolinguistic enterprise, which expresses the whole basis of sociolinguistics thus (1996: 11): "no two speakers have the same language, because no two speakers have the same experience of language" is the extreme form of this sociolinguistic mentality. On the other hand, as Hudson says, the situation may not be as chaotic as this claim sets it up to be (1996: 12):

> we may be impressed by the amount of agreement that is often found among speakers…It is important to point out that the degree of similarity generally found between speakers goes well beyond what is needed for efficient communication.

The whole point of Hudson's argument is that if linguistics takes the 'variety' as a pre-theoretical concept, and expects to find uniformity or categoricity, the enterprise is certain to meet frustration when it finds variation, as it inevitably will. On the other hand, taking the individual linguistic item as the basic, pre-theoretical idea can lead to surprisingly uniform patterns of agreement among speakers, and on this basis the variety is built up, because the previously confusing variation is now amenable to analysis. As Hudson also points out (1996: 18): "[s]ociolinguists flourish where linguists flounder". Sociolinguistic analysis steps in "wherever there is variability within a community, or fuzzy boundaries within a community, or fuzzy boundaries between communities (or between languages)" (ibid). This description should certainly remind us of the discussion in chapter 3, and the fuzzy boundaries commonly said to be evident around Received Pronunciation.

One other parameter of the study of speech which is crucial to sociolinguistics, and will be important here, is the notion of speech style. An important feature of an individual's linguistic competence is the ability to distinguish between speech situations which require different levels of formality of speech, and to produce the appropriate speech in the particular situation. This ability is acquired from childhood and through adolescence (see Chambers 1995: 151-159). Within Received Pronunciation as well, we have to acknowledge there are systematic style differences which affect linguistic features. As we shall see in chapter 6, there is a significant difference between less formal, spontaneous speech (Interview Style) and more formal speech produced in a situation where speakers concentrates on the form of their speech rather than on its content. The variable use of t-glottalling is sensitive to these style differences.

We turn now to the concept of the 'prestige' of RP. Sociolinguistic theory again has something to contribute here. Hudson (1996: 193-199) discusses the so-called Sex-Prestige pattern which he defines thus (1996: 195):

In any society where males and females have equal access to the standard form, females use standard variants of any stable variable which is socially stratified for both sexes more often than males do.

As Hudson notes (1996: 195), the sex-prestige link is a very complicated one to explain, and may well be the visible result of several different sociolinguistic processes interacting. At least three different models have been put forward to explain the sex-prestige pattern. The one which we will present here is the so-called 'sophistication' model, which seems to be the most relevant one for the purposes of the present study, as Hudson specifically relates it to modern urban communities (1996: 198). Hudson represents the 'sophistication' explanation in terms of two polarised social stereotypes of 'rough' versus 'not rough' or 'sophisticated'. The 'rough' stereotype is epitomised by the image of the working class male, the 'non-rough' by its opposite at the other end of the social scale, the middle class or upper-class female (1996: 198). Thus:

According to this view of society social behaviour should be expected to be polarised between two models defined by the 'rough' working-class male and the 'sophisticated' middle-class (or upper-class) female. Seen in these terms, low-status linguistic forms are 'rough', and high-status, standard, ones are 'sophisticated'; and the tendency for females to use high-status forms is exactly as predicted. Females are attracted to the 'sophisticated', which is also middle-class, and males are attracted to the 'rough', which is also working class. The model for sophisticated usage is defined by women…so we expect women to speak more standardly at all levels of society.

As we shall see in chapter 7, the sociolinguistic status of t-glottalling hinges on whether the speech community we are examining regards t-glottalling as a 'rough' norm, a 'sophisticated' norm, or perhaps, as something in between.

A factor which complicates the picture of prestige given above is that speech variables can (but do not always) change from being 'rough' to 'sophisticated', a change reflected in Wells' comment on t-glottalling: "what started as a vulgarism is becoming respectable" (1994a: 201). T-glottalling is undoubtedly undergoing linguistic change in Britain. The question is, is t-glottalling a prestige innovation or a vernacular change, a change originating in and associated with lower-class speech? For Mees' Cardiff speakers, at least, it is a prestige innovation (Mees 1987, Mees and Collins 1999), being led by young middle-middle class women (Class I, representing professional and managerial occupations). Holmes (1995) presents a discussion of t-glottalling in New Zealand English, which exhibits some features of a vernacular change, as it is avoided in formal speech, but not other features, in that it is not a particularly 'male' speech feature (as the sex-prestige pattern predicts it would be). T-glottalling in New Zealand is being led by young women in both social classes. This suggests it has some features of a prestige variant, as a linguistic form chosen by women tends to become a standard form (see Hudson 1996:

198). These observations will be important for an understanding of t-glottalling in modern RP, as we shall see in chapter 7.

There is one more aspect of sociolinguistic theory which needs to be examined further here. All through the discussion so far we have been assuming that there is something identifiable as the 'speech community'. This is certainly not always the case in theoretical discussions: sociolinguists have formulated many different approaches to the 'speech community' and differ to some degree in the importance they attach to the notion as a whole. Hudson (1996: 24-30) reviews several definitions of the speech community which have been current in the literature, and comes to the somewhat controversial conclusion that (1996: 29) "the search for a 'true' definition of the speech community, or for the 'true' boundaries around some assumed speech community, is just a wild goose chase."

However, as Hudson also points out (1996: 30), this is not the position held by Labov, who clearly regards language as the property of the community, a unit which he earlier described as being defined (1972a: 121):

> …by participation in a set of shared norms; these norms may be observed in overt types of evaluative behaviour, and by the uniformity of abstract patterns of variation which are invariant in respect to particular levels of usage.

Whether language is conceived as the property of the 'community' or of the 'individual', the nature of the generalisations one is able to make within the sociolinguistic school will be similar. Hudson formulates it in these ways (1996: 23-24, 68-69) :

> …discussions of language in relation to society will consist of statements which refer, on the 'language' side, to either individual linguistic items or varieties, which are sets of such items. There are no restrictions on the relations among varieties – they may overlap and one variety may include another. The defining characteristic of each variety is the relevant relation to society – in other words, by whom and when the items concerned are used….It is an empirical question to what extent the traditional notions of 'language', 'dialect' and 'register' are matched by varieties defined in this way.
>
> For each linguistic item some kind of 'social description' is needed, saying roughly who uses it and when: in some cases an item's social description will be unique, whereas in others it may be possible to generalize across a more or less large number of items. The nearest this approach comes to the concept of 'variety' is in these sets of items with similar social descriptions, but their characteristics are rather different from those of varieties like languages and dialects. On the other hand, it is still possible to use terms like 'variety' and 'language' in an informal

way… without intending them to be taken seriously as theoretical con-structs.[64]

On this basis, we might add, it remains an empirical question to what extent a unified, identifiable Received Pronunciation 'variety' can be defined by regularities observed in our data. Or is the pursuit of Received Pronunciation, as Wells (1982: 301) suggests that some would claim, also a wild goose chase?

The only fixed point, it seems to me, from which we can begin to examine this question without the circularity mentioned at the end of the previous chapter, is to examine to what extent there is a group which we can identify in sociological terms. This approach, starting with the social group, is of course exactly the same approach as a study of the speech of Edinburgh, Detroit, Sydney, or any other regionally-defined variety. The only difference is that the relevant criteria are social, not regional. Social class and exclusive education are the point of departure for a sociolinguistic analysis of 'RP'.

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[64] The last statement here represents an extreme version of Hudson's position, one which he also moderates elsewhere (see especially Hudson 1996: chapter 7).

# CHAPTER 5: METHODOLOGY OF THE PRESENT STUDY

The present chapter focusses on the procedures employed to obtain and analyse the speech data and results which form the core of this study. As this is a sociolinguistic project, it aims to follow the methodological conventions which characterise the field. The task of gathering and processing a large data sample requires that one begin with well-formulated hypotheses (see chapter 1).

These ideas dictate in large part where the search for suitable data can begin, and how it should proceed. Hudson (1996) includes a comprehensive description of the by now well-established methodological principles which have been followed by the first generation of sociolinguists.[65] Hudson lists the following 'stages in a sociolinguistic text study' (1996: 150):

1.  selecting speakers, circumstances and linguistic variables;
2.  collecting the texts;
3.  identifying the linguistic variables and their variants in the texts;
4.  processing the figures;
5.  interpreting the results.

As Hudson points out, all of these processes are crucial and they can to some extent reflect back on and influence each other. This often happens through a pilot study, which gives some indication of errors and faults in the first research design, leading to improvements once the main study is to be carried out. The following remarks will largely follow Hudson's five-point schema above, but with some additional discussion of other methodological points.

## 5.1 Selecting a fieldwork site

One of the first decisions that must be made in the course of a sociolinguistic project concerns the choice of a fieldwork site. This issue came to light very early in the project, since it is clear that the nature of the variety I was seeking to examine is rather special from a sociolinguistic point of view. Numerous studies within the Labovian sociolinguistic paradigm have concentrated on urban (middle and working class) speech in various cities and towns, e.g. New York (Labov 1966a); Norwich (Trudgill 1974); Glasgow (Macaulay 1977); Cardiff (Mees 1983); Sydney

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[65]If we regard Labov's studies of Martha's Vineyard and New York City (Labov 1963, 1966a) as seminal, which most commentators do (see e.g. Chambers 1995: 16), nearly forty years have now passed since quantitative sociolinguistics made its breakthrough, aided of course by technological developments such as portable battery-driven tape recorders and, later, computers.

(Horvath 1985); Detroit (Eckert 1989); Milton Keynes (Kerswill and Williams 1994), Derby and Newcastle (Milroy, Milroy and Docherty 1997), and Dublin (Hickey 1999) amongst many others. Received Pronunciation on the other hand is often characterised as being 'non-localisable': not restricted to any one particular locality. This makes the choice of a fieldwork site more difficult, and dependent upon other factors.

The present study focusses on speakers from the upper middle class, as they form the core of mainstream RP (see Wells 1997a: 13). Public school background has historically been seen as part of these speakers' backgrounds (see Jones 1917, Mugglestone 1995: chapter 6; see also section 3.1). Given the close historical association between RP and public schools I wanted to use public school background as one social characteristic of the speakers in my sample. It was necessary to find a way to be able to interview public school or ex-public school students. I decided to avoid trying to interview professional people, as this would involve a good deal of practical arrangement and recording at odd hours in different settings, thus introducing an element of environmental noise which could detract from the quality of the recordings, making auditory analysis more difficult. The same could apply in a school setting, which also has the added complication of fitting interviews into a busy school schedule. The goal therefore was to find a fieldwork location with access to good recording facilities and a sizeable number of ex-public school students. Despite recent efforts at widening the group of students accepted into Oxbridge colleges, ex-public and independent school students still form around 50% of the annual intake.[66]

For this reason, ex-public school university students at either Oxford University or Cambridge University were considered to be a suitable target group. The choice of Cambridge came about mostly because I was in contact with the Department of Linguistics there in 1997. The Department has an excellent Phonetics Laboratory, including a soundproof recording studio. I was able to gain access to the recording facilities for the period of my fieldwork.[67] Having timed the visits at the beginning of the academic year (October) so as to fit in with a period when the Department's own requirements for use of the recording equipment and studio were minimal. An advantage of interviewing at the beginning of the academic term was that the students were not under pressure from assignment or examination deadlines. The age group I had decided to focus on, undergraduate and postgraduate students (young adults) was a group which I found easy to talk to, being a postgraduate student myself. Perhaps more importantly, the students found it easy to talk to me. Furthermore, I was able to 'recruit' speakers without reference to any 'higher authority', such as a College. By appearing as an independent researcher with no ties to formal aspects of college life, and thus with no 'vested interest', the interviewees generally felt free to

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[66] See Table 2 on page 58 for admission statistics for Cambridge University.
[67] I thank Dr. Francis Nolan for the use of departmental recording facilities. For equipment used: see Appendix 16.

speak to me on the topics I asked them about. An additional factor which led to my obtaining free and unconstrained speech was that the majority of the interviewees were contacted through advertising in college common rooms and subsequent e-mail or telephone contact, and so the speakers had individually chosen to participate in the interview. Some speakers were contacted using an interviewee's social network (contacts made afterwards to other speakers via the interviewee), but these were in the minority.

In October 1997 I advertised my project asking for speakers who had been to 'an independent school' (thus implicitly including public school speakers). However, I was dissatisfied with especially the male speakers from the 'Rest of England' area, some of whom had been to selective grammar schools or 'non-public' independent schools and turned out to have localisable non-southern features in their speech. When I returned to Cambridge in October 1998 I decided to modify this slightly, and advertise for speakers who had been to 'a public school in the South of England' leaving it open to individual interpretation whether their 'independent' school also was a 'public school', where the boundary for 'south' lay, and where the student in fact lived. In practice this meant that the male speakers in the sample are concentrated in London and the Home Counties,[68] which enables us to make clear generalisations over this region, while more work remains to be done on male speakers from the approximately 43% of independent secondary schools which are located outside the southeastern area. The Southeast is overrepresented in this sample, providing 75% of the 24 speakers, while only approximately 57% of independent secondary schools are within the southeastern area.[69] (The sample of 46 recorded in Cambridge (see below) also includes 6 speakers who had been to selective grammar schools or comprehensive schools. This reflects the fact that some speakers' backgrounds were not checked in detail before the interview was begun.)

The interviews collected were evenly distributed between Humanities students and those studying other subjects such as Sciences, Music, or Medicine, among others.


## 5.2 Collecting the texts

In general, the questions within the interview protocol were designed to elicit the necessary information to sort the speakers into various groups for the purposes of a multi-faceted sociolinguistic investigation of /t/-glottalling. The interviews followed an interview protocol (see Appendix 2) wherein the interview progressed from initial questions on personal factual data (birth date, family background, educational history), through to more questions about teachers they re-

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[68] The Home Counties: Kent, Surrey, East Sussex, West Sussex, Hampshire, Berkshire, Buckinghamshire, Bedfordshire, Hertfordshire, Essex. See the UK map in Appendix 15.
[69] The school percentages are based on the ISIS database: http://www.isis.org.uk/list/coulis.htm.

membered from school for whatever reason, which college they had chosen at Cambridge and why, their studies and life at Cambridge and plans for the future. These latter questions were designed to elicit longer passages of speech. A third set of questions concerned their knowledge of foreign languages, their 'speech upbringing' such as correction by parents, as well as their experience of public speaking, acting, debating, elocution or other language-related activities. This was followed by questions about attitudes to accent and how accent relates to job prospects. Questions on parental education and occupation were also included, as well as detailed questions on the type of school the students had attended, and their general attitudes towards school. This question-and-answer part of the interview varied in length, according to how willing the speaker was to relax and 'chat' for extended periods of time. The shortest interview segments were around 25 minutes, the longest 50 minutes.

After the question-and-answer section of the interview, the interviewees were asked to read a passage aloud (a section of a chapter of *Room with a View* by E.M. Forster, slightly adapted, see Appendix 3). The tape was stopped after the interview questions were completed, in order to allow the interviewee to read through the passage before 'performing' it. This was a tactic designed to increase the student's awareness that a 'performance' was required. This task was followed by the reading of some short sentences and words (Appendix 5). The 1998 interview followed the protocol of the 1997 interview, with the addition of an extra reading passage (Appendix 4) and some extra sets of words to the word list (Appendix 6). This extra material was not subsequently used in the analysis,[70] but could be used in future studies.

The 1998 interviews concluded with a short discrimination test in which speakers were asked to make judgements between two differing pronunciations of a set of twenty-four short sentences. The sentences differed only in the pronunciation of the single instance of word-final /t/ in the sentence item. The tape containing the sentences was played only once to the interviewees, with short pauses between each pair to enable the researcher to note the response on a schema. The discrimination test is discussed more fully in chapter 6.

## 5.3 Selecting a judgment sample

During two periods of fieldwork (October 1997 and October 1998), I obtained a corpus of 46 interviews. The student speakers recorded in Cambridge were paid a small sum of money for their time and willingness to participate in an interview. One additional interview was conducted

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[70] The word-list data contained too few tokens suitable for t-glottalling analysis, so a comparable 'Word-list' style could not be set up for the purposes of the present study. The second reading passage was included as another possible means of identifying RP speakers, but as it had not been included in the 1997 data, I used the Forster reading passage for the tape material sent to the independent judges.

in Copenhagen with an expatriate British speaker. In total, then, I had 47 interviews from which to draw a sample for the present project. Eight of these interviews were with older speakers,[71] as I had considered taking older speakers into account at an earlier stage in the study. However, it proved much more difficult to obtain a sufficiently large sample of older speakers, and so I decided to disregard these.

From the 39 remaining interviews, I selected a so-called **judgment sample** gathered on the basis of certain criteria. My initial aim was that the sample should be equally divided between male and female speakers, and large enough to enable statistical analysis. I regarded 24 as an ideal sample size balancing practical limitations and statistical requirements of representativeness. The following table shows how the sample of 24 is related to the corpus of 47 interviews.

| | Male | | Female | |
| --- | --- | --- | --- | --- |
| | Indep. | Compr./Gram. | Indep. | Compr./Gram. |
| Not used: | | | | |
| Older speakers (8) | 4 | 0 | 4 | 0 |
| Younger speakers (15) | 7 | 3 | 3 | 2 |
| Used: | | | | |
| Judgment sample (24) | 12 | 0 | 11 | 1 |

**Table 4 Selection of the judgment sample**

I selected a group of 24 speakers who most nearly matched the educational background, social class, and linguistic criteria that I used as a basis for the sociolinguistic investigation of modern RP. The chosen speakers were to have attended public or independent schools. Parental occupation was also an important criterion, as speakers had to come from the upper end of the social scale. In practice, it was difficult to find enough female speakers who fulfilled all of the criteria. The young female speakers (17 in all) I obtained were a more heterogenous group socially and educationally than the male speakers (27 in all). This is perhaps due to the continuing dominance of male schools in the 'public school' sector; one male interviewee said to me "well, girls don't go to public school!" Because of the smaller group of interviews with female speakers, it was necessary to diverge slightly from the criteria to obtain a sample of 12 female speakers.

All twenty-four speakers chosen for the judgment sample were aged between 18 and 30 years (for ages at Interview, see Appendix 1). With respect to educational background, all male speakers and eleven of the girls had attended independent schools. One exception from the 'in-

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[71] These older speakers were also offered payment, but generally refused, saying they had 'enjoyed themselves' and did not want to be paid for their time.

dependent school' rule was included in the sample. Speaker F4, (who matched the social class criterion) attended a comprehensive school (after attending an independent primary school). She was included because her family, although living in the midlands (where the speaker grew up), had a southern public school background (her father had boarded at preparatory and public school from the age of 7). All bar two speakers in the judgment sample had spent all their lives in Britain, one of whom (F8) came to boarding school in Britain at the age of eight (and had attended English-speaking schools overseas). This speaker had British parents, and her parents had worked overseas in a diplomatic capacity. The other speaker (F9) lived in Germany for two years (and attended an English-speaking school) before starting boarding school in Britain aged nine. All bar two had at least one parent born and brought up in Britain. These two (M5, M12) had parents who had lived in Britain for many years, and they had themselves lived in Britain all their lives. All speakers had parents whose occupations placed them at the upper end of the social scale, being professional people: lawyers, accountants, university lecturers, head teachers and so on.

The reliance of sociolinguistics on analyses of social class was emphasised at the end of the previous chapter. In order to provide independent evidence of the social position of these students' backgrounds, I referred to recent sociological research. The model of social classification which is used here has been set up by academic researchers at Cambridge University (see Prandy 1992). The Cambridge Scale, as it is called, is reviewed in Rose (1995), alongside competing social analyses such as the *Goldthorpe model* (John Goldthorpe and his associates are based in Oxford), and the official Governmental system, the *Registrar-General's Social Classes* (RGSC) now named the SCO, *Social Class based on Occupation*. Prandy (1992) describes the Cambridge Scale in these terms:

> The Cambridge Scale is a measure of differential advantage as indicated by the tendency of those enjoying similar life-styles to interact socially on the basis of equality. Like social class schemas it uses occupational groups as the basic units that it deals with, but unlike them it does not posit the existence of larger social groupings to which the occupations then have to be allocated. … the relation of social interaction (simply derived from information on the occupations of respondents' friends or spouses) is used to determine whether or not a social continuum exists and, if it does, what its nature is, in particular whether it includes any large intervals between occupational groups that might suggest the existence of class boundaries. The existence of a finely graded hierarchy, rather than a structure of discrete, homogeneous classes, appears to have been borne out by evidence from the application of the scale.

Using the Cambridge Scale scores, spanning from 0 to 85, all speakers bar one had a parent who scored above 60, the point which Prandy uses to delimit "the highest levels of the scale" (Prandy 1992: paragraph 41).The highest ranking parental occupation was used to determine a

speaker's score. The only speaker who scored below 60 was F9. Her father was an 'officer in the armed forces', which is a *single* category in the Cambridge Scale with a score of 57. Had the Cambridge Scale contained categories for different ranks, the score would probably have been on or above 60 (her father was a Wing Commander in the Royal Air Force). Strictly on the basis of the Cambridge scale, she *was* slightly outside this group, but she matched the educational criterion, having attended an independent girls' school.

While social class and educational criteria were important for the sociolinguistic aspect of the present study, it was not possible to ignore linguistic criteria entirely. I established a phonemic definition of mainstream RP (see section 3.2) which I used as a check on the speakers chosen according to social and educational background.

In addition, in order to provide independent confirmation of my judgments of these speakers as representative of young people's RP speech, I asked three phonetic experts[72] to listen to a sample tape and provide assessments of the localisability of the speech recording. To provide comparable samples of speech, I took the first part of the Forster reading passage, ending at the words "should triumph".[73] This passage was chosen because it would enable the judges to hear a sample of connected speech where they could assess many segmental as well as suprasegmental features, to determine a speaker's localisability.

One listener (IM) heard all 24 speakers in the sample. The other two judges heard eighteen speakers, 15 (marked as #1 etc. in Appendix 8) from the sample of 24 used in the present study, plus 3 which I did not include in the final judgment sample (for details of the independent tape, see Appendix 8). The reading passage was chosen because it was a neutral text which all speakers had read aloud. I preferred this approach to choosing segments from the interview, because a uniform text was the best method to ensure that speakers were being judged on pronunciation alone. On the basis of this reading passage, the judges were able to hear examples of vowel and consonant forms which are now said to be characteristic of younger RP (including the fronted GOOSE vowel (Wells 1997a), TRAP, DRESS (which have more open qualities for younger speakers), l-vocalisation, as well as voice quality.[74]) There was overall general agreement between the judges that it was difficult to place individual speakers in a specific regional category. While there was inter-speaker variation, with some informants showing more conservative RP features, and others showing newer features, the judges agreed that overall, clear regional affiliations were difficult to assign. Four of the twenty-four speakers were identified by some but

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[72] Dr. Inger Mees (who made two separate analyses), Dr. Jack Windsor Lewis and Dr. Beverly Collins. I am very grateful to them all for taking the time to listen to the tape and provide detailed comments.
[73] See Appendix 3 for the text of the reading passage.
[74] The details of current vowel changes in modern RP are outside the scope of the present study, but I hope to carry out future auditory and acoustic research on vowel qualities and vowel changes on the basis of the data in my judgment sample.

not all judges as having minor regionally-specific features. These were M5, M8, F4, F9. The two male speakers were judged to have London features (only M8 is a Londoner). The female speakers were identified as being 'a little northern or northwestern'. F4 has grown up in the Midlands. Her speech was also judged as 'inconspicuous RP' by 2 of the four assessments, so the regional affiliation was not obvious to all judges. F9 has lived mainly in the South West of Britain, but also lived overseas for a few years (attending an English-speaking school). Not all judges made consistent and accurate regional identifications for these four individuals, however, and so for the purposes of the present study the group was deemed overall to be representative of non-localisable speakers. One phonetician (Beverley Collins, personal communication) expressed it this way:

> They are RP speakers because it is not possible to determine their geographical origins with any degree of delicacy – they are clearly middle to upper-middle class rather than lower/working class. Even though their speech has one or two surprising features for the elderly or middle-aged person familiar with what we may term traditional RP… nevertheless overwhelmingly what they produce is a continuation of the "RP tradition".

## 5.4 Identifying the linguistic variable

Labov (1972a: 71) writes of the definition of a linguistic variable: "to define a linguistic variable, we must (a) state the total range of linguistic contexts in which it occurs, [and] (b) define as many phonetic variants as we can reasonably distinguish". In chapter 2 above we discussed the motivation for choosing word-final /Vt/ items as the 'envelope of variation', as it is commonly called. In this section we will look more closely at the phonetic variants found in the texts.

Once the judgement sample of twenty-four tapes had been selected, an auditory analysis of the data was carried out by the researcher. The present study encompasses an analysis of two parts of each speaker's tape. The first part is the interview material, connected speech collected on the basis of the Interview questions listed in Appendix 2. I have chosen to include the whole interview under one stylistic rubric, which I will refer to as 'Interview Style'. As this study does not try to include discourse theory and discoursal structure, it is not relevant to try to separate parts of a longer interview from each other by way of intonational, paralinguistic or indeed linguistic means. This has been done in other sociolinguistic studies (e.g. Møller 1993), but will not be pursued here. The second part is the Reading Passage 1, shown in Appendix 3, which I have called 'Reading Passage Style'. The second reading passage (Appendix 4) and Word lists (Appendices 5 and 6) were not used in the present study.

An auditory analysis was preferred owing to several factors. The fact that I was concentrating on word-final environments, many of which were pre-vocalic or pre-pausal, made it easier to distinguish different types of glottal pronunciations. The pre-consonantal pronunciations were clearly the more difficult ones to distinguish, and the phonetic cues used in the analysis are discussed below.

Acoustic rather than auditory analysis is commonly used in sociolinguistic studies (see e.g. Labov 1994, Docherty and Foulkes 1995, Docherty et al. 1997, Kerswill and Wright 1990) due to the increased availability and lower price of the necessary computer software and fast computers with large memory capacity. However, auditory analysis continues to be used, for example in Kerswill and Williams' study of Milton Keynes (Kerswill and Williams 1994). Vowels are often analysed acoustically (see e.g. Labov 1994) since plotted charts based on formant positions are a well-established acoustic counterpart to auditory analysis using the vowel quadrilateral (e.g. Ladefoged 1972: 198, Labov 1994: 165). Acoustic techniques for investigating laryngeal features are more complicated, since spectrograms alone can be ambiguous, although Docherty and Foulkes (1995) use spectrograms in their analysis of micro-level features of Tyneside and Derby glottalling. Holmes (1995), on the other hand, in a study of glottal stop in New Zealand English, used auditory analysis, writing that "[a]n acoustic analysis…demonstrated that instrumental techniques could not assist in distinguishing such variants" (1995: 460). More intrusive techniques are sometimes employed to study activity at the larynx (Roach 1978, 1979). But such techniques effectively restrict the scope of the study to examining items in isolation or in short texts read aloud, as in a more traditional phonetic type of study, and therefore also restricts the number of items which can be analysed. As my own work in the present study is more concerned with the sociolinguistic character of t-glottalling than with its acoustic 'profile' (see Docherty and Foulkes 1995), I did not consider it feasible to attempt both a sociolinguistic and an acoustic phonetic study at this point, but the latter should certainly be carried out in the future. Docherty and Foulkes (1995) provide an excellent model study.

The choice of auditory analysis was also based on the fact that I was working with consonant pronunciations and not with vowels. Mees (1983) draws out the following distinction between consonantal variables and vowel variables. She writes that (1983: 98-99):

> Variation in the pronunciation of consonants tends to be in terms of clearly distinguishable alternatives…whereas variation in vowels has a more continuous character…The discrete nature of consonantal variables makes it relatively easy to hear the difference between the variants, and inaccurate observations are less likely to occur than is the case with vocalic variables.

These considerations led me to conclude that an auditory analysis would be satisfactory for the present study.

Each tape was first transcribed orthographically in full onto a computer file using a Sony Dictaphone transcriber, model BM89T, and the accompanying headphones. The tape was then listened to again with the same equipment, and each instance of word-final /t/ following a vowel was identified and represented (in a copy of the transcription file called an analysis file) as one of the possible variants for that particular position. The chosen 'envelope of variation' was variation in pronunciation of word-final /t/, immediately preceded by a vowel,[75] and followed by vowel, consonant or pause. Thus each instance of word-final /t/ was coded in the transcribed text with a standardised code. The coding convention was:

$$((t)x\#y)$$

placed immediately after the word token in question, where (t) represents the variable, word-final /t/ preceded by a vowel, *x* represents the phonetic realisation, # represents a word boundary, and *y* represents the following initial consonant or vowel in the next word, or pause (silence). The coding had to be in a standard form as I wanted to use a computer programme to locate all instances of word-final (t) and then sort them into different groups according to variant and following phonetic environment. This procedure ensured human error was not involved in the counting procedure.

The data collected in October 1997 was initially analysed during January/February 1998. The data collected in October 1998 was analysed in the period January to April 1999. At this point the 1997 data was analysed again, as I had gained more experience in listening to word-final /t/. Initial ear-training was done together with my supervisor (Inger Mees), who also later checked and confirmed part of the analysis. In May 1999, all 24 tapes were analysed again. After a pause of several weeks, the 24 tapes were then analysed a third time. All in all, the entire sample was listened to five (or six in the case of the 1997 data) times, once for orthographic transcription, once to check the transcription text, followed by three (or four, for the 1997 data) separate analysis sessions.

## 5.5 Variants of /t/ in the texts

The present analysis focusses on t-glottalling, distinguishing t-glottalling from glottal reinforcement, creak and other variant pronunciations of word-final /t/. The interaction between glottal

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[75] As I was relying on auditory analysis I felt that /Vt/ environments would be the easiest to analyse. I disregarded /lt/ and /nt/ examples, as I felt these might be more difficult to judge auditorily.

replacement and glottal reinforcement is not pursued further here. Wells (1982: 260-261) suggests that in RP, glottal reinforcement and glottal replacement have different sociolinguistic status; this point was also made in Wells' (1969) review of Andrésen (1968). Studies of Newcastle English (Milroy, Milroy and Hartley 1994) have also shown sociolinguistic difference between glottal reinforcement (or glottal masking, as it is in Newcastle) and the newer glottal replacement.

Because previous analyses had referred to the surrounding phonetic environment in defining t-glottalling (e.g. Wells 1982: 260-261), it was deemed necessary from the beginning to sort the instances of word-final /t/ according to their following environment, whether a word-initial Consonant, a word-initial Vowel, or a Pause. For the purposes of the present analysis, the various consonants in the immediate environment following a word-final /t/ were divided into three phonetic groups. The oral and nasal stops were grouped together into the category termed Stops, abbreviated as S. All fricatives formed a second class (F), and /r,l,j,w/ formed a third consonantal class called Liquids and Semivowels (abbreviated as LS). These phonetic categories prove to be highly statistically significant for the description of t-glottalling. Only t-glottalling is represented in the percentage scores used in the results in chapter 6, all other variants counting as part of the 'remainder' for the purposes of calculating scores. For example, a percentage score for t-glottalling before Stops of 60% indicates that all the other phonetic variants comprised 40% of tokens of word final /t/ before a stop.

The following table shows the phonetic variants which were found in the various environments. We begin with the glottalised variants.

| Glottalised variants | |
|---|---|
| Glottal stop (t-glottalling) | ʔ |
| Creak | creak |
| Glottal reinforcement | ʔt˺, ʔtʰ |
| Ejective | t' |

**Table 5 Glottalised Phonetic Variants of /t/**

The primary articulation, complete glottal closure, where the vocal folds come together and cut off the stream of air which produces voicing, is called a glottal stop. As Laver points out, (1994: 206) "since a glottal stop requires complete closure of the vocal folds, it is physiologically impossible to make a voiced glottal stop". Neither can glottal stops have nasal characteristics, because "[s]ince the outflowing pulmonic airstream meets the glottal closure before coming to the velum, there is logically no possibility of the air escaping, while under subglottal compression, through the nasal cavity" (1994: 212). The symbol [ʔ] was used to represent this glottal

occlusion with no audible oral gesture towards the alveolar position for /t/. This means that the usual formant transitions[76] between /t/ and and the preceding vowel were not present. A cessation of voicing in the previous vowel without any accompanying distinctive [t]-onset was interpreted as a glottal stop. This variant could occur across all environments, at varying rates for different speakers, and it is precisely this variant which forms the focus of this study, and its variant distribution will be discussed in detail in chapter 6.

If the glottal closure is not quite complete, a distinct phenomena called creak, vocal fry or glottal fry is produced. Creak, according to Laver (1994: 194-195) "provides a pulsed input of energy to the vocal tract, but the pulses occur at a very low frequency, and are usually somewhat irregularly spaced in time". Catford (1988: 54) describes creak as a "crackling sound". It is "produced by keeping the vocal folds closed along most of their length, but allowing the air to escape in a low frequency series of bursts through a small vibrating segment near the front end of the glottis." Instances of creak were rare, and they were not included with t-glottalling in the present study, even though it could be argued that creak is a weakened version of [ʔ]; cf. Mees (1983) whose glottalisation category covers glottal replacement, glottal reinforcement and creak. As stated in this study, glottalling was the primary focus, and thus all other variants , whether containing a laryngeal gesture or not, were disregarded.

Closure of the vocal folds as for the glottal stop has to be distinguished from the secondary articulation which we call glottal reinforcement. This is defined as (Laver 1994: 330)

> a process where the primary supralaryngeal articulation is accompanied by a secondary stricture at the glottal level. This consists of an articulatory tendency to create a glottal constriction, which normally fails nevertheless to reach the maximum stricture of a full glottal stop.

Glottal reinforcement in English, and specifically in British accents, is associated only with the voiceless or fortis plosives and affricate /p t k tʃ/. Glottal reinforcement is represented here as either [ʔt˺] or [ʔtʰ], depending on whether there was an inaudible or audible release of the /t/ following the glottal release. I distinguished glottally reinforced variants by listening for an abrupt shortening of the preceding vowel before the /t/, as well as a /t/articulation audible at the transition out of the oral stop (for the relative timing of oral and laryngeal closure and release, see Roach 1979). These glottally reinforced stops were easiest to hear before pause and continuant consonants. Before an oral stop consonant in the following word, they were more difficult to hear. It was not possible to distinguish [ʔ] from [ʔt˺] before a homorganic oral plosive,

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[76] Formant transitions are the distinguishing changes in formant frequency which separate bilabial, alveolar and velar articulations from each other. See e.g. Ladefoged (1972: 182), where examples of distinctive bilablial, alveolar and velar transitions are given. The glottal stop removes or masks these distinctive transitions.

that is, before word-initial /t/ and /d/.[77] In examples such as *what time*, where a homorganic word-initial /t/ in *time* follows the word-final /t/ and /d/. Collins and Mees (1999b: 159) describe the articulation of sequences of homorganic fortis stops thus: "[w]here the first of the sequence of homorganic stops is a fortis, this will be subject to glottal reinforcement. Since there is only one hold stage, this can be regarded as glottal replacement." In an example such as *what time*, therefore, where a homorganic word-initial /t/ in *time* follows the word-final /t/ in *what*, the word-final stop was analysed as glottally replaced if a glottal constriction was heard to be followed by a hold for the word-initial [t] in *time*, thus [wɒʔtʰaɪm]. If no glottal constriction was heard before the word-final stop, the sequence was analysed as [wɒt̚tʰaɪm].

Another variant which is related to the glottally-reinforced stops is the ejective stop, an articulation using a glottalic egressive airstream. This means that a complete glottal closure is held while the oral closure is released. The larynx is raised (Laver 1994: 171) while the two constrictions are held. Ejectives resemble glottally reinforced stops in that a glottal constriction is involved, but the relative timing of the two releases (glottal release and oral release) is different, in that, in the case of an ejective stop, the oral release comes first. The ejective stop has a distinctive auditory character; Laver (1994: 171) describes the release of the ejective stop thus: "when the [oral] closure is released the compressed air bursts out in a vigorous explosion". This variant occurred rarely, perhaps at a slightly higher rate for male speakers than female speakers, although probably not at the level of statistical significance. Ejective articulations could also occur with /p, k, tʃ/, suggesting that ejectives may be more closely related to glottal reinforcement than to t-glottalling, but this question is outside the scope of the present analysis.

We turn now to the non-glottalised variants of word-final /t/ in the data. These included released voiceless segments of various kinds, as well as voiced and tapped variants.

| Non-glottalised variants | |
| --- | --- |
| Aspirated | tʰ |
| No audible release | t̚ |
| Affricated release | tˢ |
| Nasal release | tⁿ |
| Voiced, Tapped | ɾ, t̮ |
| Elision | ∅ |

**Table 6 Non-Glottalised Phonetic Variants of /t/**

The aspirated variant, [tʰ], involves release of the plosive accompanied by a puff of air. This variant occurred most frequently as a pre-pausal and pre-vocalic variant, but was occasion-

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[77] Vowel quality of a preceding /æ/ vowel, as in *that* could give a clue, as the vowel was sometimes more open if only a glottal closure followed [aʔ], and more close if the alveolar articulation was anticipated [at], but this was not always the case.

ally found pre-consonantally. The variant with no audible release was identified by a transition to alveolar position, followed by a hold stage, without the aspirated release of the [tʰ] variant. This variant occurred mainly before stops, since the closure for the following consonant masks the release of the preceding alveolar stop. Sometimes the force of the release approached affrication, represented as [tˢ]. Laver describes affrication as a "brief period of audible friction" (1994: 363) at the same point of articulation as the stop, due to a slowing down of the release phase of the stop. This variant occurred only rarely, in the speech of two or three speakers, and not before Stops or Liquid/Semivowels.

The nasally-released [tⁿ] was commonly heard as a variant pronunciation in the phrase *not until* [nɒtⁿn̩tɪl], found in the Reading Passage. Because it occurred in the environment of a syllabic /n̩/, the nasal-released /tⁿ/ was classified as occurring before a Stop (S). The voiced and tapped variants both occurred only pre-vocalically in the word-final environment,[78] The distinction between these two variants was heard to be basically one of length, and as I have an intervocalic tapped articulation natively in my Australian English, I analysed articulations which resembled my own as being tapped, while those articulations which seemed to be have a longer period of voicing were analysed as [t̬]. The latter were more common than the former. Rates of usage of tapped/voiced articulations are not discussed in this study, although a comparison between tapped and voiced articulations in the word-final pre-vocalic environment could be carried out in the future on the basis of the data already analysed.

Elision, represented in the table above as ∅, was also a possible realisation of /t/. It did not occur very commonly, but all speakers did occasionally elide /t/ across a word boundary. The phrase *sort of*, for example, was sometimes pronounced [sɔˑv], with a shortened THOUGHT vowel.[79]

## 5.6 Calculating scores

Following the identification of variants, data from each of the 24 speakers was extracted from the analysis files by a computer programme,[80] sorted and counted. The counted data was then reconverted to a table in Word format, and transferred to an Excel spreadsheet. The spreadsheets arranged each speaker's data according to the phonetic environments and speech styles

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[78] Word-internally, such words as "better"and "pretty" could also occur with a voiced or tapped articulation.
[79] Pointner (1996: 73ff ) includes *sort of* in a list of "London peculiarities", common phrases which occur repeatedly in the interviews which form his corpus. He argues for its status as a single lexeme, and includes it in his analysis as word-internal glottalling. His weakened forms include [səʔə], which occasionally occurred in my data as well.
[80] The necessary programming and processing of the encoded files was carried out by Bernhard Fabricius, whose assistance is gratefully acknowledged.

used in the analysis, and performed various calculations. For example, the data relevant to the Stop category, (t) before any of the oral stop or nasal consonants which could occur word-initially, was summed using an automatic function within the spreadsheet. The quantitative data for a single phonetic environment within a speech style was calculated as the percentage of glottal stops within a total number of instances of (t).

Having obtained percentages for individual speakers across five phonetic environments and two speech styles, the next step was to combine this data with factors related to social background in order to illuminate the sociolinguistic status of t-glottalling.

## 5.7 Factors in the sociolinguistic analysis

In general, the sociolinguistic analysis in the present study involves two separate areas of social background. One cluster of factors was what I have called 'social factors'.[81] These included sex, region of origin and parental background. The other cluster of factors described the speaker's educational history, and are thus called 'educational factors'.

### 5.7.1 Social factors

Unlike many sociolinguistic studies which examine the effect of age or social class differences, the present study is an analysis of a group which is homogeneous regarding age and social class. The average age of the female speakers was 21 years, the males 24 years. The oldest males (2 speakers) were 31 years old, the oldest females (2 speakers) 24 years (see Appendix 1). Parental occupation was used as the basis for the determination of social status (see Appendices 8 and 9).

Sex and region were used as major factors in the analysis here. The speakers were evenly divided between male and female. The regional factor was included post-hoc, and did not form part of the original selection criteria. I divided the informants into groups according to the area in which the speakers had lived for the majority of their lives. Dividing lines were placed between London, the Home Counties, and the rest of England. The male speakers were concentrated in the Southeast, while the female speakers were concentrated in the Home Counties and the rest of England (speakers from the South West, Midlands and north-west are included here). This skewing arose because the male speakers I recorded within the 'rest of England' category (South West, Midlands and North West) generally had near-RP accents with recognisable regional phonemic features, and were therefore not suitable for the present study.[82]

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[81] Cf. Chambers (1995: 7), who lists social class, sex, and age as the major factors playing a role in an individual's speech patterns.
[82] A future study could be carried out comparing these 'rest of England' male speakers with the male speakers within the present study, to determine if their patterns of t-glottalling are similar to or different from the patterns established here (which do not show significant differences between the male and female groups; see chapter 6).

|            | Male | Female | Total |
|------------|------|--------|-------|
| London     | 5    | 2      | 7     |
| Home Counties | 6 | 5      | 11    |
| Rest       | 1    | 5      | 6     |

**Table 7 Numbers of speakers by sex and region**

Owing to this lack of true 'rest of the country' male speakers, the present study cannot contrast that category with the Southeastern male group. Although the female category has a more even distribution of region of origin, the differences in the sample sizes across the regions suggest that better statistical significance can be obtained by examining Region alone, that is by summing the male and female groups across regions.

Once the judgment sample had been assembled, it turned out that other factors in the speaker's background could be investigated. For instance, there was a group of 9 speakers who had a parent born outside the UK. In the case of 2 of the 9, both parents had been born outside the UK. All of these speakers had however lived in the UK all their lives, and their parents had been in the UK for some time before they were born. This was not an entirely independent categorisation, however: all of the speakers with a non-British parent were located within the Southeastern region. In addition, this subgroup comprised 7 male speakers and 2 female speakers, a fact which was not unimportant in the analysis, as we shall see in chapters 6 and 7.

One could argue that such a non-obvious factor as parental origin was probably irrelevant to linguistic usage, given that the speakers themselves had grown up in Britain. However, I felt that for the sake of a thorough analysis of the sociolinguistic data, such factors could well be investigated to determine if significant differences were present.

*5.7.2 Educational factors*

The four educational describe the type of schooling the students have received. The primary and secondary education systems in Britain are complex ones due to several historical factors.[83] The different types of schools have different sources of funding, whether by governmental or independent means. I distinguished firstly between private primary education and local, county-supported primary education. After attendance at early primary school (which may be county-supported and local, or private), some pupils progress to preparatory schools (from around age 7) before attendance at public school from the age of 13 (in some cases from 11). Pupils who continue at local county schools until age 13 do also gain access to public schools, but they are probably in the minority, at least in the case of the most prestigious public schools. Primary

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[83] This is not the place for a complete description of the British schooling system and its history; but see e.g. Sampson (1982), Djursaa and Murphy (1993: chapter 2), for a summary of the different systems.

schools may also be generally independent schools without being preparatory schools. In order to simplify the classification of speakers according to their primary education, I grouped the independent primary schools together with the preparatory schools, and separate from the local primary schools.

Three separate factors then characterise the students' secondary schools histories. These factors are related to the general 'status' of these schools.[84]

The first division was made according to the school's membership of an Independent Schools' association. There are around seven or eight Independent Schools' associations in Britain.[85] The most prestigious one, and the one which is generally taken to separate the 'public' schools from the independent schools, is the HMC, the Headmasters' Conference.[86] All schools on the ISIS Internet database have a rubric indicating a school's association memberships. HMC membership schools include male-only schools; all 12 of the male speakers in the sample had attended HMC schools. In addition, 3 female speakers had attended co-educational schools which were also members of the HMC. The girls' Independent schools generally belong to the GSA, the Girls Schools' Association.[87] A third group consisted of the two students remaining, one of whom attended a comprehensive school, while the other had attended an independent school which had subsequently closed. It was not possible to determine whether the latter school had held membership of one of the two first groups, as it was not included in any database I could locate on the Internet.[88]

Secondly, speakers were divided according to whether their secondary school was a day school or a boarding school. One speaker (F10), who had moved school at the age of 14, was classified according to the day school she attended as a GSCE and A level student.

The third division was made according to the school's position on the 1998 School League tables, as published at the BBC website[89] in August 1998. This classification divided schools into those which were represented within the Top 100 academic schools in England, while the remainder were classified as 'not within the Top 100'.

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[84] Altendorf (1999a) also uses school status to distinguish between three groups of students at London schools: comprehensive, public school costing around £1000 per term, and public school costing around £3000 per term. See chapter 2, page 19

[85] A very comprehensive Internet site with links to other relevant pages can be found at http://www.isis.org.uk, the home page of the Independent Schools Information Service. Details of an individual school's member status has been obtained from the individual school pages in the ISIS database.

[86] A description of the HMC can be found at the website: http://www.isis.org.uk/consult/assocs/hmc.htm. The HMC also has its own website (listed as 'demo pages' and dated 1995) which contains a list of its member schools: http://www.rmplc.co.uk/orgs/hmc/hmcintro.html The following address is also linked to the ISIS homepages http://www.hmc.org.uk , but I was not able to gain access to this site in January 2000.

[87] Information on the GSA is available at http://www.isis.org.uk/consult/assocs/gsa.htm

[88] Following on from information about the school later obtained from the interviewee, I tried to contact the Anglican diocese in which the school had been located, although without success.

[89] http://news.bbc.co.uk/hi/english/statis/education/school_tables_1998/england

League table position is not an uncontroversial means of separating out different schools.[90] The League Tables are produced by the Department of Education in the U.K. They reflect school performance in public examinations at several levels of schooling. The League table positions used here reflect schools' A-level results. High-status schools, especially the 'public schools' which select their pupils through Common Entrance and other entrance examinations, as well as more demanding scholarship examinations, dominate the top of the academically-based League Table.

Having established the social and educational factors, the next step in the analysis was to combine the various phonetic environments, the two speech styles, and the sociological factors in order to test for significance.

## 5.8 Processing the figures

The individual scores for the separate phonetic environments in the two speech styles were then combined with a set of data coding the various sociological factors discussed in the section above to produce a set of matrices which could be analysed by a multi-factor ANOVA analysis. The ANOVA or Analysis of Variance method of statistical analysis was chosen because of the special nature of the data. This can be seen by relating ANOVA to other types of statistical test.

One commonly-used test in sociolinguistic studies[91] is the chi-squared test. This test requires that the data come from independent observations, meaning that each individual in the study is represented by one observation in the data matrix. As each person in my data is represented by five observations, their individual rate of t-glottalling in each of the five separate phonetic environments, the chi-square test was inappropriate here.

Other factors which affected the choice of statistical test included the relative power of different types of test with samples of the size investigated here. The ANOVA test which is used here is a parametric test. Parametric tests are more sensitive to small sample sizes (24 is not a statistically large sample) than non-parametric tests, and so a parametric test was to be preferred. A parametric test such as the ANOVA used here assumes that the data is normally distributed, that is, it displays a bell curve, also called a Gaussian curve (Woods, Fletcher and Hughes 1986: 88). Parametric tests also assume that the amount of variance is the same across the groups being analysed, a condition called the assumption of homogeneity of variance. The data here are generally normally distributed, except in the case of the pre-pausal and pre-vocalic data in Reading

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[90] See e.g. http://news2.thls.bbc.co.uk/hi/english/static/education/school_tables_1998/england/analysis.html, which although it discusses the advantages and disadvantages of different scoring systems for (mainly government-funded) schools, also points out the dominance of the league table by selective schools from well-off areas of the country.
[91] For a discussion of statistics in sociolinguistics, see Milroy (1987: 134ff), Hudson (1996: 153-154), and Woods Fletcher and Hughes (1986).

Passage style. However, computer simulations have shown that obtaining reliable results from an ANOVA is not dependent on meeting these assumptions completely, i.e. the test is robust even when the assumptions are violated moderately by data.

Furthermore, an important advantage of the ANOVA programme is its ability to analyse many between-subject and within-subject factors at once (up to five in each category) and test them for significance simultaneously, a procedure which reduces the number of tests needed and the likelihood of a significant result being obtained by chance. Alongside this advantage, we can see that the parametric test enables an analysis of style-shifting, which is a comparison of phonetic environments and speech styles, as well as social factors. Non-parametric tests are generally not capable of handling more than two factors per analysis. On consideration of all of these factors, the ANOVA was judged to be the most suitable statistical testing method for the present study.

ANOVA matrices were prepared for the Interview Style and Reading Passage Style analyses using Microsoft Excel spreadsheets, which were then copied to Word and saved as text files. These text files could then be processed by the ANOVA programme, CLR ANOVA, produced by Clear Lake Research.[92] The results will be presented in the following chapter.

## 5.9 The discrimination test

Some final comments should be made here on the testing of overt evaluations of t-glottalling which formed part of the interviews in 1998. On the basis of listening to the tapes I had obtained during fieldwork in 1997, I speculated about the supposed stigmatisation which existed around t-glottalling. Wells writes of the increasing use of glottal stops: "[w]hat started as a vulgarism is becoming respectable" (Wells 1994a: 201). T-glottalling occurred very frequently in my corpus in Interview Style, so much so that it seemed possible that the stigma attached to t-glottalling in the past might have weakened in some way for this particular age-group.

My hypothesis was that certain very common (especially unaccented, function) words were very likely to be glottalled, I devised a set of sentences which varied along several parameters. Each sentence was to contain only one instance of /t/, which had to be word-final. The words containing /t/ were to be split between content and function words, and presented in each of the three environments, pre-consonant, pre-pause and pre-vowel. Furthermore, the sentences were to be arranged such that half had primary stress on the relevant syllable, and the other half had non-primary stress on the relevant syllable. This gave 12 possible combinations, and to im-

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[92] I thank Professor R. Jarvella for access to the ANOVA program and assistance in preparing the data for processing and interpreting the results.

prove the statistical base, I devised 12 further sentences using the same criteria as the first 12, giving a total of 24 test sentences. The reader is referred to Appendix 7 for the complete description of the discrimination test.

These stimulus sentences were then ordered randomly and recorded by a professional phonetician. Each sentence was read two times, once with a glottally-replaced pronunciation of /t/, and once with a non-glottalised pronunciation of /t/. The remainder of the sentence was pronounced with an RP accent. The orders of presentation of the two pronunciations, glottal or non-glottal, were counterbalanced, and reversed between two tapes. The finished tapes were judged to represent authentic pronunciation by an independent native British speaker.

A tape was then played at the end of each interview conducted in 1998, and the tape version noted for each speaker.[93] The procedure was explained before each test: the tape could be played only once, and would be stopped after each pair of pronunciations. The interviewees were asked to judge each pair according to which pronunciation they considered to be 'standard, good, correct'. They were also told that they could choose the first or second pronunciation, both, or reply that they didn't know.[94]

These responses were then collated into an ANOVA matrix sorted by subjects. The matrix recorded the rate at which each speakers' response to the sentences was what I called 'liberal', in the sense that the figures represent the percentage of all test sentences within each sentence type where the responses were: the glottal pronunciation (chosen as 'the first' or 'the second'), 'both', or 'don't know'. That is, the 'liberal' response excluded those responses where the non-glottal pronunciation was explicitly chosen. Accent, word class and phonetic environment were used as within-subject variables. The sex of the interviewee was included as a between-subjects variable. The data matrix is presented at the end of Appendix 7. The results of this discrimination test will also be discussed in the following chapter.

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[93] The ordering of the stimuli did not have a significant effect on the results.

[94] Three of the speakers responded 'neither' to in all 7 of the 384 stimuli (16 speakers in all, 24 responses each). 3 of these 7 responses were to sets of sentences with /t/ before Pause. My feeling is that this occurred if the non-glottalised pronunciation was strongly aspirated before the pause, and that the speakers perhaps expected inaudible release rather than aspiration in this position. I do not have an explanation for the other four 'neither' responses, all of which involved pre-consonantal environments.

# CHAPTER 6: RESULTS OF THE ANALYSIS

The hallmark of a quantitative sociolinguistic analysis is its focus on demonstrating relationships between linguistic variation and social categories represented by the speakers. Likewise, this study aims to present statistical material which demonstrates significant links between t-glottalling word-finally and certain features of the social background of the speakers in the present sample.

In the presentation to follow, we will explore the results obtained from the data analysis described in detail in the previous section. First we will consider the Interview results, which represent the more casual of the two speech styles represented in the corpus. For reasons described above in the discussion of the sociolinguistic interview (see section 5.2), Interview Style will be characterised as 'semi-formal', rather than 'casual'. This is because of the circumstances of the interview setting: the material was recorded in a sound-damped room as a one-to-one interview between the researcher and the interviewee, who were meeting for the first time. The Reading Passage results will then be discussed. The speech represented here is more careful than in Interview Style, a feature emphasised by the instructions given for the task (see chapter 5) and interesting contrasts between the two styles will be examined.

The characteristics of the speakers' modes of style-shifting between the two speech styles will also be examined, as this relationship was also tested for statistical significance. Finally, we will explore t-glottalling from the point of view of reception and acceptability by considering the results obtained in the analysis of the discrimination experiment.

## 6.1 T-glottalling in Interview Style

Appendix 13 contains the complete array of data for Interview Style obtained across five phonetic environments for twenty-four speakers. The figures represent analysis of the entire conversational question-and answer section of the taped data. The length of this interview varied between 25 and 50 minutes for individual speakers. The data represents a large number of tokens per speaker, well above the level of 30 tokens mentioned as a statistical threshhold by Guy (1980); see also the discussion in Milroy (1987: 134-135).

The data in Appendix 13 is presented as raw scores and as percentages (see Appendix 12 for an explanation of the codes used). A total of 8768 Interview Style tokens were analysed (cf. 1120 tokens in the reading passage data, Appendix 14), evenly distributed between male and female speakers. The following table shows that on average, the female interviews were shorter and thus contained fewer (t)-tokens than the interviews with male speakers, but not to the degree that the material over- or underrepresents either group.

|  | Male Speakers | Female Speakers |
|---|---|---|
| Mean | 394 | 337 |
| Median | 358 | 312 |
| Standard Deviation | 160 | 146 |
| Minimum | 163 | 136 |
| Maximum | 735 | 579 |
| Range (maximum – minimum) | 572 | 443 |
| Sum | 4728 | 4040 |
| Count | 12 | 12 |

**Table 8 Statistics on instances of the (t) variable, Interview Style**

In order to conduct the statistical analysis using ANOVA, the speakers were grouped according to various social characteristics (explained in chapter 5 and shown in Appendix 10). The different group means were then tested for significant differences using ANOVA. This programme compared a single social variable as a between-subject variable, with five phonetic environments making up a within-subject variable.

Social factors:
1. Sex
2. Region: London versus Home Counties versus Rest of England
3. Parental origins: Parent(s) born outside Britain vs British parents
Educational factors:
4. Primary school education: Prep school/Independent School versus Local school
5. Secondary school education: Day versus Boarding school
6. Secondary school education: School membership (Independent Schools' associations)
7. Secondary school education: School's Academic League position (League Tables 1998)

**Figure 3 Social and Educational factors used in the sociolinguistic analysis**

The speakers were cross-classified in this manner because I wanted to provide a multi-faceted picture of the social characteristics apparent in these speakers' backgrounds. If many of these factors prove not to be significant, it strengthens the claim that the speakers represent a

single linguistic population within the upper middle class, young adult group they represent. Many of the factors listed above placed the speakers into groups of different sizes, a factor which had a bearing on the choice of statistical test. The ANOVA is ideal for the purposes of this analysis, as it can make measurements using groups which do not contain the same number of individuals.

The ANOVA produces a value for $p$ which reveals whether mean values are significantly different. A value of $p$ less than 0.05 indicates significantly different means, in common with social science practice.[95]

The statistical analyses reveal that for many socially-based criteria, the two or more groups of speakers do not in fact differ significantly from each other. The speakers are generally remarkably uniform in their patterns of word-final t-glottalling in many cases. This suggests that they form a single speech community, sharing "abstract patterns of variation" (Labov 1972a: 121), as discussed in chapter 4. However, some significant differences also emerge, and these give us the opportunity to examine the complex and changing status of t-glottalling. We turn now to the sociolinguistic analysis of t-glottalling in Interview Style.

## 6.2 The sociolinguistic status of t-glottalling in Interview Style



**Interview Style: T-glottalling Average all speakers**

| Phonetic Environment | %Stops | %Fricative | %Liquid/Semivowel | %Vowel | %Pause |
|---|---|---|---|---|---|
| All speakers | 72 | 68 | 83 | 40 | 36 |
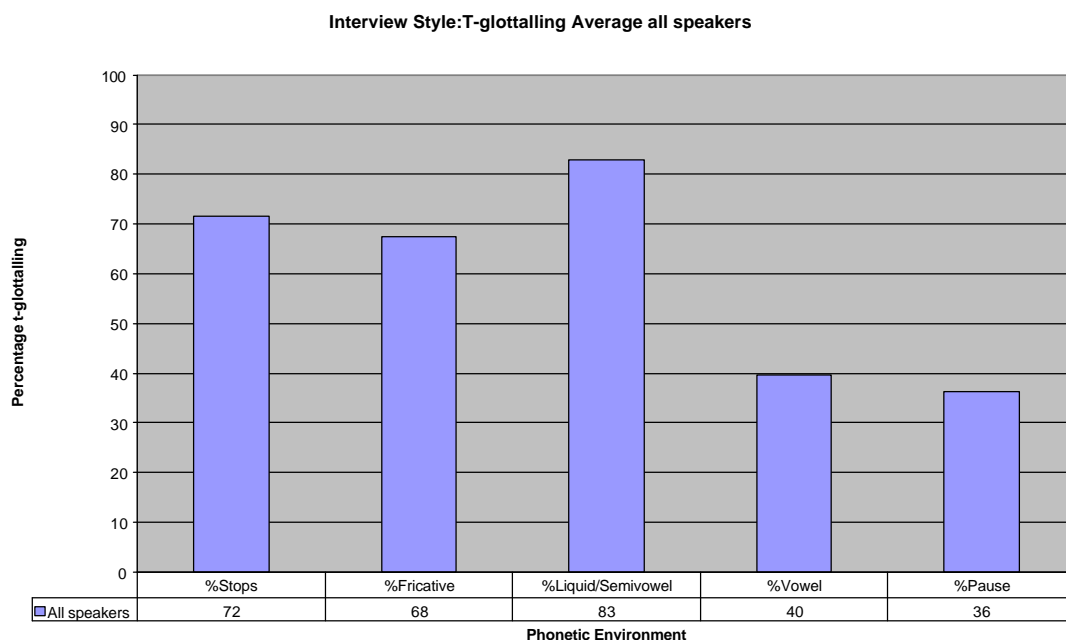
**Figure 4 Interview Style: t-glottalling averages for all 24 speakers**

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[95] Hudson (1996: 153) writes: "Social scientists tend to take 0.05 as a threshhold; a difference with a probability above this figure [$p$ greater than 0.05] needs no further explanantion".

The figure above shows the average scores for all speakers across five phonetic environments. It reveals some important characteristics of t-glottalling which we will see repeated in various ways across the different analyses. Note that there is a clear difference between the averages for pre-consonantal environments and those for pre-pausal and pre-vocalic environments. The former tend to have averages above the 50% mark, while the latter are, on average, below 50%.

Environment is shown to be a highly significant factor in all analyses presented here. The general pattern for the interview data, examined using Newman Keuls tests, is that Stop and Fricative group together in a True Consonant category, and Vowel and Pause do not differ significantly from each other. The Liquid/Semivowel category differs significantly from the Stop/Fricative and Vowel/Pause pairs.

The following table shows that these results apply to all of the different analyses of the interview results. For the majority of the analyses, environments differ from each other at the level of $p<0.01$. For the analyses by primary education (local versus independent primary school) and for school association membership (a measure of the school's status; see chapter 5), the Stop and Liquid/Semivowel environments were significantly different at the $p<0.05$ level.

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1. Results for divisions by:
Sex, Region, parental Origin, Origin within Southeast, Day versus Boarding school, Academic league

|  | Pause | Vowel | Fricative | Stop | Liquid Semivowel |
|---|---|---|---|---|---|
| Pause | x | ns | $p<0.01$ | $p<0.01$ | $p<0.01$ |
| Vowel |  | x | $p<0.01$ | $p<0.01$ | $p<0.01$ |
| Fricative |  |  | x | ns | $p<0.01$ |
| Stop |  |  |  | x | $p<0.01$ |
| Liquid Semivowel |  |  |  |  | x |

---

2. Results for Primary education and School association

|  | Pause | Vowel | Fricative | Stop | Liquid Semivowel |
|---|---|---|---|---|---|
| Pause | x | ns | $p<0.01$ | $p<0.01$ | $p<0.01$ |
| Vowel |  | x | $p<0.01$ | $p<0.01$ | $p<0.01$ |
| Fricative |  |  | x | ns | $p<0.01$ |
| Stop |  |  |  | x | $p<0.05$ |
| Liquid Semivowel |  |  |  |  | x |

**Table 9 Interview Style: Differences between phonetic environments**

These results are robust and independent of social factors used in the analysis. This suggests that the phonetic conditioning of t-glottalling is a powerful factor in its description. Previous descriptions of t-glottalling (see chapter 2) have indicated the importance of the following segment. Here we see the power of this conditioning environment across a word boundary displayed in quantitative terms.

*6.2.1 Interview Style and Sex*

We begin our discussion of the sociolinguistic status of t-glottalling by examining the results for male and female speakers in Interview Style. The results for distribution of t-glottalling by sex is shown below.

**Interview Style: t-glottalling and sex**



| | %Stops | %Fricative | %Liquid/Semivowel | %Vowel | %Pause |
|---|---|---|---|---|---|
| Male | 70 | 68 | 83 | 42 | 41 |
| Female | 73 | 67 | 83 | 37 | 32 |
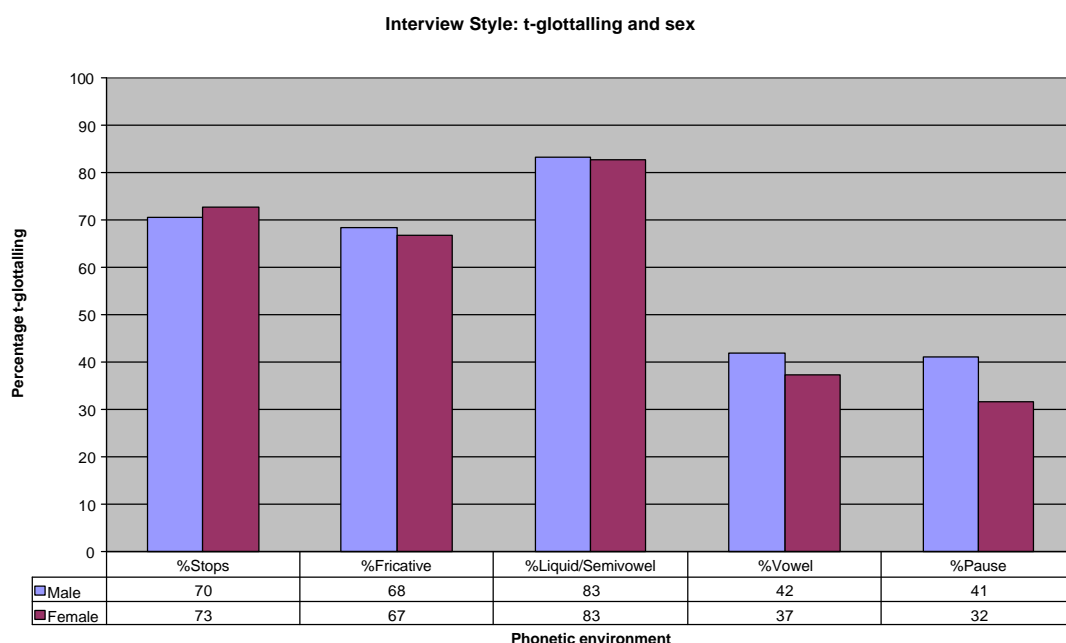
(Males: 12 speakers, Females:12 speakers)

**Figure 5 Interview Style and Sex**

In general the percentage scores for the two groups, male and female, are similar. It should be noted that the data representing pre-consonantal environments here is rather different from the data for the pre-vocalic and pre-pausal environments, in that the spread of the scores is greater for the latter than the former. We can see this by comparing standard deviations (SD) and maximum (Ma) and minimum (Mi) scores, expressed as percentages, for the different groups across sexes and phonetic environments.

| | Stop | | | Fricative | | | Liquid/ Semivowel | | | Vowel | | | Pause | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SD | Ma | Mi | SD | Ma | Mi | SD | Ma | Mi | SD | Ma | Mi | SD | Ma | Mi |
| Male | **11** | 87 | 51 | **12** | 84 | 45 | **8** | 93 | 68 | **27** | 90 | 9 | **21** | 82 | 16 |
| Female | **13** | 86 | 42 | **13** | 85 | 34 | **10** | 91 | 63 | **23** | 79 | 9 | **21** | 68 | 0 |

**Table 10 Interview: Standard deviation, maximum and minimum by sex**

T-glottalling in pre-consonantal environments is well-established, showing a smaller standard deviation and range between maximum and minimum scores, for both the male and female groups. There is greater variation in the pre-vocalic and pre-pausal environments, as shown by a larger standard deviation and a wider range between maximum and minimum scores.

The ANOVA table for analysis by Sex is presented here.

| Factor | Mean Square | MS Error | F | df | $p$ |
|---|---|---|---|---|---|
| Sex | 218.7 | 803.677 | 0.272 | 1, 22 | 0.6071 |
| Means: Male 61%, Female 58% | | | | | |
| Sex × Environment | 124.638 | 165.501 | 0.753 | 4, 88 | 0.5586 |

**Table 11 Interview ANOVA analysis for Sex**

This factor proves not to be significant, either as a main effect, or in interaction with phonetic environment. Male speakers (whose mean value across all environments is 61%) do not use glottal stop for word-final /t/ significantly differently from females (58% across all phonetic environments). This result contrasts with other recent sociolinguistic studies which have shown female speakers leading t–glottalling as a prestigious change, in Cardiff (Mees 1987, Mees and Collins 1999) and Sandwell, in the West Midlands, (Mathisen 1999), as well as in New Zealand (Holmes 1995). In the present analysis by sex alone, it is not evident that one sex is 'leading' the other in production of t-glottalling.

As shown above in Table 9 the phonetic environments in Interview Style are highly significantly different from each other.[96] For the division by sex, all differences between conditions (here, phonetic environments) were significant at the $p<0.01$ level, except the difference between pause and vowel environments, and between fricative and stop environments, which did not differ significantly from each other.

Lastly, the interaction between the between-subject factor (here, sex) and the within-subject factor (environment) was explored further using a test of the simple effects.[97] Simple effects can be explored whether or not the interaction is significant. Observing the significances of the different conditions through simple effects allows us to see overall patterns in more detail. Hence both types of analysis are included here.

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[96] Similar differences also found in the reading passage data (see below).

[97] On the use of simple effects if a significant interaction is not present: Howell (1997: 415): "In general we seldom look at simple effects unless a significant interaction is present. However, this practice must be governed by common sense. It is not difficult to imagine data for which an analysis of simple effects would be warranted even in the face of a nonsignificant interaction, or to imagine studies in which the simple effects are the prime reason for conducting the experiment."

| Simple Effects | F | df | p | Means:[98] | Male | Female |
|---|---|---|---|---|---|---|
| Sex at S | 0.128 | 1,63 | 0.722 | S | 70 | 73 |
| Sex at F | 0.057 | 1,63 | 0.812 | F | 68 | 67 |
| Sex at LS | 0.001 | 1,63 | 0.972 | LS | 83 | 83 |
| Sex at V | 0.446 | 1,63 | 0.507 | V | 42 | 37 |
| Sex at P | 1.185 | 1,63 | 0.183 | P | 41 | 32 |
| | | | | | | |
| Environment for Males | 25.179 | 4,88 | **<0.001** | | | |
| Environment for Females | 36.879 | 4,88 | **<0.001** | | | |

**Table 12 Interview Simple effects: Sex and Environment**

As we saw above in Table 11, sex as a main effect (a between-subject variable compared as a whole across phonetic environments) was not significant. The tests of simple effects showed that while phonetic environment was significant for both sexes separately ($p<0.001$ for both) sex was not significant for any of the five phonetic environments. Thus, in addition to a non-significant main effect, we see a non-significant result at the level of simple effects.

Having seen that no significant male versus female differences could be found in the interview data, we turn now to differences between the speakers according to regional affiliation.

*6.2.2 Interview Style and Region*



**Interview Style: t-glottalling and region**

| | %Stops | %Fricative | %Liquid/Semivowel | %Vowel | %Pause |
|---|---|---|---|---|---|
| London | 73 | 72 | 83 | 55 | 41 |
| Home Counties | 71 | 69 | 84 | 38 | 43 |
| Rest | 71 | 60 | 81 | 25 | 18 |
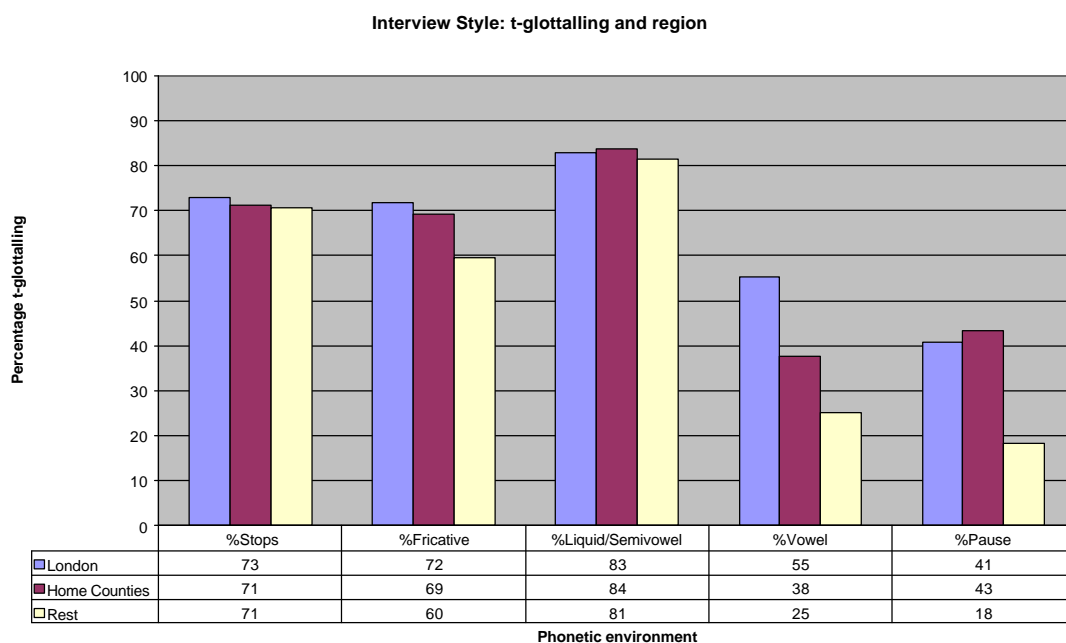
(London: 7 speakers, Home Counties: 11 speakers, Rest: 6 speakers)

**Figure 6 Interview Style and Region**

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[98] In some of the following Simple Effects charts, differences of 1% between the means calculated by the ANOVA programme and the totals in the charts can appear due to the fact that the chart averages are based on the raw scores whereas the ANOVA means are calculated from percentages. Rounding then leads to the difference.

The results for division of the speakers into regional groups can be seen in Figure 6 above. As explained in chapter 5, the regional analysis is based on sorting the speakers into groups according to where they had lived for most of their lives. It is clear from this chart that while the results for pre-consonantal environments are similar, another pattern is evident for the pre-vocalic and pre-pausal environments. The rate of glottal stop for /t/ word-finally is highest in the London area, decreasing towards the Home Counties and rest of England areas. The ANOVA table for this analysis is presented below.

| Factor | Mean Square | MS error | F | df | $p$ |
|---|---|---|---|---|---|
| Region | 1887.566 | 697.71 | 2.705 | 2,21 | 0.0901 |
| Means: | | | | | |
| London 65%[99] | | | | | |
| Home Counties 61% | | | | | |
| Rest 51% | | | | | |
| Region × Environment | 389.623 | 144.46 | 2.697 | 8,84 | **0.0108** |

**Table 13 Interview ANOVA analysis for Region**

The main effect for region here is not significant (means across all environments: London 65%, Home Counties 61%, Rest 51%, $p > 0.05$). This main effect for region was examined further using planned comparisons. This was done in the ANOVA programme so that the regions could be compared in groupings. Separating the London group from the Home Counties group produced no significant main effect (F(1,21) = 2.707, $p = 0.1148$). A comparison of the Rest of England group with London and the Home Counties combined did produce a significant result (F(1,21) = 5.048, $p = 0.0355$). London and the Home Counties are thus significantly different from the rest of England group. Within this Southeast (London and Home Counties) group there are no differences according to sex, as the following table of averages shows.

| | %Stop | %Fricative | %Liquid/ Semivowel | %Vowel | %Pause |
|---|---|---|---|---|---|
| Male SE (11) | 71 | 70 | 84 | 44 | 43 |
| Female SE (7) | 73 | 70 | 82 | 45 | 41 |

**Table 14 Average rates of T-glottalling for Southeast by Sex**

Environment alone was highly significant ($p < 0.0001$). Pairwise comparisons between the phonetic environments (using Newman Keuls' tests) showed an identical pattern to that for

[99] The London average of 65% t-glottalling over all environments matches Altendorf's (1999a) results (p 19).

the distribution by sex. All differences between phonetic environments except Vowel versus Pause and Stop versus Fricative were significant at the $p<0.01$ level.

Furthermore, the interaction between Region and Environment was significant ($p=0.0108$). This result was explored further using Simple Effects. This detailed analysis of the effect of region by phonetic environment shows that $p$ is highly significant ($p<0.01$) for the pre-pausal and pre-vocalic environments, while significance is not reached for any of the pre-consonantal environments. As was the case for the distribution according to sex, the differences between the environments taken alone are highly significant for all three regions ($p<0.0001$), as the table below reveals.

| Simple Effects | F | df | p | Means: | London | H.Counties | Rest |
|---|---|---|---|---|---|---|---|
| Region at S | 0.037 | 2,60 | 0.964 | S | 73 | 71 | 71 |
| Region at F | 1.291 | 2,60 | 0.283 | F | 72 | 69 | 59 |
| Region at LS | 0.038 | 2,60 | 0.963 | LS | 83 | 84 | 82 |
| Region at V | 6.664 | 2,60 | **0.002** | V | 55 | 38 | 25 |
| Region at P | 5.479 | 2,60 | **0.007** | P | 41 | 43 | 19 [100] |
| | | | | | | | |
| Environment at London | 13.449 | 4,84 | **<0.0001** | | | | |
| Environment at H.Counties | 29.628 | 4,84 | **<0.0001** | | | | |
| Environment at Rest o.Eng | 32.226 | 4,84 | **<0.0001** | | | | |

**Table 15 Interview Simple effects: Region and Environment**

If we examine the means (the average value for a group) for each region more closely, we can see that the pattern of variation for the pre-vocalic environment across the regions is slightly different from the pattern for the pre-pausal environment. The results in the pre-vocalic category show a stepwise pattern, decreasing from London through the Home Counties to the rest of England. This pattern does not apply to the pre-pausal environment, where the group average for glottal stop in the Home Counties group is very similar to the value for the London group. Table 16 shows the averages for pre-vocalic and pre-pausal environments across all three regions.

| Environment | London | Home Counties | Rest |
|---|---|---|---|
| V | 55 | 38 | 25 |
| P | 41 | 43 | 19 [101] |

**Table 16 Interview Means for Region, Vowel and Pause**

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[100] Rounding difference, see footnote 98.
[101] Rounding difference, see footnote 98.

Figure 7 arranges the same regional data in a slightly different way. A combination of the Home Counties and 'Rest' data, comparing it with the London data gives the following result.

**Interview Style: t-glottalling and London versus Home Counties plus Rest**

| Phonetic environment | %Stops | %Fricative | %Liquid/Semivowel | %Vowel | %Pause |
|---|---|---|---|---|---|
| London | 73 | 72 | 83 | 55 | 41 |
| Home Counties + Rest | 71 | 66 | 83 | 33 | 34 |
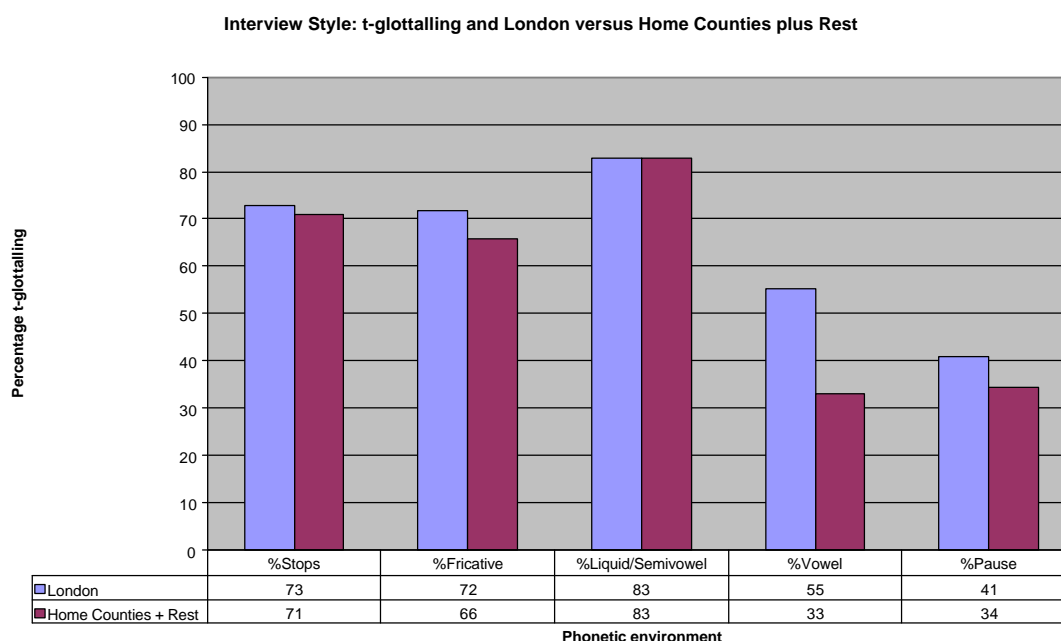
(London: 7 speakers, Elsewhere: 17 speakers)

**Figure 7 Interview Style and Region: London versus elsewhere**

The chart shows a large difference within the pre-vocalic category (55% group score versus 33%), while the average figures for the pre-pausal environment are closer to each other (41% for London versus 34% for elsewhere). Indeed, the difference between the two pre-vocalic results was significant ($F(1,64)=8.721$, $p=0.004$), while the pre-pausal difference was not significant.

In summary then, the speakers from London in this analysis show a higher rate of t-glottalling in the word-final pre-vocalic environment. This is not to say that word-final pre-vocalic t-glottalling is absent from the speech of those outside the London area: it is not, as can be seen from the average rates of word-final pre-vocalic glottalling for the other regional categories. Although it was not tested specifically in this study, the effect of the content versus function word class difference may have a role to play here, in that speakers in the London area may be using t-glottalling more often in content words than the other regions (cf. Appendix 7).

Another analysis was carried out with the London speakers grouped together with the Home Counties speakers in order to see if the Southeast formed a significant unit separate from the 'rest of England'. The 'rest' group here, as we saw in the methodology chapter, comprises 5 female speakers and only one male speaker. This is of course a skewed sample in terms of sex.

Figure 8 shows the regional data distributed between London and the Home Counties (grouped together as Southeast) versus the Rest of England group. As the table shows, scores for pre-consonantal environments remain gathered at points above 50%, while the scores for the pre-vocalic and pre-pausal categories are lower than 50%. In addition, there is a wide gap between the scores for pre-vocalic and pre-pausal environments for the Southeast group and the scores for the 'rest of England' group.



**Interview Style: t-glottalling and Southeast versus elsewhere**

| Phonetic environment | %Stops | %Fricative | %Liquid/Semivowel | %Vowel | %Pause |
|---|---|---|---|---|---|
| Southeast | 72 | 70 | 83 | 44 | 42 |
| Elsewhere | 71 | 60 | 81 | 25 | 18 |
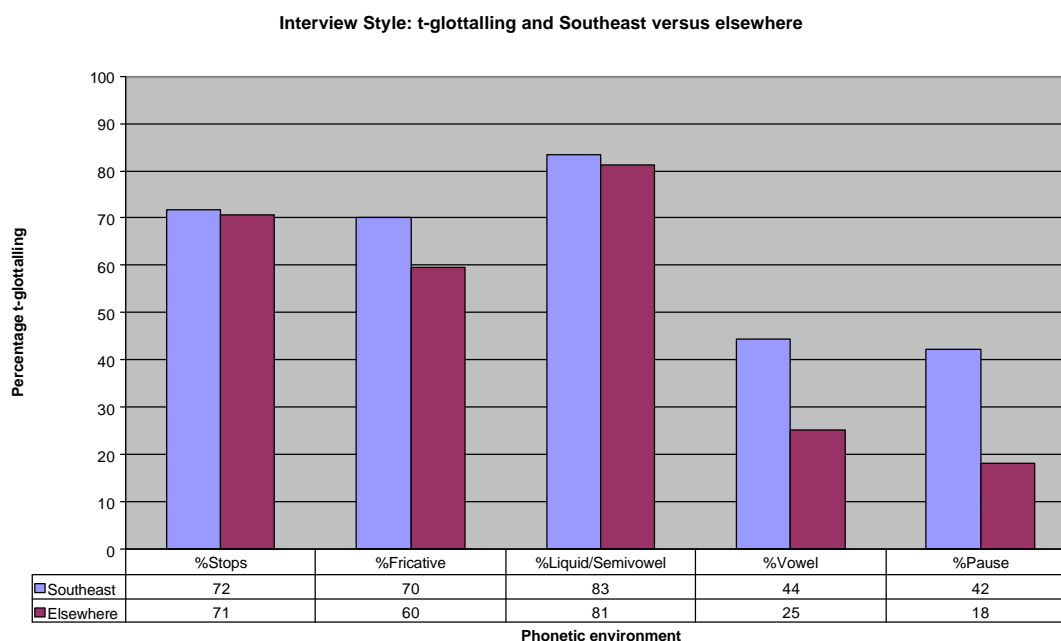
(Southeast: 18 speakers, Elsewhere: 6 speakers)

**Figure 8 Interview Style and Region: Southeast versus elsewhere**

ANOVA analysis revealed significant differences between the Southeast group and the Rest of England group. Region as a between-subjects factor (the overall means SE 63%, Rest 51%) is signficant ($p$ =0.0487). In addition, there is a significant interaction between Region and Environment when the speakers are divided so that London and the Home Counties are grouped together ($p$ =0.0212).

| Factor | Mean Square | MS Error | F | df | $p$ |
|---|---|---|---|---|---|
| Southeast vs elsewhere<br>Means:<br>Southeast 62%<br>Elsewhere 51% | 2958.4 | 679.145 | 4.356 | 1, 22 | **0.0487** |
| Region $\times$ Environment | 457.49 | 150.371 | 3.042 | 4, 88 | **0.0212** |

**Table 17 Interview ANOVA analysis for Southeast versus elsewhere**

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When we examine the Simple Effects for the interaction between phonetic environment and region, divided between Southeast and Rest of England, we find a significant difference between the two groups within both the pre-vocalic ($p = 0.013$) and the pre-pausal environments ($p = 0.002$).

| Simple Effects | F | df | p | Means: | SE | Elsewhere |
|---|---|---|---|---|---|---|
| SE vs elsewhere at S | 0.031 | 1,65 | 0.86 | S | 72 | 71 |
| SE vs elsewhere at F | 2.126 | 1,65 | 0.15 | F | 70 | 59 |
| SE vs elsewhere at LS | 0.066 | 1,65 | 0.797 | LS | 83 | 82 |
| SE vs elsewhere at V | 6.492 | 1,65 | **0.013** | V | 44 | 25 |
| SE vs elsewhere at P | 9.98 | 1,65 | **0.002** | P | 42 | 19 |
| | | | | | | |
| Environment at Southeast | 39.557 | 4,88 | **<0.001** | | | |
| Environment at elsewhere | 30.959 | 4,88 | **<0.001** | | | |

**Table 18 Interview Simple effects: Southeast versus elsewhere and Environment**

The relationships for the different phonetic environments across the different regions can be summarised in Figure 9, which uses separate columns to indicate statistically significant differences. Within the pre-vocalic environment, all groups are significantly different from each other, while in the pre-pausal environment the Home Counties pattern together with London, separate from the rest of England. No significant differences were found between the different regions in the pre-consonantal environments.

| Consonant: | London + Home Counties + Rest | | |
|---|---|---|---|
| Pause: | London + Home Counties | | Rest |
| Vowel: | London | Home Counties | Rest |

**Figure 9 Interview Style: Region and Environment in word-final t-glottalling**

We will return to this pattern in our discussion of the discrimination test results.

*6.2.3 Interview Style and parental Origin*

We turn now to an examination of the role parental origin plays in the scores found for t-glottalling. Although a consideration of 'parental origin' was not part of the planning procedure or selection procedure for the sample (see chapter 5), 9 speakers in the sample of 24 had one parent born outside the UK (6 from Europe, 3 from elsewhere). For two speakers, both parents had been born outside the UK but had moved to Britain before the speakers were born. Both of these

speakers had lived in Britain all their lives. While the speakers with a parent born outside the UK can be considered members of the British English 'speech community' on the basis of their having been resident in Britain all their lives, the fact of their 'mixed' origins was a feature which made them different from the other speakers. Rather than ignoring the 'parental background' factor in the analysis, I decided to include it and examine it further. Figure 10 shows the distribution of glottal stop for word-final /t/ according to parental origin. Note the differences between the two groups in the pre-vocalic and pre-pausal environments.

**Interview Style: t-glottalling and parental origin**



| | %Stops | %Fricative | %Liquid/Semivowel | %Vowel | %Pause |
|---|---|---|---|---|---|
| Parent born overseas | 74 | 69 | 85 | 54 | 49 |
| Parents British | 70 | 67 | 82 | 31 | 29 |

Phonetic environment
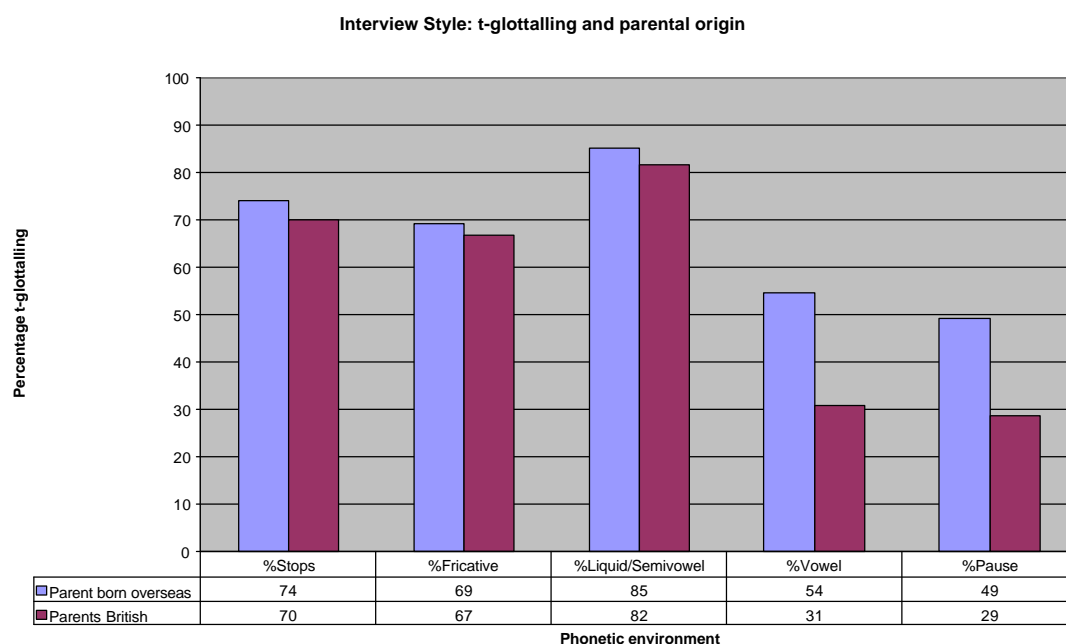
('Mixed background': 9 speakers, British parents: 15 speakers)

**Figure 10 Interview Style and parental Origin**

As the ANOVA table below shows, there is a significant difference between the speakers with a mixed parental background and those with two British parents. The overall means showed a group percentage difference (66% versus 56%) which was significant at the $p<0.05$ level. Again, environment alone was highly significant, as was the interaction between origin and environment ($p=0.0037$).

| Factor | Mean Square | MS Error | F | df | $p$ |
|---|---|---|---|---|---|
| Parental origin | 3285.902 | 664.259 | 4.947 | 1,22 | **0.0367** |
| Means: | | | | | |
| non-British parent 66% | | | | | |
| British parents 56% | | | | | |
| Origin $\times$ Environment | 604.487 | 143.69 | 4.207 | 4,88 | **0.0037** |

**Table 19 Interview ANOVA analysis for parental Origin**

Examination of the Simple Effects of the interaction between origin and environment again reveal significant differences between the Vowel and Pause environments, while the consonantal environments do not show significant differences.

| Simple Effects | F | df | p | Means: | Non-British | British |
|---|---|---|---|---|---|---|
| Origin at S | 0.363 | 1,64 | 0.549 | S | 74 | 70 |
| Origin at F | 0.178 | 1,64 | 0.675 | F | 69 | 67 |
| Origin at LS | 0.217 | 1,64 | 0.643 | LS | 85 | 82 |
| Origin at V | 12.834 | 1,64 | **0.001** | V | 54 | 31 |
| Origin at P | 9.426 | 1,64 | **0.003** | P | 49 | 29 |
| | | | | | | |
| Environment at Non-British | 13.31 | 4,88 | **<0.001** | | | |
| Environment at British | 61.508 | 4,88 | **<0.001** | | | |

**Table 20 Interview Simple effects: parental Origin and Environment**

Those speakers with a mixed background therefore constitute a different group from the 'British background' speakers. As was pointed out in the methodology chapter, however, the speakers who make up the 'non-British' category here are all located regionally within the Southeast (London and the Home Counties). In order to separate the effect for regional location which we saw in section 6.4 above from the effect for parental origin, I conducted another analysis considering only the speakers who were within the Southeast category. This analysis involved 18 of the 24 speakers and is shown in Figure 11 below.



Interview Style: t-glottalling and parental origin within SE only

| | %Stops | %Fricative | %Liquid/Semivowel | %Vowel | %Pause |
|---|---|---|---|---|---|
| non British parent (SE only) | 74 | 69 | 85 | 54 | 49 |
| British parents (SE only) | 70 | 71 | 82 | 34 | 36 |
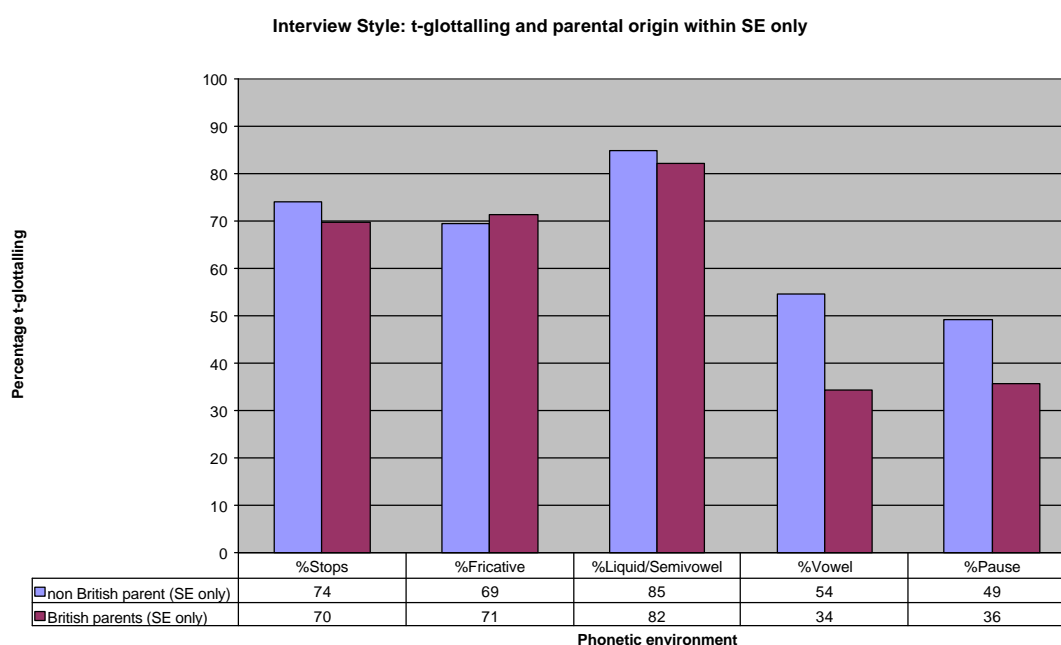
(non-British parent(s): 9, British parents: 9 speakers)

**Figure 11 Interview Style and parental Origin (Southeast only)**

The ANOVA table below shows that this alternative analysis reveals no significant results for origin alone and only a marginally-significant result ($p < 0.09$) for the interaction between origin and phonetic environment.

| Factor | Mean Square | MS Error | F | df | $p$ |
|---|---|---|---|---|---|
| Origin (within SE) | 1361.111 | 642.606 | 2.118 | 1,16 | 0.1649 |
| Means: | | | | | |
| non-British parent 66% | | | | | |
| British parents 59% | | | | | |
| Origin(SE) × Environment | 356.472 | 168.415 | 2.117 | 4,64 | 0.0889 |

**Table 21 Interview ANOVA analysis for parental Origin (SE only)**

Environment remains highly significant ($p < 0.0001$), and again the pattern for comparison across the five phonetic environments is the same as for the distribution by sex.

While the main effect of origin within the Southeast group was not significant, the Simple Effects did reveal a significant difference within the pre-vocalic environment. Here the speakers with a non-British parent display a significantly higher rate of use of glottal stop for word-final /t/ before a Vowel (54%) than do the 'British' speakers (34%) within the Southeastern group ($p = 0.011$). The result for the pre-pausal environment nears significance. Again, the factor of environment was highly significant ($p < 0.001$) for both groups.

| Simple Effects | F | df | $p$ | Means: | non-British | British |
|---|---|---|---|---|---|---|
| Origin SE at S | 0.321 | 1,53 | 0.573 | S | 74 | 70 |
| Origin SE at F | 0.068 | 1,53 | 0.795 | F | 69 | 71 |
| Origin SE at LS | 0.143 | 1,53 | 0.707 | LS | 85 | 82 |
| Origin SE at V | 6.914 | 1,53 | **0.011** | V | 54 | 34 |
| Origin SE at P | 3.141 | 1,53 | 0.082 | P | 49 | 36 |
| | | | | | | |
| Environment for non-British | 11.356 | 4,64 | **<0.001** | | | |
| Environment for British | 26.08 | 4,64 | **<0.001** | | | |

**Table 22 Interview Simple effects: parental Origin (SE only) and Environment**

The speakers who have a non-native parent used pre-vocalic t-glottalling at a significantly higher rate than their counterparts within the southeastern region, who in turn used pre-vocalic t-glottalling at a higher rate than the speakers from outside the Home Counties area.

As a similar result in the pre-vocalic and pre-pausal environments was found in the groupings according to region, as well as in the parental origin analysis, it would be interesting to examine which of the effects is the strongest. However, the present sample is too small to test this

relationship, but this could be an area of future research. Similarly, the sample is too small to test reliably for sex differences within the two parental origin groups.

In summary then, in the interview data analysed according to the 'social factors', we can see some significant differences between different groups, always only within the pre-vocalic and pre-pausal environments. London-based speakers use a higher rate of t-glottalling before Vowels than the other groups. London and Home Counties speakers use a high rate of t-glottalling before Vowel and Pause, significantly higher than that in the rest of England category. In addition, the speakers with a mixed background use a higher rate of glottal stop before Vowels. A Male versus Female difference, however, has not been identified in Interview Style. The pre-consonantal environments are not significantly different across the regional groups, sexes, or according to parental background.

We turn now to considering the effect of educational background upon speakers' rates of t-glottalling. The following discussion will examine educational background in detail, using the four separate factors discussed in chapter 5 (p 87). Primary and secondary education were both considered in this analysis, the latter being tested with three separate factors, making up divisions between more and less prestigious secondary schools.

### 6.2.4 Interview Style and Primary education



**Interview Style: t-glottalling and primary education**

| Phonetic environment | %Stops | %Fricative | %Liquid/Semivowel | %Vowel | %Pause |
|---|---|---|---|---|---|
| Local | 75 | 64 | 87 | 46 | 47 |
| Prep/Independent | 71 | 68 | 82 | 38 | 34 |
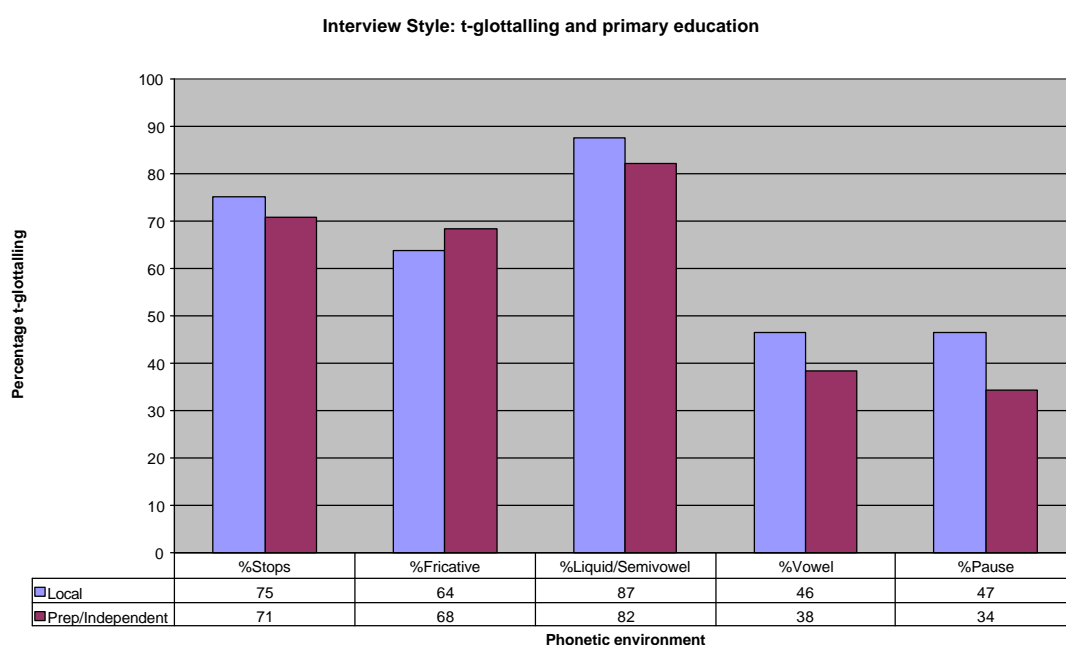
(Local school: 4 speakers, Independent school: 20 speakers)

**Figure 12 Interview Style and Primary education**

The figure above shows the distribution of results of t-glottalling according to primary school education. The ANOVA table below shows that while Environment itself is again significant, Primary school alone is not a significant between-subject variable, nor is there a significant interaction between Primary school education and environment.

| Factor | Mean Square | MS Error | F | df | *p* |
|---|---|---|---|---|---|
| Primary School | 443.76 | 793.447 | 0.559 | 1,22 | 0.4625 |
| Means: | | | | | |
| Local Primary school 64% | | | | | |
| Independent primary School 59% | | | | | |
| Primary School × Environment | 123.873 | 165.536 | 0.748 | 4,88 | 0.5617 |

**Table 23 Interview ANOVA analysis for Primary education**

The Newman Keuls test result for environment differs slightly from the other Pairwise comparisons we have seen hitherto. This difference lies only in the fact that the distinction between the Stop and Liquid/Semivowel environments is significant at <0.05, rather than <0.01 as in earlier analyses presented here (see also Table 9 p 95).

Despite the visual trend which suggests that students who had attended local primary schools might be using t-glottalling at higher rates than those who had attended private schools, none of the environments examined singly in the Simple Effects analysis showed a significant difference for primary school education. Environment remained a significant factor across both groups ($p<0.001$).

| Simple Effects | F | df | p | Means: | Local | Prep/Ind |
|---|---|---|---|---|---|---|
| Primary at S | 0.232 | 1,63 | 0.632 | S | 75 | 71 |
| Primary at F | 0.212 | 1,63 | 0.647 | F | 64 | 68 |
| Primary at LS | 0.304 | 1,63 | 0.584 | LS | 87 | 82 |
| Primary at V | 0.789 | 1,63 | 0.378 | V | 47 [102] | 38 |
| Primary at P | 1.69 | 1,63 | 0.198 | P | 47 | 34 |
| | | | | | | |
| Environment at Local | 7.73 | 4,88 | **<0.001** | | | |
| Environment at Prep/Ind | 54.311 | 4,88 | **<0.001** | | | |

**Table 24 Interview Simple effects: Primary education and Environment**

In summary then, no significant differences in t-glottalling usage can be found between speakers whose primary education was at a local primary school and those who attended a preparatory or independent school for the latter part of their primary school education.

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[102]Rounding difference of 1% (see footnote 98).

*6.2.5 Interview Style and Day versus Boarding school*

Interview Style: t-glottalling and day versus boarding school



| | % Stops | %Fricative | %Liquid/Semivowel | %Vowel | %Pause |
|---|---|---|---|---|---|
| Day school | 70 | 65 | 81 | 36 | 30 |
| Boarding school | 72 | 69 | 84 | 42 | 40 |

Phonetic environment
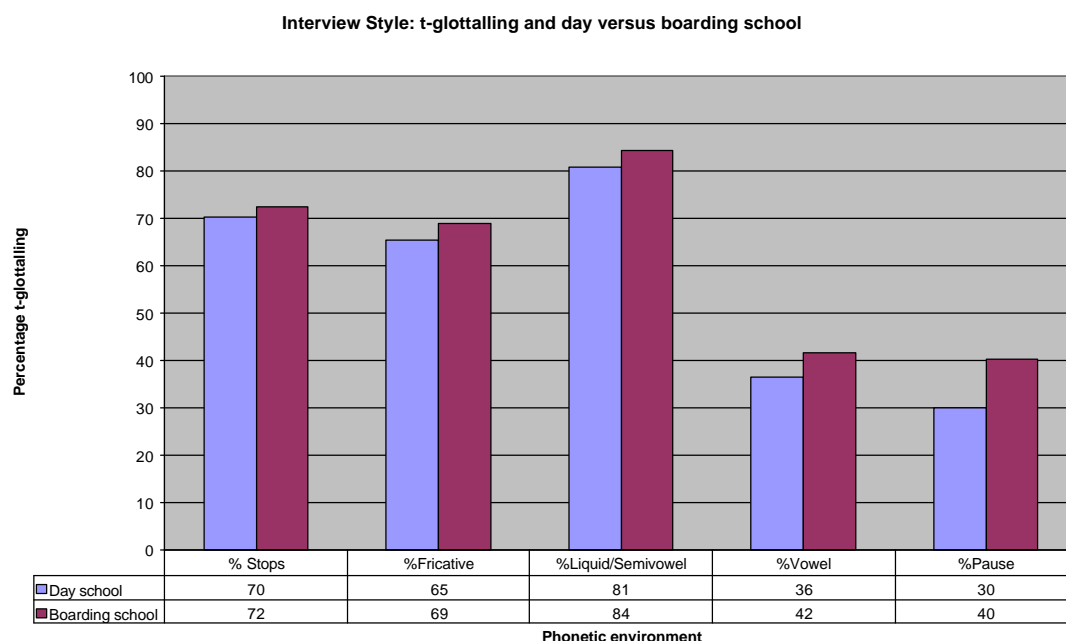
(Day school: 9 speakers, Boarding school: 15 speakers)

**Figure 13 Interview Style and Day versus Boarding school**

The second factor examined within the 'educational' category was that of the type of school attended, whether a boarding or a day school. This division investigates the differences between schools whose intake is somewhat restricted by practical travelling distance (day schools) and schools which are more likely to accept students from a wider regional and perhaps also international base (boarding schools). The underlying assumption is that boarding schools are more likely to foster contact between pupils with varying accent backgrounds, thus contributing to a 'melting pot effect' (a tendency to non-localisability) which may or may not affect certain speech variables, including t-glottalling.

As the ANOVA table below shows, there is in fact no significant effect of the type of school the speakers attended and usage of glottal stop for word-final /t/. The day versus boarding school factor is not significant alone, nor is the interaction between the type of school and phonetic environment.

| Factor | Mean Square | MS Error | F | df | *p* |
|---|---|---|---|---|---|
| Day vs Boarding school | 648 | 784.164 | 0.826 | 1,22 | 0.3732 |
| Means:<br>Day School 57%<br>Boarding School 61% | | | | | |
| School × Environment | 58.263 | 168.518 | 0.346 | 4,88 | 0.8463 |

**Table 25 Interview ANOVA analysis for Day versus Boarding school**

Environment proved again to be highly significant ($p < 0.0001$). The pairwise comparisons of phonetic environments resemble the analyses we have seen hitherto. The interaction between type of school was examined more closely using Simple Effects. No significant differences were found in the divisions according to school type for each phonetic environment.

| Simple Effects | F | df | $p$ | Means: | Day school | Boarding school |
|---|---|---|---|---|---|---|
| Day/Boarding school at S | 0.067 | 1,64 | 0.796 | S | 70 | 72 |
| Day/Boarding school at F | 0.226 | 1,64 | 0.636 | F | 65 | 69 |
| Day/Boarding school at LS | 0.235 | 1,64 | 0.83 | LS | 81 | 84 |
| Day/Boarding school at V | 0.486 | 1,64 | 0.488 | V | 36 | 41 [103] |
| Day/Boarding school at P | 2.007 | 1,64 | 0.161 | P | 30 | 40 |
| | | | | | | |
| Environment at Day school | 26.239 | 4,88 | **<0.001** | | | |
| Environment at Boarding school | 34.315 | 4,88 | **<0.001** | | | |

**Table 26 Interview Simple effects: Day versus Boarding school and Environment**

*6.2.6 Interview Style and School association*



Interview Style: t-glottalling and school association

| | %Stops | %Fricative | %Liquid/Semivowel | %Vowel | %Pause |
|---|---|---|---|---|---|
| HMC | 73 | 70 | 84 | 45 | 42 |
| GSA | 70 | 66 | 82 | 33 | 30 |
| Neither | 64 | 56 | 75 | 22 | 15 |
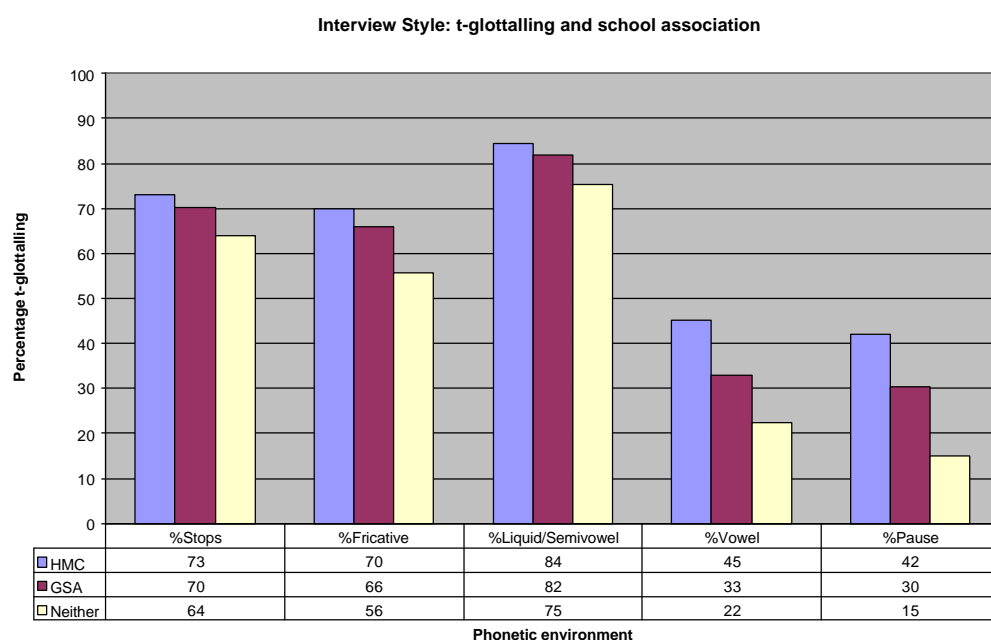
(HMC school: 15 speakers, GSA school: 7 speakers, Neither: 2 speakers)

**Figure 14 Interview Style and School association**

We turn now to another factor used to examine educational background. This was a division of speakers according to their school's membership of certain Independent Schools associations,

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[103] Rounding difference of 1% (see footnote 98).

whether the prestigious HMC (The Headmasters' Conference, which includes boys-only and co-educational schools), the GSA (Girls' Schools Association) or neither. This factor was used to try to represent the 'prestige' of the school (admittedly a complex factor) by allocating it to a group according to the major Independent School association the relevant school belonged to.[104]

The ANOVA table below reveals non-significant *p*-values for School membership alone, and for the interaction of school membership with phonetic environment. Environment was again highly significant ($p$ <0.0001), following the same pattern as we have seen in earlier analyses.

| Source of variation | Mean Square | MS Error | F | df | *p* |
|---|---|---|---|---|---|
| School association | 1438.155 | 713.6 | 2.015 | 2,21 | 0.1582 |
| HMC 63% | | | | | |
| GSA 56% | | | | | |
| Neither 47% | | | | | |
| School association × Environment | 73.489 | 169.905 | 0.433 | 4,84 | 0.8984 |

**Table 27 Interview ANOVA analysis for School association**

The (non-significant) interaction between school membership and environment was explored further using tests of Simple Effects. No significant effects were found across the separate phonetic environments, although the result for the pre-pausal category nears significance[105], while environment itself was highly significant for all three groups.

| Simple Effects | F | df | *p* | Means: | HMC | GSA | Other |
|---|---|---|---|---|---|---|---|
| School association at S | 0.326 | 2,65 | 0.723 | S | 73 | 70 | 64 |
| School association at F | 0.846 | 2,65 | 0.434 | F | 70 | 66 | 56 |
| School association at LS | 0.322 | 2,65 | 0.726 | LS | 84 | 82 | 76 [106] |
| School association at V | 1.938 | 2,65 | 0.152 | V | 45 | 33 | 23 [107] |
| School association at P | 2.784 | 2,65 | 0.069 [108] | P | 42 | 30 | 15 |
| | | | | | | | |
| Environment at HMC | 30.226 | 4,84 | **<0.001** | | | | |
| Environment at GSA | 22.423 | 4,84 | **<0.001** | | | | |
| Environment at Other | 8.23 | 4,84 | **<0.001** | | | | |

**Table 28 Interview Simple effects: School association and Environment**

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[104] Many schools, it is noted on the ISIS website (http://www.isis.org.uk ), belong to more than one association. The two major ones, HMC and GSA, however, seem to be in 'complementary distribution' with each other.

[105] A one-way ANOVA test on the prepausal results, combining the GSA and 'neither' groups and comparing them to the HMC group also revealed a marginally significant difference in the prepausal environment, *p*= 0,09. (HMC mean 42%, Other 27%).

[106] Rounding difference of 1% (see footnote 98).

[107] Rounding difference of 1% (see footnote 98).

[108] Although this difference is not significant, the means between the three groups do match the regional analysis (1) above in that the two girls in the 'other' group here are both from the 'rest of England' regional group, which shows a significant difference in the pre-pausal category.

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Figure 14 above shows decreasing rates of t-glottalling from the most to the least prestigious schools. Here we see a trend which is visually clear, but not statistically significant. Even the greatest differences (in prevocalic and prepausal environments) are not statistically significant here (as shown by simple effects). Furthermore, post-hoc planned comparisons of the overall means for each group showed no significant differences (HMC mean 63% versus GSA 56%, and Neither 47%, $F(1,21)= 2.612$, $p=0.121$).

This visual trend is, I think, a result of a combination of significant differences we have found earlier, as other factors overlap with the categories used for this analysis. The 'neither' category, for example, is made up of 2 female speakers from the 'rest of England' regional category. Their regional origin explains their lower rates of pre-vocalic and pre-pausal glottalling. Secondly, the HMC category comprises 15 speakers, all but one of whom is from the Southeast. All but one of the speakers with mixed background, which we will recall showed a higher rate of pre-vocalic glottalling, are within the HMC group. Thus we can see that school association membership comprises several other social factors which we have seen in earlier analyses, and the non-significant trend reflects some of the results obtained earlier.

The analysis by school association is included here to show that this traditional status difference between schools, while there is a visible and consistent trend, actually produces no statistically significant effect in the present analysis of t-glottalling. Whether other speech features could be correlated with school status using this type of analysis remains an open question, and an interesting one, if we are to gain insight into the identifying features of the popular notion of 'public school accent' (see the discussion in chapter 3, p 54).

*6.2.7 Interview Style and Academic league*

Finally, the fourth 'educational background' categorisation used to sort the speakers into groups was their previous secondary school's position on the 1998 School League tables,[109] a record of academic performance in public examinations across all schools in the country. The results for A-level performance were taken as an indicator of school league position. The dividing line was taken to be at League position 16, a mark which separated the top 100 academically achieving schools in Britain from the rest.

As explained in chapter 5, the division of speakers according to their school's league position is another way in which to represent the 'prestige' of the school which the speakers attended. The data is shown in Figure 15 below. Interestingly, the division between speakers ac-

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[109] At point of writing (December 1999), these files have been replaced with updated figures for 1999 which use a slightly different form of presentation. However, the same information as I have used here can be gleaned from them.

cording to the position of their schools on the Academic League table of 1998[110] proved not to display a significant difference between groups. Neither Academic league alone nor its interaction with environment proved to be significant, as the subsequent ANOVA table reveals.

Interview Style: t-glottalling and school academic league position



| Phonetic environment | %Stops | %Fricative | %Liquid/Semivowel | %Vowel | %Pause |
|---|---|---|---|---|---|
| Top 100 school | 73 | 68 | 84 | 42 | 40 |
| not Top 100 school | 69 | 66 | 81 | 34 | 27 |
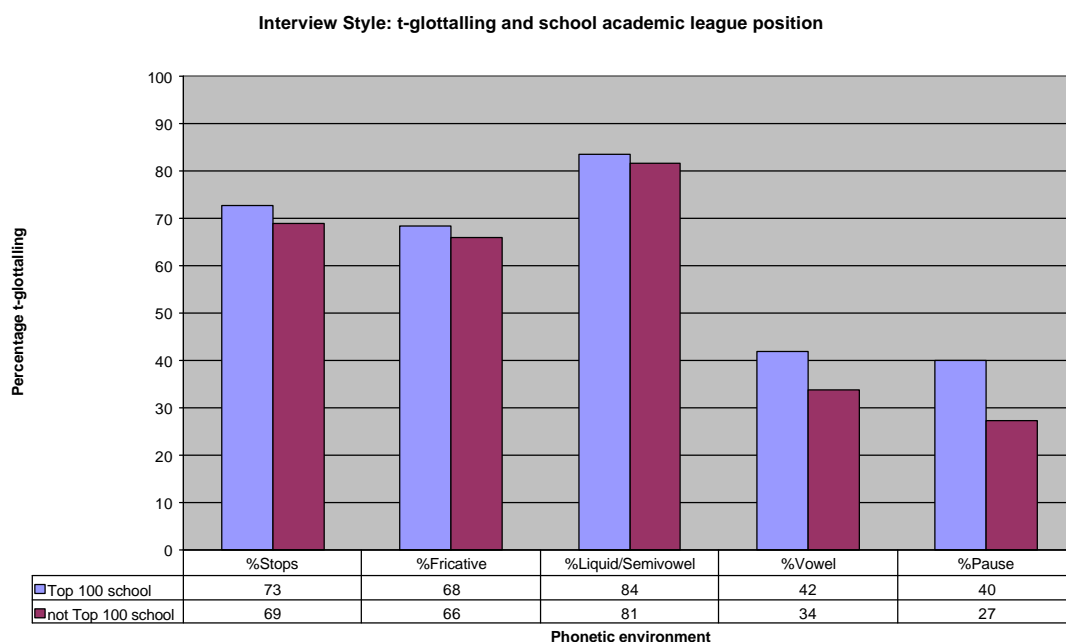
('Top 100 school': 17, not 'top 100 school': 7 speakers)

**Figure 15 Interview Style and Academic league**

| Factor | Mean Square | MS Error | F | df | $p$ |
|---|---|---|---|---|---|
| Academic league | 836.41 | 775.6 | 1.078 | 1,22 | 0.3103 |
| Means: 'Top 100' schools 61% not 'top 100' schools 55% | | | | | |
| Academic league × Environment | 108.309 | 166.243 | 0.652 | 4,88 | 0.6273 |

**Table 29 Interview ANOVA analysis for Academic league**

The environment factor again presented a pattern of significance identical to the results for division by sex of speaker. None of the simple effects for academic league at a particular phonetic environment were significant, although the difference between the means before pause is close to significance (as we also saw in the results by school association). Environment was highly significant ($p <0.001$) for both types of school.

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[110] League tables represent only academic prestige, which is only one of the factors contributing to the status of a school. Academic prestige is nonetheless an important factor: many schools advertise the rates of university entrance of their former pupils, and academic success is central to university entrance.

| Simple Effects | F | df | p | Means: | 'Top 100' | not 'Top 100' |
|---|---|---|---|---|---|---|
| Academic league at S | 0.24 | 1,64 | 0.626 | S | 73 | 69 |
| Academic league at F | 0.086 | 1,64 | 0.77 | F | 68 | 66 |
| Academic league at LS | 0.066 | 1,64 | 0.798 | LS | 84 | 82 [111] |
| Academic league at V | 1.181 | 1,64 | 0.281 | V | 42 | 34 |
| Academic league at P | 2.834 | 1,64 | 0.097 | P | 40 | 27 |
| | | | | | | |
| Environment at 'Top 100' | 38.114 | 4,88 | **<0.001** | | | |
| Environment at not 'top 100' | 23.57 | 4,88 | **<0.001** | | | |

**Table 30 Interview Simple effects: Academic league and Environment**

We see here a uniformity in the results according to educational categorisations, in that no significantly different means emerge from the four analyses of schooling according to various measures of status. We have to conclude that although the educational backgrounds of these speakers do differ in that some have attended very famous, highly elitist schools, while others have attended more modest independent schools, these educational differences have no clear bearing on the rates of t-glottalling the speakers exhibit. In the case of these 'educational factor' analyses, the speakers share "abstract patterns of variation" and can be said to form a speech community (according to the Labovian definition; see Labov 1972a: 120-121).

Earlier descriptions of RP suggested its close link with exclusive public school education,[112] and this this is to some extent visible in the present study. The speakers here come from a range of independent and public school backgrounds, and yet their speech is for the most part, in statistical terms, homogenous across that range. The folk-linguistic idea of 'public school' speech is probably not closely related to t-glottalling word-finally.

### 6.3 Interview analyses: summary

Significant differences between speakers within the Interview data emerge from the regional and 'parental origin' analyses. Differences between speakers across regions have been found in the pre-vocalic and/or the pre-pausal environments. In addition, we found a difference according to parental background in the prevocalic environment. The pre-consonantal environments have shown no significant interactions with social or educational factors within the distributions according to sex, region, origin or schooling background.

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[111] Rounding difference of 1% (see footnote 98).
[112] Remembering that 'attendance at public school' has been and still is used as a defining characteristic of speakers of Received Pronunciation (see chapter 3).

## 6.4 T-glottalling in Reading Passage Style

We now turn to the results obtained from the data in the corpus of 24 reading passages. The figures given here represent a total of 1120 tokens of the (t) variable, evenly distributed across the 24 speakers, as all speakers read the same passage, presented in Appendix 3 (see chapter 5 for details of the interview procedure). The Reading Passage data for all individuals across the five phonetic environments are shown in Appendix 14 (for an explanation of the codes used, see Appendix 12).

As discussed in chapter 5, the speech style represented here differs from that elicited in the Interview data. The interviewees were asked to read through a prose text[113] before beginning to read it aloud, and the complexity of the text made it apparent to the speakers that this was a passage which required concentration (the punctuation had been adapted somewhat from the original to simplify the grammatical complexity of the text; see Appendix 3). In general, the speakers' more careful and standardised style of speech was produced in this reading exercise.

The formal style represented by the reading passage levels out all of the significant differences we have found in Interview Style. New significant differences emerge in other areas of the data, which leads to a different picture of t-glottalling from that found in Interview Style.

As Table 31 shows, the reading passage data is evenly split between male and female speakers, with 46 tokens per speaker on average. This is above the level of 30 tokens mentioned as a statistical threshhold by Guy (1980); see also the discussion in Milroy (1987: 134-135).

|  | Male Speakers | Female Speakers |
| --- | --- | --- |
| Mean | 46.5 | 46.8 |
| Median | 47 | 47 |
| Standard Deviation | 1.3 | 0.6 |
| Minimum | 44 | 46 |
| Maximum | 48 | 48 |
| Range (maximum – minimum) | 4 | 2 |
| Sum | 558 | 562 |
| Count | 12 | 12 |

**Table 31 Statistics on instances of the (t) variable, Reading Passage**

The chart in Figure 16 shows average values for all speakers in Reading Passage Style. In Interview Style we saw that all pre-consonantal environments displayed averages above 50%. In Reading Passage style, this applies only to the pre-stop environment. The rate of t-glottalling before Fricatives and Liquid/Semivowels is here below 50% in both cases. In addition, Liquids and

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[113] A monologue section from the beginning of Chapter 3 of E.M Forster's *Room with a View*.

Semivowels now display a rate slightly lower than that for stop, whereas for Interview Style the rate was higher.

**Reading Passage Style: t-glottalling Average all speakers**



| | %Stops | %Fricatives | %Liquid/Semivowel | %Vowel | %Pause |
|---|---|---|---|---|---|
| All speakers | 62 | 41 | 47 | 2 | 1 |
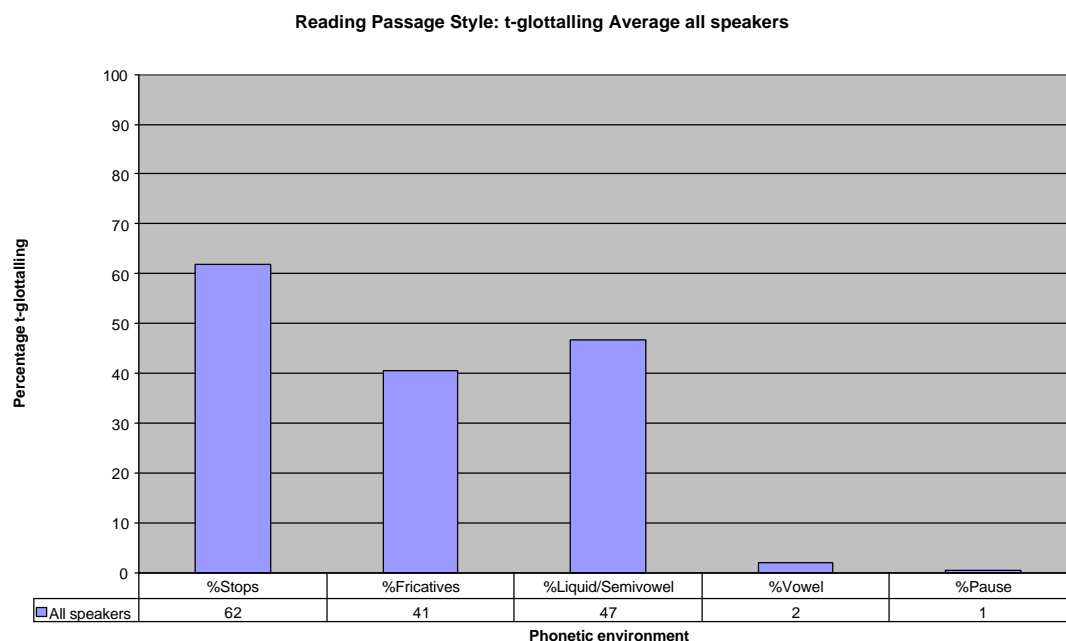
**Figure 16 Reading Passage: t-glottalling averages for all 24 speakers**

The most dramatic style-shifting we see is in the pre-vocalic and pre-pausal environments. Prevocalic and pre-pausal glottal replacement is virtually absent from Reading Passage style. Where in the Interview analyses we often found significant differences for between-subject variables in these two phonetic environments, these differences are now absent, which suggests that glottalling in these environments is not acceptable in formal speech.

As was the case for the interview results, the phonetic environments also proved to be significantly different from each other in all analyses of the reading passage material.[114] Table 32 presents the pairwise comparisons made between the different phonetic environments in each of the analyses. For the largest group of analyses, those listed in group 1, Vowel and Pause are again not significantly different from each other (as was also the case in Interview Style). An interesting contrast with Interview Style emerges in that, in Interview Style, Stop and Fricative tended to pattern together— the True Consonant label could be used to unite them. This was no longer the case in Reading Passage Style. Here the Liquid/Semivowel and Fricative environments grouped together, separate from the Stop category. This result was robust, in that it was found across all of the analyses by phonetic environment. No 'True Consonant' label could be

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[114] The one exception to this occurs in the discussion of the analysis by school association membership.

applied here, which suggests that phonological labels used to unite phonological categories into higher-level units may sometimes need to be sensitive to factors of the speech situation.

**1. Results for divisions by: Sex, Region, parental Origin, Origin within SE, Day versus Boarding school**

|  | Pause | Vowel | Fricative | LS | Stop |
|---|---|---|---|---|---|
| Pause | x | ns | $p<0.01$ | $p<0.01$ | $p<0.01$ |
| Vowel |  | x | $p<0.01$ | $p<0.01$ | $p<0.01$ |
| Fricative |  |  | x | ns | $p<0.01$ |
| Liquid + Semivowel |  |  |  | x | $p<0.01$ |
| Stop |  |  |  |  | x |

**2. Results for Primary education, Academic league**

|  | Pause | Vowel | Fricative | LS | Stop |
|---|---|---|---|---|---|
| Pause | x | ns | $p<0.01$ | $p<0.01$ | $p<0.01$ |
| Vowel |  | x | $p<0.01$ | $p<0.01$ | $p<0.01$ |
| Fricative |  |  | x | ns | $p<0.01$ |
| Liquid + Semivowel |  |  |  | x | $p<0.05$ |
| Stop |  |  |  |  | x |

**3. Results for School association**

|  | Pause | Vowel | Fricative | LS | Stop |
|---|---|---|---|---|---|
| Pause | x | ns | $p<0.01$ | $p<0.01$ | $p<0.01$ |
| Vowel |  | x | $p<0.01$ | $p<0.01$ | $p<0.01$ |
| Fricative |  |  | x | ns | ns |
| Liquid + Semivowel |  |  |  | x | ns |
| Stop |  |  |  |  | x |

**Table 32 Reading Passage: Differences between phonetic environments**

The results according to Academic league and Primary education (group 2) resemble the first group results in the table above with the same significant differences applying, but at the level of $p<0.05$ in the case of the Liquid/Semivowel versus Stop difference. The results for school membership show a general absence of significant differences across all consonantal environments, a singular result which will be discussed below.

**6.5 The sociolinguistic status of t-glottalling in Reading Passage Style**

We turn now to a consideration of the Reading Passage data according to the various social and educational factors, following the same sequence as that employed in the discussion in section 6.2 (subsections 6.2.1 to 6.2.7).

*6.5.1 Reading Passage Style and Sex*

Reading Passage Style: t-glottalling and sex



| | %Stops | %Fricative | %Liquid/Semivowel | %Vowel | %Pause |
|---|---|---|---|---|---|
| ■Male | 67 | 41 | 45 | 2 | 1 |
| ■Female | 57 | 40 | 48 | 2 | 0 |

Phonetic environment
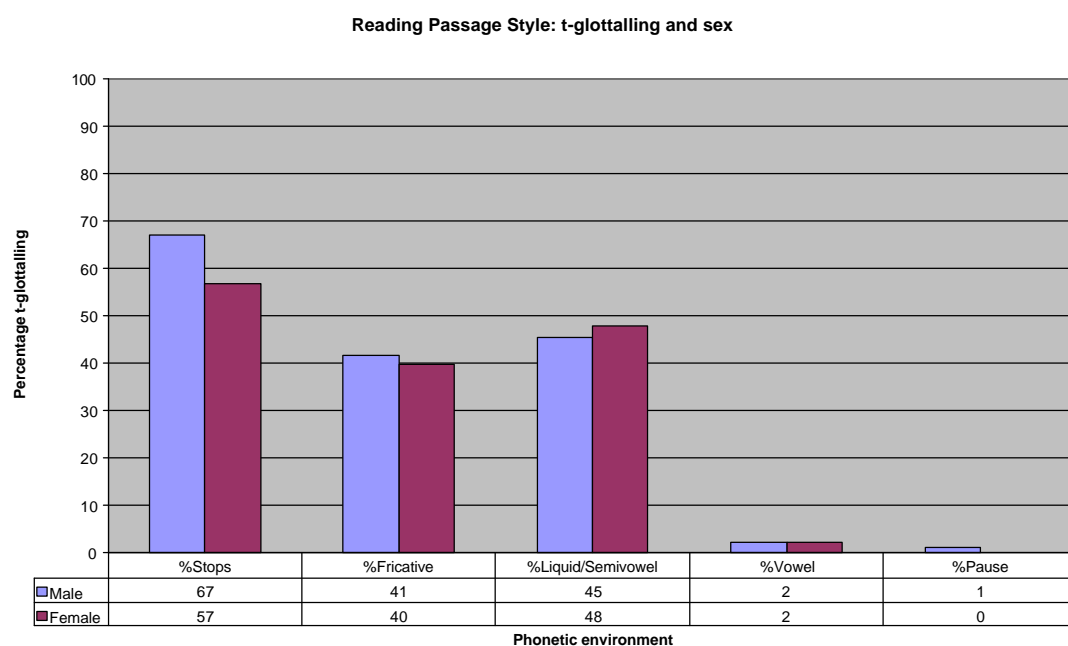
(Male: 12 speakers, Female: 12 speakers)

**Figure 17 Reading Passage and Sex**

Figure 17 above shows the scores for t-glottalling in Reading Passage Style according to the division between male and female speakers.

| | Stop | | | Fricative | | | Liquid/ Semivowel | | | Vowel | | | Pause | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SD | Ma | Mi | SD | Ma | Mi | SD | Ma | Mi | SD | Ma | Mi | SD | Ma | Mi |
| Male | **27** | 100 | 0 | **24** | 81 | 0 | **19** | 70 | 11 | **5** | 13 | 0 | **4** | 14 | 0 |
| Female | **20** | 86 | 14 | **22** | 69 | 0 | **25** | 100 | 0 | **5** | 13 | 0 | **0** | 0 | 0 |

**Table 33 Reading Passage: Standard deviation, maximum and minimum by Sex**

Table 33 shows the data range which Figure 17 represents, by showing standard deviations, and maximum and minimum values, as was done for the Interview data (see Table 10 on p 96). In contrast to the Interview data, where the pre-vocalic and pre-pausal environments showed the highest standard deviations and greatest range between maximum and minimum values, the Reading Passage data shows the greatest variation in the pre-consonantal environments, while the percentages for prevocalic and prepausal data here are uniform, which is not surprising as the scores are so low.

Recall that in the Interview Style analysis, sex proved not to be a significant factor, either alone or in combination with phonetic environment. The ANOVA table below sets out the results obtained by sex in Reading Passage Style. Neither the division according to Sex as a main effect alone nor in interaction with environment showed significant results.

| Factor | Mean Square | MS Error | F | df | *p* |
|---|---|---|---|---|---|
| Sex | 138.675 | 166.243 | 0.217 | 1,22 | 0.6462 |
| Means | | | | | |
| Male 31% | | | | | |
| Female 29% | | | | | |
| Sex × Environment | 138.321 | 247.659 | 0.559 | 4,88 | 0.6934 |

**Table 34 Reading Passage ANOVA analysis for Sex**

Again, as was the case for the Interview results, the phonetic environments themselves are highly significantly different from each other. In the Reading Passage analysis, Liquid/Semivowel and Fricative pattern together, different from Stop at the $p<0.01$ level and from Vowel + Pause, which did not differ significantly from each other.

Further exploration of the non-significant interaction between sex and phonetic environment revealed that no sex differences could be found between the means for the individual phonetic environments. The largest difference between means here, in the pre-stop environment (Male 67% Female 57%) is non-significant, but a similar (and significant) result emerges again in a different analysis (the analysis for school association membership; see below). Environment was highly significant ($p<0.001$) for both male and female groups.

| Simple Effects | F | df | *p* | Means: | Male | Female |
|---|---|---|---|---|---|---|
| Sex at S | 1.933 | 1,89 | 0.168 | S | 67 | 57 |
| Sex at F | 0.056 | 1,89 | 0.813 | F | 42 | 40 |
| Sex at LS | 0.107 | 1,89 | 0.744 | LS | 45 | 48 |
| Sex at V | 0 | 1,89 | 1 | V | 2 | 2 |
| Sex at P | 0.025 | 1,89 | 0.875 | P | 1 | 0 |
| | | | | | | |
| Environment for Male | 40.392 | 4,88 | **<0.001** | | | |
| Environment for Female | 33.928 | 4,88 | **<0.001** | | | |

**Table 35 Reading Passage Simple effects: Sex and Environment**

*6.5.2 Reading Passage Style and Region*

We turn now to the analyses of the reading passage data by region.

Reading Passage Style: t-glottalling and region

| | %Stops | %Fricative | %Liquid/Semivowel | %Vowel | %Pause |
|---|---|---|---|---|---|
| London | 70 | 51 | 54 | 2 | 2 |
| Home Counties | 62 | 41 | 47 | 2 | 0 |
| Rest | 52 | 28 | 37 | 2 | 0 |
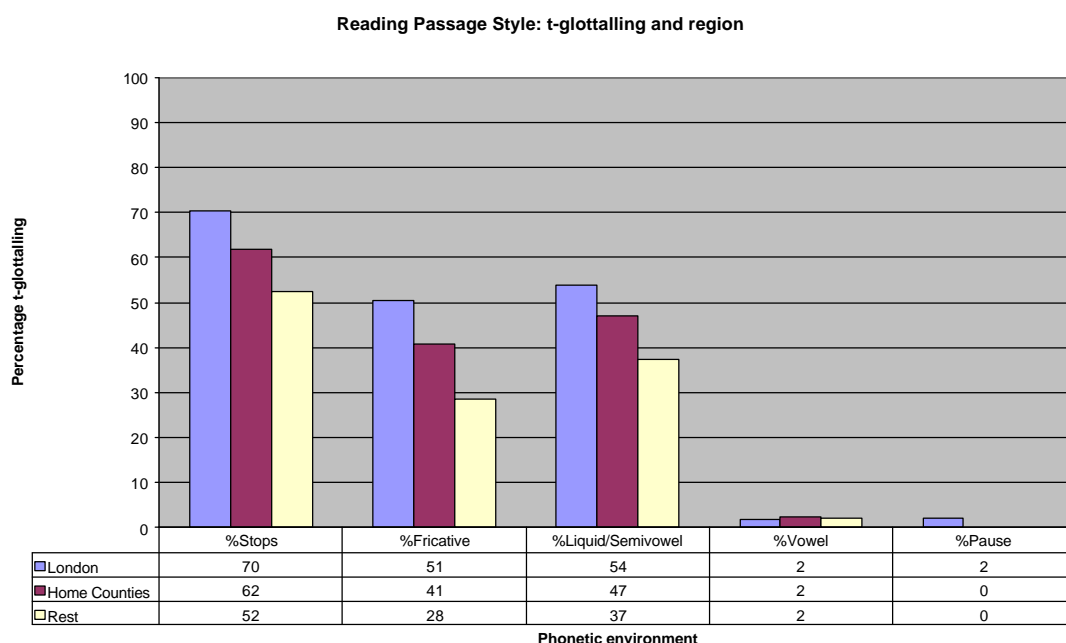
(London: 7, Home Counties: 11, Rest: 6 speakers)

**Figure 18 Reading Passage and Region**

The significant differences between regional means which we saw in the Interview analysis were found in the pre-vocalic and pre-pausal environments. As we can see in the chart for reading passage above, these pre-vocalic and pre-pausal results are absent from the Reading Passage Style. Instead, we see a stepwise trend from London decreasing across the regions in the pre-consonantal environments. The ANOVA table below, however, shows that the between-subject factor, region, and its interaction with environment, fail to reach significance. Planned comparisons between the means did not reveal significant differences, although the trend which is visible in the chart did **approach** significance, both in the case of the mean difference between London and the other categories ($F(1,21)=3.129$, *p*=0.0914) and in the case of the mean difference between the Southeast (London + Home Counties) and elsewhere, the 'Rest' category ($F(1,21)=3.531$, *p*=0.0742).

| Factor | Mean Square | MS Error | F | df | *p* |
|---|---|---|---|---|---|
| Region | 1273.981 | 572.857 | 2.224 | 2,21 | 0.133 |
| Means: | | | | | |
| London 36% | | | | | |
| Home Counties 30% | | | | | |
| Rest 24% | | | | | |
| Region × Environment | 192.953 | 250.235 | 0.771 | 8,84 | 0.6291 |

**Table 36 Reading Passage ANOVA analysis for Region**

Environment alone was again highly significant ($p$ <0.0001). The pattern for pairwise comparison of the phonetic environments resembles that for the distribution by sex. Further exploration of the interaction between region and environment using tests of the simple effects revealed that environment was highly significant for all regional groups, while regional differences within the separate phonetic environments were not significant. Note however the step-wise patterning within the pre-consonantal environments, with the differences in pre-fricative means close to significance, suggesting that London (and possibly the Home Counties), are leading a trend towards higher rates of pre-consonantal glottal replacement in Reading Passage Style.

| Simple Effects | F | df | $p$ | Means: | London | H Counties | Rest |
|---|---|---|---|---|---|---|---|
| Region at S | 1.919 | 2,90 | 0.153 | S | 70 | 62 | 52 |
| Region at F | 2.88 | 2,90 | 0.061 | F | 50 | 41 | 29 |
| Region at LS | 1.667 | 2,90 | 0.195 | LS | 54 | 47 | 37 |
| Region at V | 0.002 | 2,90 | 0.998 | V | 2 | 2 | 2 |
| Region at P | 0.032 | 2,90 | 0.969 | P | 2 | 0 | 0 |
| | | | | | | | |
| Environment at London | 28.177 | 4,84 | **<0.001** | | | | |
| Environment at H Counties | 33.843 | 4,84 | **<0.001** | | | | |
| Environment at Rest | 12.309 | 4,84 | **<0.001** | | | | |

**Table 37 Reading Passage Simple effects: Region and Environment**

*6.5.3 Reading Passage Style and parental Origin*

We turn now to the Reading Passage data according to the factor of parental origin. Again, following the procedure for the Interview results, the 'mixed background' group of speakers was compared first with the remainder of the sample of 24 speakers, and then with the southeastern subset of 'British' background speakers. Recall that the latter analysis in Interview Style revealed a difference in rates of pre-vocalic t-glottalling between the speakers with a non-British parent and those with British parents within the southeastern subset of the sample. As we have seen in the reading passage analyses so far, the pre-vocalic differences we found in Interview Style disappear in the Reading Passage data. The data presented below shows that other significant differences emerge in careful speech.

Note the results in Figure 19 below within the Fricative and Liquid/Semivowel environments, which show differences in the group scores of 18% and 16% respectively. (The Stop difference is 11%, and follows the same trend, although that difference is not significant).

Reading Passage Style: t-glottalling and parental origin

| | %Stops | %Fricative | %Liquid/Semivowel | %Vowel | %Pause |
|---|---|---|---|---|---|
| Parent born overseas | 69 | 52 | 57 | 3 | 2 |
| Parents British | 58 | 34 | 41 | 2 | 0 |
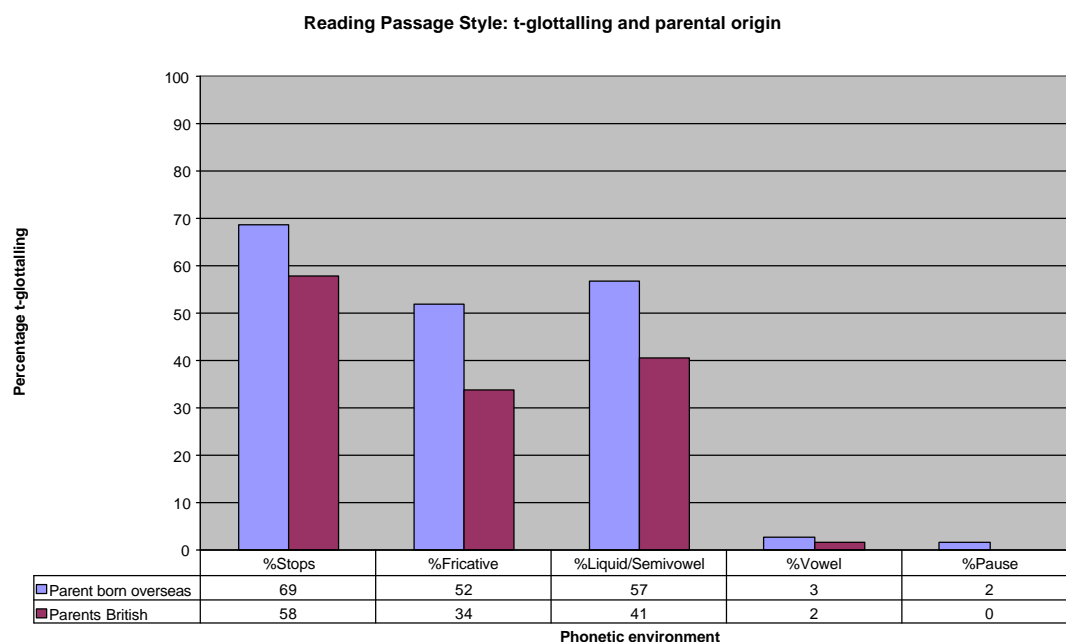
(Parent(s) born overseas: 9 speakers, British parents: 15 speakers)

**Figure 19 Reading Passage and parental Origin**

The ANOVA chart below shows that the difference in overall means for parental origin (36% (non-British) and 27% (British)) is significant ($F_{(1,22)}$ =4.777, $p<0.05$). Environment alone remains highly significant ($p<0.0001$). Pairwise comparisons revealed that all phonetic environments differed from each other ($p<0.01$) except for the Vowel and Pause environments and the Fricative and Liquid/Semivowel environments. There is no interaction between parental origin and environment here (as there was for the Interview data, where $p=0.0037$).

| Factor | Mean Square | MS Error | F | df | p |
|---|---|---|---|---|---|
| Parental orgin | 2537.094 | 531.12 | 4.777 | 1,22 | **0.0398** |
| Means: | | | | | |
| non British parent 36% | | | | | |
| British parents 27% | | | | | |
| Origin × Environment | 350.543 | 238.013 | 1.473 | 4,88 | 0.2173 |

**Table 38 Reading Passage ANOVA analysis for parental Origin**

Further exploration of the (non-significant) interaction between origin and environment by tests of simple effects show that significantly different means for the two groups were found in the Liquid/Semivowel and Fricative environments. In addition, environment remained highly significant for both groups ($p<0.001$).

| Simple Effects | F | df | $p$ | Means: | nonBritish | British |
|---|---|---|---|---|---|---|
| Origin at S | 2.167 | 1,95 | 0.144 | S | 69 | 58 |
| Origin at F | 6.038 | 1,95 | **0.016** | F | 52 | 34 |
| Origin at LS | 5.004 | 1,95 | **0.028** | LS | 57 | 41 |
| Origin at V | 0.025 | 1,95 | 0.874 | V | 3 | 2 |
| Origin at P | 0.046 | 1,95 | 0.831 | P | 2 | 0 |
| | | | | | | |
| Environment for Non British | 38.029 | 4,88 | **<0.001** | | | |
| Environment for British | 40.195 | 4,88 | **<0.001** | | | |

**Table 39 Reading Passage Simple effects: parental Origin and Environment**

These results show that the two groups, divided according to parental background, differ in the rate at which they 'style-shift' away from t-glottalling in certain pre-consonantal environments. It remains to determine how this result is related to the trend we saw in the earlier analysis by regions. This was explored further by comparing the speakers only within the southeastern group, as was done in the Interview analysis.



**Reading Passage Style: t-glottalling and parental origin (southeastern only)**

| Phonetic environment | %Stops | %Fricative | %Liquid/Semivowel | %Vowel | %Pause |
|---|---|---|---|---|---|
| nonBritish Parent (SE only) | 69 | 52 | 57 | 3 | 2 |
| British Parents | 62 | 38 | 43 | 1 | 0 |
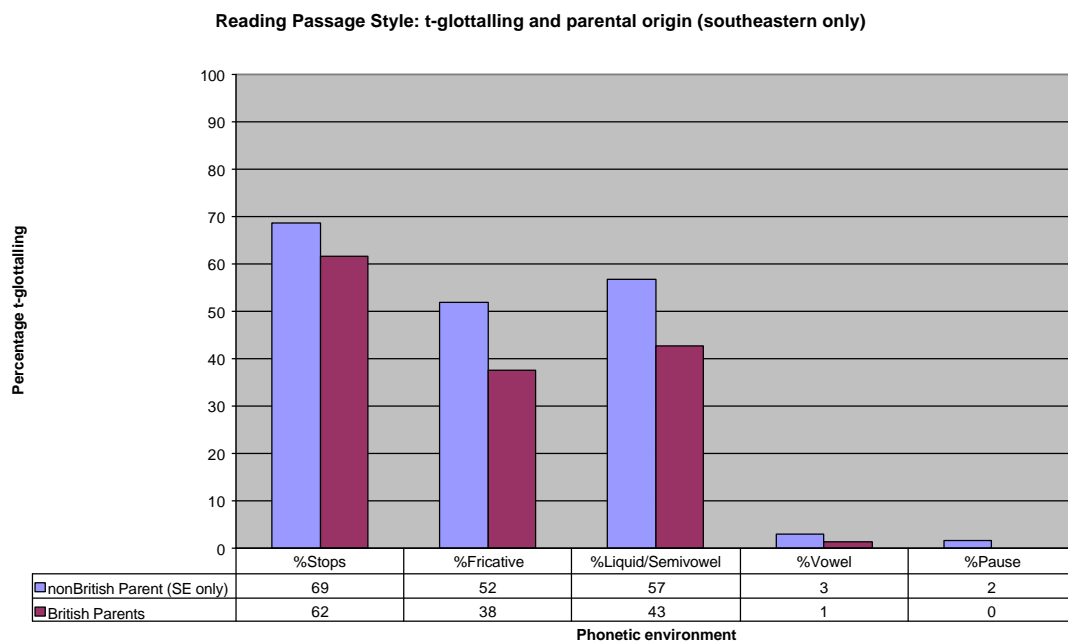
(non-British parent(s): 9, British parents: 9 speakers)

**Figure 20 Reading Passage and parental Origin (Southeast only)**

As the tables and chart reveal, the same trend as we saw in the Reading Passage regional analysis and the parental background analysis is also visible here, in that within the Southeast region (London and Home Counties), the mixed background group is seen to lead the other group in all three consonantal environments.

The ANOVA table below, however, shows no significant main effect involving parental origin within the Southeast (SE) region, either independently or in interaction with environment. Environment alone is highly significant ($p<0.0001$), and the pattern for pairwise comparison using Newman Keuls is the same as that for sex, where all environments were significantly different from each other at the $p<0.01$ level except the difference between the Vowel and Pause environments and between Fricative and Liquid/Semivowel environments.

| Factor | Mean Square | MS Error | F | df | $p$ |
|---|---|---|---|---|---|
| Parental Origin (within SE) | 1322.5 | 467.947 | 2.826 | 1,16 | 0.1122 |
| Means: | | | | | |
| nonBritish 36% | | | | | |
| British 29% | | | | | |
| SE origin × Environment | 181.139 | 242.437 | 0.747 | 4,64 | 0.5635 |

**Table 40 Reading Passage ANOVA analysis for parental Origin (SE only)**

Furthermore, exploration of the (non-significant) interaction between parental origin within the Southeast group and phonetic environment showed that no individual phonetic environments were significantly different between the two groups (although the results for Liquid/Semivowel and Fricative approach significance, $p=0.082$, $p=0.079$ respectively).

| Simple Effects | F | df | $p$ | Means: | nonBritish | British |
|---|---|---|---|---|---|---|
| Origin (SE only) at S | 0.767 | 1,73 | 0.384 | S | 69 | 62 |
| Origin (SE only) at F | 3.166 | 1,73 | 0.079 | F | 52 | 38 |
| Origin (SE only) at LS | 3.116 | 1,73 | 0.082 | LS | 57 | 43 |
| Origin (SE only) at V | 0.033 | 1,73 | 0.857 | V | 3 | 1 |
| Origin (SE only) at P | 0.038 | 1,73 | 0.846 | P | 2 | 0 |
| | | | | | | |
| Environment at origin nonBrit SE | 37.335 | 4,64 | **<0.001** | | | |
| Environment at origin BritSE | 27.095 | 4,64 | **<0.001** | | | |

**Table 41 Reading Passage Simple effects: parental Origin (SE only) and Environment**

The fact that the significant result for 'parental background' disappears within the southeastern subset (where speakers of mixed background are not significantly different from speakers with British background), combined with the regional trend we saw above in Figure 18, leads us to conclude that the significant result for parental background could be being influenced by the regional trend. We have no way of testing this, as there are no speakers with mixed background in the 'rest of England' category. This could be a matter of future research.

In summary then, the regional and 'parental origin' differences involving pre-vocalic and pre-pausal t-glottalling which we saw in the Interview data disappear in the Reading Passage

data. T-glottalling is, for this group of twenty-four speakers as a whole, a variable which is susceptible to style-shifting. Pre-vocalic and pre-pausal t-glottalling occur at very low rates in Reading Passage Style, while the rate of t-glottalling in pre-consonantal environments is also reduced. The difference in the reading passage data which we find between the speakers with mixed background and those without is however an effect which is not significant within the Southeast group subset of the sample, contrary to the Interview data. It is therefore not possible to determine the strength of this factor and its relationship to the regional analysis. We can also note that all 24 speakers have a high rate of pre-stop t-glottalling, above 50% on average, in Reading Passage style. For pre-stop, pre-vocalic and pre-pausal glottalling in Reading Passage Style, the different groups have so farexhibited no significantly different results.

We turn now to an examination of the educational background factors and their influence on the reading passage results. In the analysis of the interview data, no significant differences were found in these categories. With the exception of the school association results, this is also the case for the Reading Passage data.

*6.5.4 Reading Passage Style and Primary education*



**Reading Passage Style: t-glottalling and primary education**

| Phonetic environment | %Stops | %Fricative | %Liquid/Semivowel | %Vowel | %Pause |
|---|---|---|---|---|---|
| Local | 69 | 55 | 55 | 0 | 4 |
| Prep/Independent | 61 | 38 | 45 | 3 | 0 |
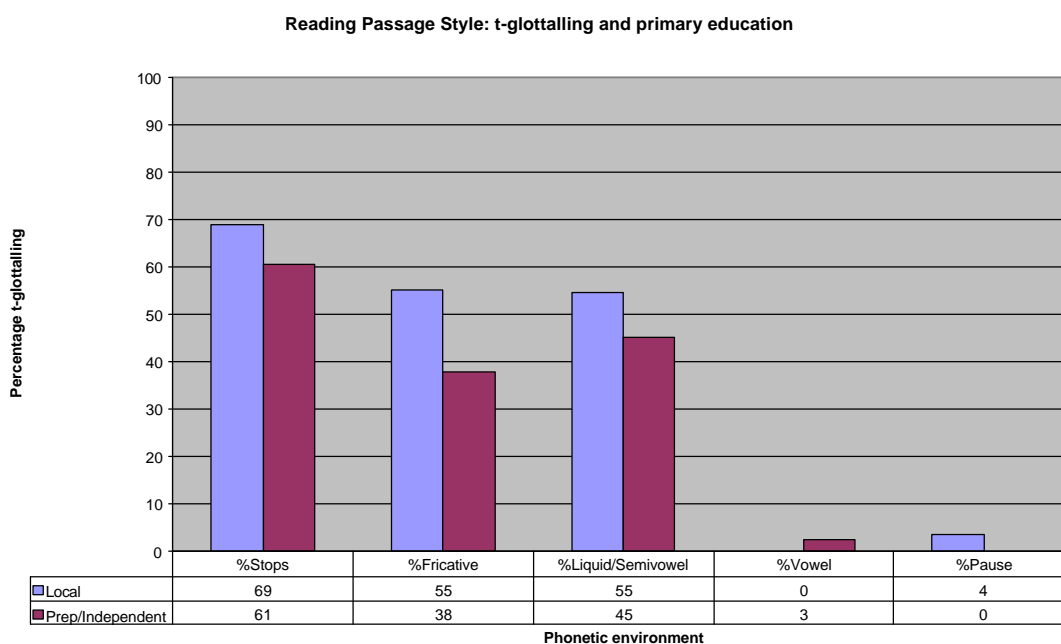
(Local school: 4 speakers, Independent school: 20 speakers)

**Figure 21 Reading Passage and Primary education**

Although there is a visible trend here which reflects the Southeast trend as well as the parental origin trend in Reading Passage data, the ANOVA table below shows that primary education is not a significant factor alone or in combination with environment. Environment alone was highly significant ($p<0.001$). The pattern of pairwise comparison here differed slightly from the other analyses of the reading passage data, in that Stops and Liquid/Semivowels differ significantly from each other at the level of $p<0.05$, not $p<0.01$, as in the other analyses.

| Factor | Mean Square | MS Error | F | df | $p$ |
|---|---|---|---|---|---|
| Primary education | 871.215 | 606.841 | 1.436 | 1,22 | 0.2436 |
| Means: | | | | | |
| Local primary School 36% | | | | | |
| Independent Primary School 29% | | | | | |
| Primary education × Environment | 181.944 | 245.677 | 0.741 | 4,88 | 0.5668 |

**Table 42 Reading Passage ANOVA analysis for Primary education**

Tests of simple effects conducted on the (non-significant) interaction between primary education and environment showed that primary education as a factor did not provide any significant differences for the individual phonetic environments, although the pre-fricative environment approached significance. Environment as a whole was significant for both groups ($p<0.001$).

| Simple Effects | F | df | $p$ | Means: | Local | Prep/Ind |
|---|---|---|---|---|---|---|
| Primary education at S | 0.714 | 1,91 | 0.4 | S | 69 | 61 |
| Primary education at F | 3.12 | 1,91 | 0.081 | F | 55 | 38 |
| Primary education at LS | 0.997 | 1,91 | 0.321 | LS | 55 | 45 |
| Primary education at V | 0.071 | 1,91 | 0.791 | V | 0 | 3 |
| Primary education at P | 0.128 | 1,91 | 0.721 | P | 4 | 0 |
| | | | | | | |
| Environment for Local school | 16.837 | 4,88 | **<0.001** | | | |
| Environment for Prep/Ind | 58.26 | 4,88 | **<0.001** | | | |

**Table 43 Reading Passage Simple effects: Primary education and Environment**

It seems intuitively plausible that speakers who have been educated at local primary schools might exhibit higher rates of t-glottalling, as local primary schools recruit pupils from all social groups. It is interesting that this visual trend emerges in the formal style of speech as well as the less formal Interview style. However, the differences are not statistically significant in the present sample.

*6.5.5 Reading Passage Style and Day versus Boarding school*

**Reading Passage Style: t-glottalling and day versus boarding school**



| | %Stops | %Fricative | %Liquid/Semivowel | %Vowel | %Pause |
|---|---|---|---|---|---|
| Day school | 62 | 44 | 52 | 1 | 2 |
| Boarding School | 62 | 39 | 43 | 3 | 0 |
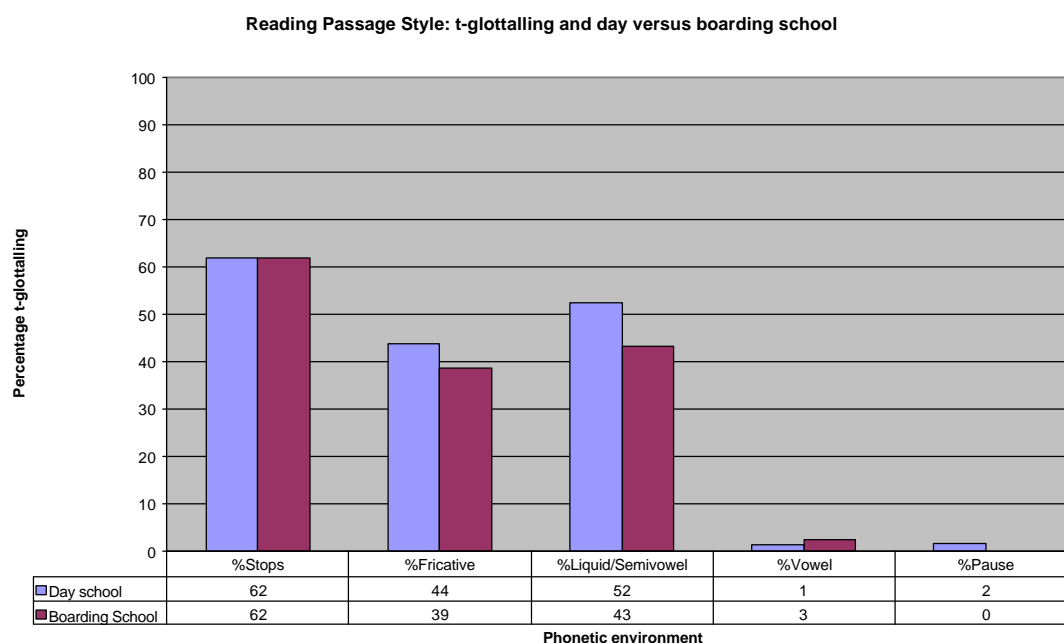
(Day school: 9 speakers; Boarding school: 15 speakers)

**Figure 22 Reading Passage and Day versus Boarding School**

Analysis of the reading passage data based on the division between students who had attended day schools and those who had attended boarding schools showed no significant correlations for school type alone or in combination with phonetic environment. Environment alone was again highly significant ($p$ <0.0001). Pairwise comparisons revealed the pattern for differences between the separate phonetic environments to be similar to that for division by sex above. The pre-vocalic and pre-pausal environments did not differ from each other, nor did the Fricative and Liquid/Semivowel environments.

| Factor | Mean Square | MS Error | F | df | *p* |
|---|---|---|---|---|---|
| Day vs Boarding School | 234.001 | 635.806 | 0.368 | 1,22 | 0.5503 |
| Means: | | | | | |
| Day school 32% | | | | | |
| Boarding school 29% | | | | | |
| Day/Boarding school × Environment | 102.038 | 249.309 | 0.406 | 4,88 | 0.8015 |

**Table 44 Reading Passage ANOVA analysis for Day versus Boarding School**

Further exploration of the simple effects showed that no single phonetic environment revealed a significant difference between the day school students and boarding school students. Environment was a highly significant factor for both groups ($p < 0.001$).

| Simple effects | F | df | $p$ | Means | Day school | Boarding school |
|---|---|---|---|---|---|---|
| Day/Boarding school at S | <0.001 | 1,90 | 0.984 | S | 62 | 62 |
| Day/Boarding school at F | 0.408 | 1,90 | 0.525 | F | 44 | 39 |
| Day/Boarding school at LS | 1.493 | 1,90 | 0.225 | LS | 52 | 43 |
| Day/Boarding school at V | 0.023 | 1,90 | 0.88 | V | 1 | 3 |
| Day/Boarding school at P | 0.042 | 1,90 | 0.839 | P | 2 | 0 |
| | | | | | | |
| Environment at Day school | 29.793 | 4,88 | **<0.001** | | | |
| Environment at Boarding school | 43.89 | 4,88 | **<0.001** | | | |

**Table 45 Reading Passage Simple effects: Day versus Boarding school and Environment**

*6.5.6 Reading Passage Style and School association*

**Reading Passage Style: t-glottalling and school association**



| | %Stops | %Fricative | %Liquid/Semivowel | %Vowel | %Pause |
|---|---|---|---|---|---|
| HMC | 69 | 45 | 47 | 3 | 1 |
| GSA | 55 | 33 | 51 | 0 | 0 |
| Neither | 36 | 34 | 32 | 6 | 0 |
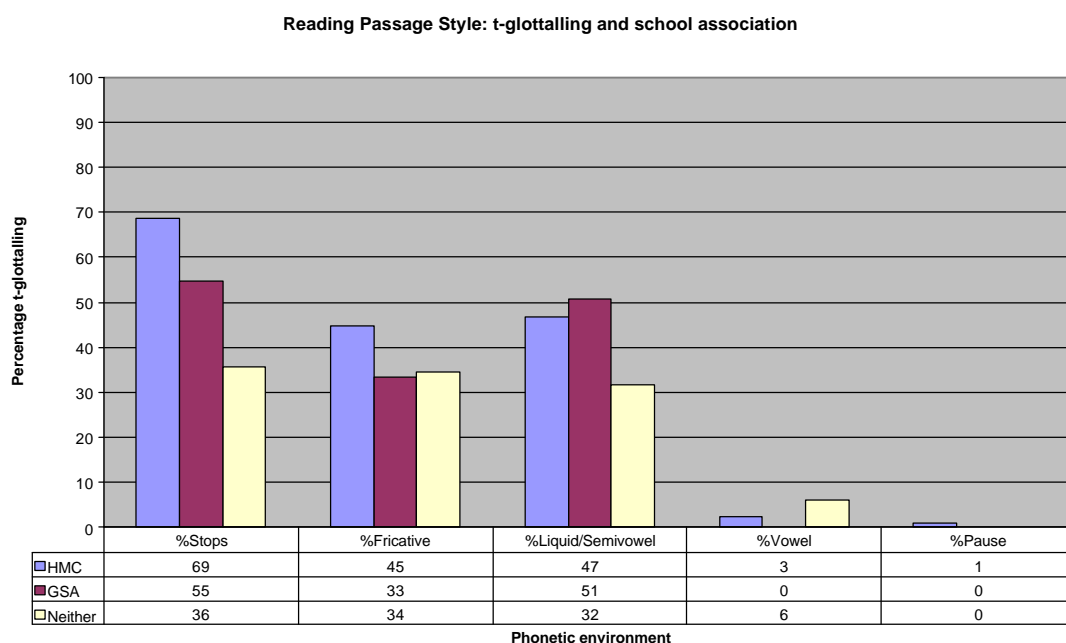
(HMC school: 15 speakers, GSA school: 7 speakers, Neither: 2 speakers)

**Figure 23 Reading Passage and School association**

Examination of the data according to the division by school associations showed no significant main effects for association membership alone or for association membership in combination with phonetic environment. The three means were then compared individually using planned

comparisons, but again no significant differences emerged. Environment alone was highly significant ($p < 0.0001$).

| Factor | Mean Square | MS Error | F | df | $p$ |
|---|---|---|---|---|---|
| School association | 660.718 | 608.945 | 1.085 | 2,21 | 0.3561 |
| Means: | | | | | |
| HMC 33% | | | | | |
| GSA 28% | | | | | |
| Neither 22% | | | | | |
| School association × Environment | 291.076 | 237.838 | 1.225 | 8,84 | 0.2946 |

**Table 46 Reading Passage ANOVA analysis for School association**

Furthermore, pairwise comparison of the separate environments using Newman Keuls revealed that the three consonantal environments did not differ significantly from each other, nor did the prevocalic and prepausal environments differ from each other. The former result, an absence of difference between the three consonantal environments, is not one we have seen hitherto, and it applies only in this one case. The levelling of differences in the preconsonantal phonetic environment can be seen in the figure above for the 'neither' category, which contains two female speakers from the Rest of England regional category.

| Pairwise comparison Newman Keuls for Environment | | | | | |
|---|---|---|---|---|---|
| | Pause | Vowel | Fricative | LS | Stop |
| Pause | x | ns | $p < 0.01$ | $p < 0.01$ | $p < 0.01$ |
| Vowel | | x | $p < 0.01$ | $p < 0.01$ | $p < 0.01$ |
| Fricative | | | x | ns | ns |
| Liquid + Semivowel | | | | x | ns |
| Stop | | | | | x |

**Table 47 Reading Passage Pairwise comparison for Environment within School association**

By exploring the (non-significant) interaction between school association and phonetic environment, we see that a single significant difference in the simple effects ($p = 0.027$) can be found in the result for the pre-stop environment between speakers from the HMC group (69%) and those from the GSA (55%) and 'Neither' (36%) groups. The speakers in the HMC group use a significantly higher rate of t-glottalling before Stops in careful speech (Reading Passage Style). Another way to express this would be to say that this group style-shift to a lesser extent in this particular pre-consonantal environment.

| Simple effects | F | df | p | Means | HMC | GSA | Neither |
|---|---|---|---|---|---|---|---|
| School association at S | 3.761 | 2,86 | **0.027** | S | 69 | 55 | 36 |
| School association at F | 0.549 | 2,86 | 0.58 | F | 45 | 33 | 35 |
| School association at LS | 1.394 | 2,86 | 0.254 | LS | 47 | 51 | 32 |
| School association at V | 0.142 | 2,86 | 0.865 | V | 3 | 0 | 7 |
| School association at P | 0.004 | 2,86 | 0.996 | P | 1 | 0 | 0 |
| | | | | | | | |
| Environment at HMC | 56.031 | 4,84 | **<0.001** | | | | |
| Environment at GSA | 20.844 | 4,84 | **<0.001** | | | | |
| Environment at Other | 2.422 | 4,84 | 0.055 | | | | |

**Table 48 Reading Passage Simple effects: School association and Environment**

To arrive at an understanding of this result, we have to consider the makeup of the HMC group. This group contains a large proportion of speakers with mixed backgrounds (8 of a total of 15). In addition, southeastern speakers dominate (14 out of 15). As we saw above (Figure 17 and Table 34), there are no significant male-female differences in the reading passage data, although there is a large but non-significant male-female difference in the pre-stop environment, with averages of 67% (males) and 57% (females). We can see that the single significant difference in the pre-stop environment for HMC speakers can perhaps be attributed to a combination of other non-significant trends in the factors we have seen above (ranked here in a speculative order of importance from highest to lowest):

1. a regional trend with the southeastern group leading in the pre-consonantal-environments
2. male speakers leading in pre-stop environment
3. a 'parental origin' trend with speakers of mixed backgrounds leading in pre-stop environment

This result, which we can characterise as a tendency not to style-shift away from t-glottalling in certain pre-consonantal environments in formal styles of speech, can be interpreted as a confirmation of Wells' (1994a: 201) claim that t-glottalling preconsonantally is "very firmly established in casual RP before obstruents… and is increasingly heard before other consonants". A concomitant of a particular speech form being 'firmly established' in casual speech seems to be that it can increasingly be used in careful speech, as the 'stigma' attached to it is not strong.

The sociolinguistic factors which contribute to this result seem to be complex. We can speculate that that the 'public school' group (which includes male speakers from the Southeast, some of whom have mixed backgrounds) is leading a shift way from the stigmatisation of t-glottalling pre-consonantally in careful speech. Confirmation of this would require further investigation in the form of a comparison of the present data with HMC school students from outside the Southeastern region. This was not possible within the scope of the present study.

*6.5.7 Reading Passage Style and Academic league*

Reading Passage Style: t-glottalling and academic league position



| | %Stops | %Fricative | %Liquid/Semivowel | %Vowel | %Pause |
|---|---|---|---|---|---|
| Top 100 | 62 | 39 | 43 | 2 | 1 |
| not top 100 | 62 | 46 | 55 | 2 | 0 |

Phonetic environment
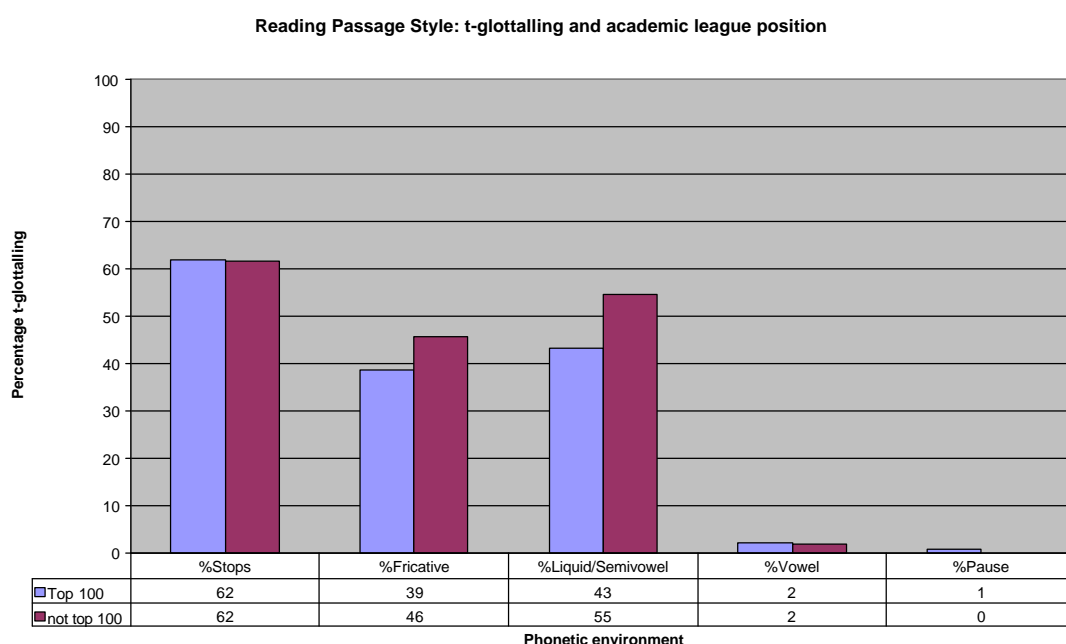
('Top 100' school: 17, not 'top 100': 7 speakers)

**Figure 24 Reading Passage and Academic league**

The analysis of the reading passage results according to school academic league position re-vealed no significant main effects for school league alone or in interaction with phonetic envi-ronment. The overall means for the two school groups (29% versus 33%) were not significantly different, nor was there a significant interaction between school league and phonetic environ-ment.

| Factor | Mean Square | MS Error | F | df | *p* |
|---|---|---|---|---|---|
| Academic league | 277.039 | 633.849 | 0.437 | 1,22 | 0.5154 |
| Means: | | | | | |
| 'Top 100' schools 29% | | | | | |
| not 'top 100' schools 33% | | | | | |
| Academic league × Environment | 154.16 | 246.939 | 0.624 | 4,88 | 0.6464 |

**Table 49 Reading Passage ANOVA analysis for Academic league**

As we have seen in previous analyses, environment alone was highly significant ($p < 0.0001$). The pairwise comparisons for environment resemble those seen in other analyses of the Reading Passage data, in that the Fricative and Liquid/Semivowel environments resemble each other, as do the Vowel and Pause environments. All other combinations were significantly different from each other, with Liquid/Semivowel and Stop being different at the level of $p < 0.05$, rather than $p < 0.01$, which we have seen in the majority of Reading Passage analyses.

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The (non-significant) pairwise interaction between school academic league position and phonetic environment was examined further using tests of simple effects. No significant simple effects were found for school league at any of the single phonetic environments. Environment proved highly signficant ($p <0.001$) for both groups of speakers.

| Simple effects | F | df | $p$ | Means | 'Top 100' | Not 'top 100' |
|---|---|---|---|---|---|---|
| Academic league at S | 0.003 | 1,90 | 0.958 | S | 62 | 62 |
| Academic league at F | 0.746 | 1,90 | 0.39 | F | 39 | 46 |
| Academic league at LS | 1.994 | 1,90 | 0.161 | LS | 43 | 55 |
| Academic league at V | 0.003 | 1,90 | 0.957 | V | 2 | 2 |
| Academic league at P | 0.01 | 1,90 | 0.919 | P | 1 | 0 |
| | | | | | | |
| Environment at 'Top 100' | 49.766 | 4,88 | **<0.001** | | | |
| Environment at not 'top 100' | 24.835 | 4,88 | **<0.001** | | | |

**Table 50 Reading Passage Simple effects: Academic league and Environment**

**6.6 Reading Passage analyses: summary and comparison with Interview analyses**

The results presented above show that by defining the social group as a starting point, examining t-glottalling as a sociolinguistic variable and processing the data quantitatively, we have arrived at an overall picture of the sociolinguistic position of t-glottalling for these speakers.

To sum up, the main result of the Interview analysis can be formulated as follows. We can see a wave-like pattern of dissemination of t-glottalling across the different phonetic environments, across the different speech styles, influenced by the social factors 'regional' affiliation and 'parental origin'. Hudson (1996: 40) describes wave theory thus:

> [wave theory] is based on the assumption that changes in language spread outwards from centres of influence to the surrounding areas in much the same way that a wave spreads from the place where a stone is dropped into a pool.

This wave-like pattern is symbolised in the following diagrams. The first diagram shows the significant regional differences across phonetic environments in Interview Style. Pre-consonantal t-glottalling occurs at similar rates in all parts of England; pre-pausal t-glottalling has spread as far as the Home Counties, while pre-vocalic glottalling occurs at the highest rate only in London. While all 24 speakers reveal t-glottalling to some extent in all environments in Interview Style, the average rates for the groups show significant differences between the following groups, indicated with separate columns (as in the similar Figure 9 on p 103).

| Consonant: | London  + Home Counties | | + Rest |
| --- | --- | --- | --- |
| Pause: | London  +  Home Counties | | Rest |
| Vowel: | London | Home Counties | Rest |

**Figure 25 Interview Style: Region and Environment in word-final t-glottalling**

The second diagram shows a similar pattern for the significant differences between the parental background groups, here labelled 'British' versus 'mixed'. Here the distinction involves only the pre-vocalic environment.

| Consonant: | mixed +British background | |
| --- | --- | --- |
| Pause: | mixed +British background | |
| Vowel: | mixed | British |

**Figure 26 Interview Style: parental Origin and Environment in word-final t-glottalling**

The overall picture of t-glottalling in Reading Passage Style differs from that for Interview Style in several ways. Firstly, although there is a regional trend visible in the data (see Figure 18), this was not statistically significant. Significant results did emerge in the analyses by parental background and by School association. These can be represented thus, with columns showing significant differences:

| Stops: | mixed + British background (high rates) | |
| --- | --- | --- |
| Fricatives: | mixed | British |
| Liquid/Semivowel: | mixed | British |
| Vowel: | mixed + British background (low rates) | |
| Pause: | mixed + British background (low rates) | |

**Figure 27 Reading Passage: parental Origin and Environment in word-final t-glottalling**

| Stops: | HMC schools | others |
| --- | --- | --- |
| Fricatives: | HMC schools + others | |
| Liquid/Semivowel: | HMC schools + others | |
| Vowel: | HMC schools + others | |
| Pause: | HMC schools + others | |

**Figure 28 Reading Passage: School association and Environment in word-final t-glottalling**

If we understand the Reading Passage data as representing style-shifting away from what is commonly referred to as a stereotyped variant (the glottal stop), the fact that speakers of a mixed background, as well as speakers from HMC schools, retain higher levels of t-glottalling before consonants indicates that the pressure to shift away from the stigmatised variant in these pre-consonantal environments is lower for these speakers. Note that these speakers do strongly avoid t-glottalling in careful speech before Vowels and before Pause, as do the other speakers in the sample. In Interview Style we saw that all speakers consistently had high rates of t-glottalling pre-consonantally. In the Reading Passage results we can see the further implications of this: high rates in Interview Style are beginning to affect Reading Passage Style as well, leading to a tendency for speakers not to style-shift away from t-glottalling in more careful styles of speech. So far, this has only affected the pre-stop environment for all speakers (and perhaps to a greater extent, male speakers from the Southeast, although this is not shown unequivocally by the data).

Overall, it is clear that high rates of t-glottalling (around 70% for stops, 80% for Liquids/Semivowels, around 60% for Fricatives) are a feature of the less formal speech style of all speakers from all regions. If we take a diachronic view of this situation, and consider earlier reports (e.g. Wells 1982: 261) to be accurate, it is clear that word-final pre-consonantal t-glottalling has completed its spread and is now common for this generation of upper middle class speakers from further afield than the Southeast of England. Pre-consonantal glottalling can reasonably be regarded as the 'first wave' of glottalling. The 'second wave' seems to be the pre-pausal category, which shows a significant difference between the Southeastern category and the 'rest of England' category. As we have seen, London and the Home Counties pattern together on this feature, while the Rest of England lags behind. The 'newest' wave of glottalling is evident in the pre-vocalic category, where the London-raised public school speakers use pre-vocalic t-glottalling at a significantly higher rate than speakers from other parts of England in less formal styles of speech.

It is also worth reiterating that sex differences are not significant overall here. Male and female speakers do not differ in rates of t-glottalling word-finally. It is not possible to point to a single group here 'leading' the linguistic change.[115] This will form a crucial point in the discussion in chapter 7.

Some other significant differences between the two speech styles have also emerged from this analysis. The category True Consonant (oral stop +nasal stop +affricate +fricative) proves to be a significant phonetic factor in the analyses of Interview Style, but not in those of Reading Passage style. In the Interview Style analyses, the Stop and Fricative categories consistently pat-

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[115] Other variables such as vowel and diphthong variables or any of the other currently reported recent changes (see e.g. Wells 1997a) could well show sex-based differences, but this remains a matter for empirical investigation.

tern together, that is, they are not significantly different from each other. The same does not hold for the reading passage data we have examined above. Here, the pre-stop environment shows a consistently higher rate of t-glottalling, different from the rate in other pre-consonantal categories, except in the analyses by school association membership, where none of the three consonantal environments differed from each other for one of the female groups. This result matches the result in Reading Passage style discussed above, that higher rates of t-glottalling in careful speech are evident at the pre-stop environment. We can speculate that if it is true that changes in the usage of t-glottalling began in casual style and have proceeded to careful style, the route of acquisition seems to be the same: pre-consonantal (especially pre-stop) environments lead the change. Reflecting earlier reports of t-glottalling (see chapter 2) we might speculate that the pre-stop environment led the change within pre-consonant environments in Interview Style. For the generation represented here, the distinction between the pre-stop and pre-fricative environments has been lost, but it remains evident in the reading passage data, where t-glottalling has not advanced as far.

**6.7 Style-shifting: significant patterns across two speech styles.**

To supplement the separate Interview and Reading Passage analyses, we turn now to a brief consideration of the phenomenon of style-shifting.[116] As we have seen in the general discussion of the two speech styles separately, t-glottalling is a sociolinguistic variable which is consistently susceptible to style-shifting. In order to see if patterns of style-shifting differed across the various socially-defined groups in the present study, an extra set of ANOVA analyses was carried out. This was done by combining the Interview and Reading passage data into a single matrix using an additional between-subjects social factor. In this manner, we could introduce the further factor of context (interview versus reading passage) into the analysis, and test for significant effects here. It should be noted that an analysis with this level of complexity, where variables were compared simultaneously, would not have been possible using other statistical procedures.

The following discussion will examine significant patterns of interaction between social factors, speech context, and phonetic environment. These I have called 'style-shifting analyses', as they show the patterns of variation for groups of speakers across different speech styles, moving between more and less formal speech. Two social groupings were found to show significant results, and these were the regional and parental background groupings which we have seen in the analyses above. The following analyses contribute further insights into the differences between these social groups, in that they show that significant differences in t-glottalling apply to

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[116] For a discussion of stylistic variation in sociolinguistics, see Chambers (1995: 4), Hudson (1996: 199-200).

the relationship between the two speech styles as well as within the speech styles considered separately.

The first grouping which revealed significantly different patterns of style-shifting was a division between the Southeast speakers and those from the 'rest of England'. The following two charts show these patterns:

**Style shifting Southeast**



| | Stop | Fricative | Liquid/Semivowel | Vowel | Pause |
|---|---|---|---|---|---|
| Reading Passage | 65 | 45 | 50 | 2 | 1 |
| Interview | 72 | 70 | 83 | 44 | 42 |

Phonetic Environment
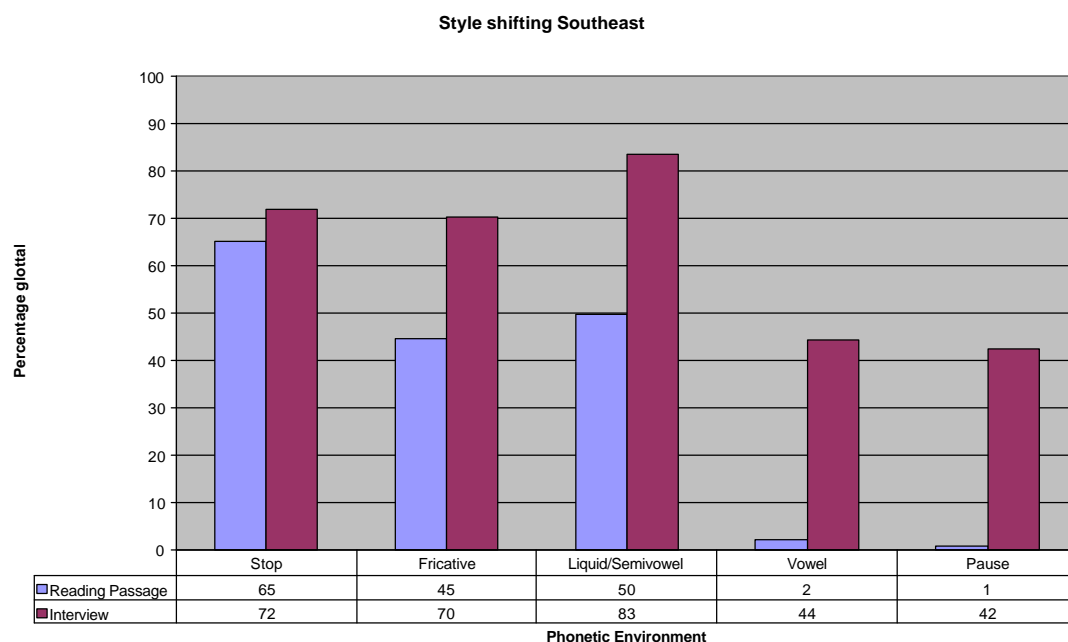
**Figure 29 Style-shifting: Southeast**

**Style shifting: Rest of England**



| | Stop | Fricative | Liquid/Semivowel | Vowel | Pause |
|---|---|---|---|---|---|
| Reading Passage | 52 | 29 | 57 | 2 | 0 |
| Interview | 71 | 59 | 82 | 25 | 19 |

Phonetic Environment
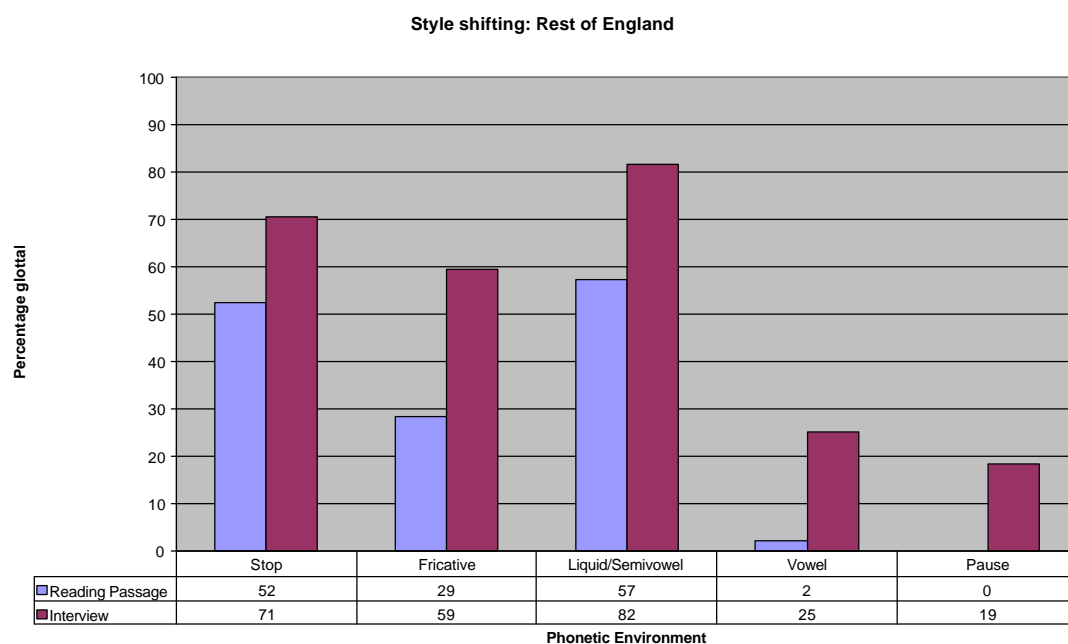
**Figure 30 Style-shifting: Rest of England**

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ANOVA analysis of this data showed a significant three way interaction between the social group, speech style, and phonetic environment, where F(4,88)= 3.272, $p$=0.015. The relevant means are shown under the two charts. The interaction between region and speech style was not significant, although an analysis for simple effects revealed a significant simple effect for region at Interview ($p$=0.036). The significant three-way interaction indicates that the two regional groups, Southeast and 'Rest of England' style-shift to different degrees. This is best seen in the reduction from Interview Style to Reading Passage style in pre-vocalic and pre-pausal environments, which is much greater in the Southeast (a lowering from well above 40% to near 0) than in the 'rest of England' group (a lowering from around 20% to near 0).

The second significant result in the style-shifting matrices was found in the groupings according to parental background. The following charts (Figure 31 and Figure 32) illustrate rates of t-glottalling across the two speech styles for both social groupings:

**Style shifting: British Parents**



| Phonetic environment | Stop | Fricative | Liquid/Semivowel | Vowel | Pause |
|---|---|---|---|---|---|
| Reading Passage | 58 | 34 | 41 | 2 | 0 |
| Interview | 70 | 67 | 82 | 31 | 29 |
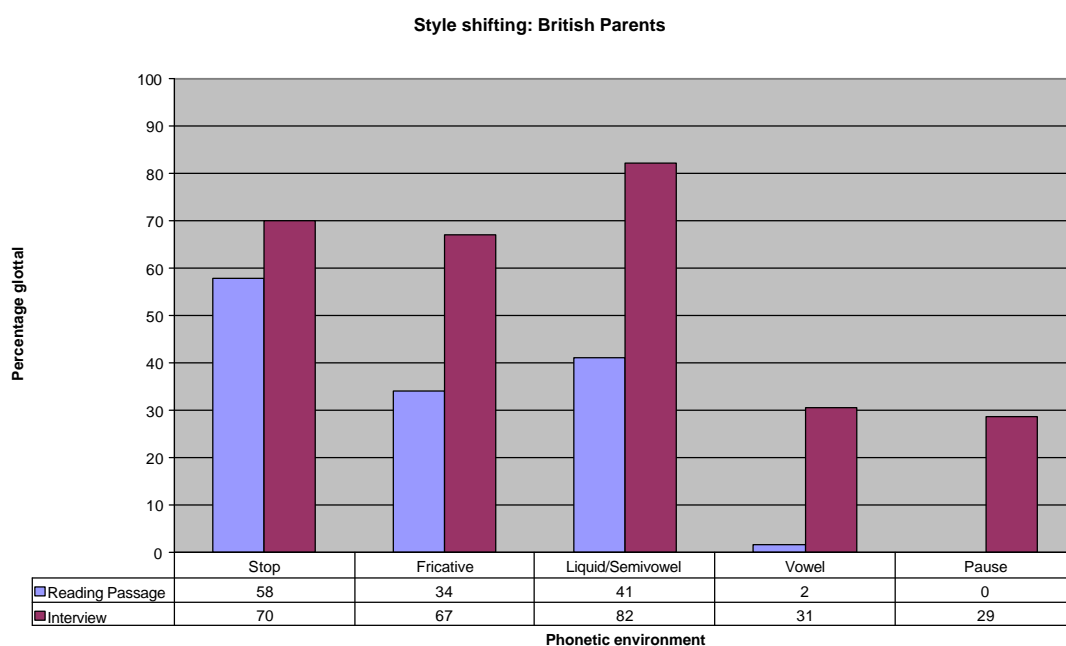
**Figure 31 Style-shifting: British parental Origin**

Again, ANOVA analysis of this data showed a significant three way interaction between the social group, speech style, and phonetic environment, where F(4,88)= 5.096, $p$=0.001. Here, the charts show that the speakers with mixed backgrounds exhibit higher levels of t-glottalling before Fricatives and Liquid/Semivowels in Reading Passage style than do their 'all-British' counterparts. There was no significant interaction between origin and speech style, although there were significant simple effects for origin at Interview (p=0.024) and Reading passage ($p$=0.046). The 'mixed background' speakers show higher rates of pre-vocalic and pre-pausal t-

glottalling in Interview Style, leading to style-shifting in these environments (around 50% to near 0) which covers a greater range than that for the 'British' group (around 30% to 0).

**Style shifting: non British parent(s)**

| Phonetic environment | Stop | Fricative | Liquid/Semivowel | Vowel | Pause |
|---|---|---|---|---|---|
| Reading Passage | 69 | 52 | 57 | 3 | 2 |
| Interview | 74 | 69 | 85 | 54 | 49 |
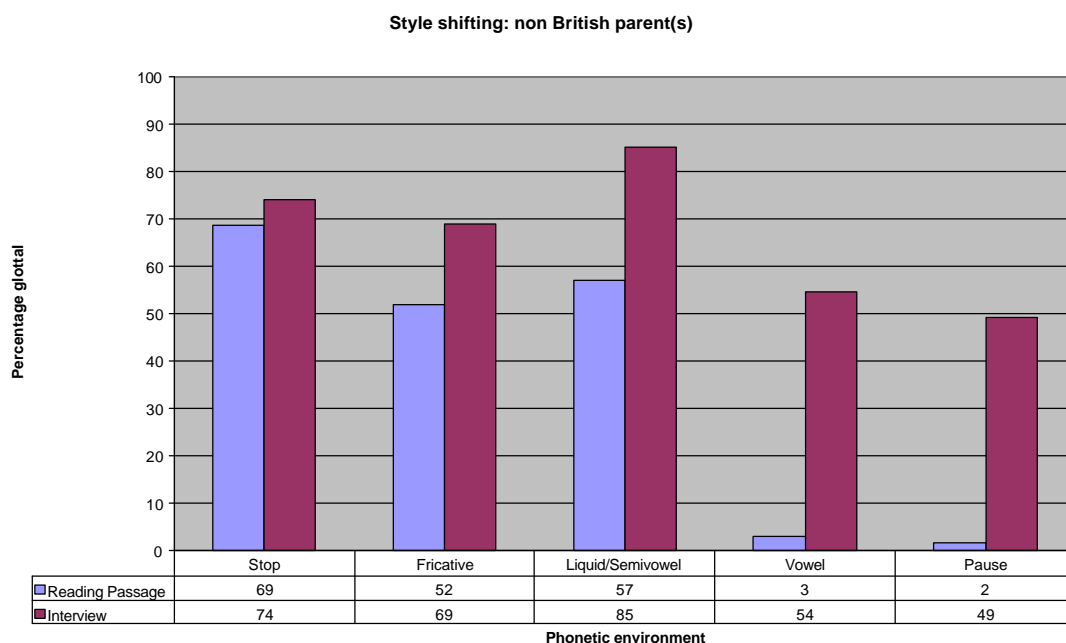
**Figure 32 Style-shifting: non-British parental Origin**

In summary then, the analysis of style-shifting has shown the following. First, t-glottalling is a variable which is generally susceptible to style-shifting. Secondly, the extent of style-shifting differs for some socially-defined groups of speakers. In other words, it seems that the stigmatised glottal variant has lost some of its stigma in pre-consonantal environments in careful speech (here represented by Reading Passage style data) as a response to consistently high levels of pre-consonantal t-glottalling in Interview Style speech. The style-shifting we can see in pre-pausal and pre-vocalic environments is greater for speakers from the Southeast, since they use higher rates of t-glottalling in these environments in Interview Style.

It is relevant to ask whether any other data can be brought to bear upon the question of t-glottalling's status. Here we will examine the results of the discrimination test, which sought to elicit overt attitudes to t-glottalling.

**6.8 Results of the discrimination test: testing the acceptability of t-glottalling**

The discrimination test, discussed in detail in chapter 5, was devised as an attempt to examine t-glottalling word-finally from the point of view of an overt stigmatisation attaching to it. I was interested in determining the extent to which speakers made judgments as to what they consid-ered to be 'good, standard, correct' speech, which distinguished glottalled pronunciations of /t/ from non-glottal pronunciations of /t/ under several different types of conditions. As explained

earlier (see section 5.9), the conditions built into the experiment explored the differences between commonly-occurring functional words (such as *it*, *at*, *that*) and content words (members of open classes, e.g. nouns and verbs). The experiment also contrasted accented (primary and secondary stressed) and unaccented (unstressed) items, as well as the phonetic environments Consonant,[117] Vowel and Pause. The speakers were also classified according to sex. Eight male and eight female speakers were analysed.[118]

The responses recorded for these 16 speakers were then collated into an ANOVA matrix sorted by subjects (see Appendix 7). The matrix records the rate at which the speakers' response to the test sentence category was either the glottal pronunciation (chosen as 'the first' or 'the second'), 'both' deemed correct, or 'don't know'. The data excludes those responses which specifically chose the non-glottal pronunciation. Table 51 presents the results of an ANOVA analysis of the matrix in Appendix 7.

| Factor | MS | MS Error | F | df | $p$ |
|---|---|---|---|---|---|
| Sex | 12561.51 | 4525.913 | 2.775 | 1,14 | 0.1179 |
| Function vs Content (FC) | 245.255 | 304.038 | 0.807 | 1,14 | 0.3843 |
| Sex × FC | 170.63 | 304.038 | 0.561 | 1,14 | 0.4662 |
| Accented vs Unaccented | 3193.172 | 508.949 | 6.274 | 1,14 | **0.0252** |
| Means: | | | | | |
| Unaccented 31% | | | | | |
| Accented 23% | | | | | |
| Sex × Accent | 170.63 | 508.949 | 0.355 | 1,14 | 0.5718 |
| FC × Accent | 231.88 | 347.193 | 0.668 | 1,14 | 0.4275 |
| Sex × FC × Accent | 11.505 | 347.193 | 0.033 | 1,14 | 0.8582 |
| Environment | 644474.3 | 1520.444 | 42.405 | 2,28 | **<0.0001** |
| Means: | | | | | |
| Prevocalic 4.7% | | | | | |
| Prepausal 13.3% | | | | | |
| Preconsonantal 63.5% | | | | | |
| Sex × Environment | 1193.536 | 1520.444 | 0.785 | 2,28 | 0.4659 |
| FC × Environment | 1105.411 | 240.087 | 4.604 | 2,28 | **0.0187** |
| Means: | | | | | |
| (see Table 52) | | | | | |
| Sex × FC × Environment | 205.786 | 240.087 | 0.857 | 2,28 | 0.4352 |
| Accent × Environment | 356.453 | 774.016 | 0.461 | 2,28 | 0.6356 |
| Sex × Accent × Env | 146.411 | 774.016 | 0.189 | 2,28 | 0.8287 |
| FC × Accent × Environment | 513.911 | 232.349 | 2.212 | 2,28 | 0.1283 |
| Sex × FC × Accent × Environment | 87.286 | 232.349 | 0.376 | 2,28 | 0.6902 |

**Table 51 Discrimination test ANOVA analysis**

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[117] The Stop, Fricative and Liquid/Semivowel categories were here collapsed into a single pre-consonantal environment to keep the number of judgment sentences within a manageable limit (24 items).

[118] As noted in chapter 5, this test was administered only during data collection in 1998, and so this data was not available for those speakers recorded in 1997.

From the table it can be seen that there were three major results:

- stress (accented vs unaccented syllables) as a significant main effect,
- phonetic environment as a significant main effect,
- a significant interaction between word class (function versus content words) and phonetic environment.

No other significant effects or interactions were found. First, the average rate of acceptance of glottal pronunciation for /t/ was significantly higher for unaccented items than accented items (Unaccented mean = 31%, Accented mean = 23%, F(1,14)=6.274 $p$=0.0252). As was predicted, accenting highlights the salience of the glottal pronunciation, which was therefore judged less acceptable than unaccented glottal pronunciations.

As in the Interview and Reading Passage results, the effect of phonetic environment was highly significant ($p$<0.001). Pre-vocalic t-glottalling has a mean acceptability of 4.7% across the 16 speakers. Pre-pausal t-glottalling was acceptable at a mean rate of 13.3% for the 16 speakers. Pre-consonantal t-glottalling was accepted at a mean rate of 63.5%. Examination of the result for environment using the Newman Keuls test for pairwise comparison showed that the consonantal environment was significantly different from the pre-vocalic and the pre-pausal environments ($p$<0.02). The prevocalic and prepausal results were not significantly different from each other.

In addition, a significant interaction was found between the division between content words and functional words and phonetic environment ($p$<0.05). This was explored further using tests of simple effects.

| Simple Effects | F | df | $p$ | Means: | V | C | P |
|---|---|---|---|---|---|---|---|
| Environment at Content word | 51.05 | 2,28 | **<0.001** | Content | 4.7 | 69.2 | 10.9 |
| Environment at Function words | 25.94 | 2,28 | **<0.001** | Function | 4.7 | 57.7 | 15.6 |

**Table 52 Discrimination test Simple effects: Environment at Content vs Function word**

Only the difference between content and function words at the pre-consonantal environment was near significance (F(1,14)= 3.95, $p$<0.07). Environment was highly significant for both content and function items ($p$<0.001). Further, pairwise comparisons of the interaction between word type and environment showed that the mean for Function word before #Pause (15.6) was significantly different from the means before #Vowel ($p$<0.05). The two means before #Consonant were significantly different from each other ($p$<0.01).

Within the separate phonetic environments, then, there are indications that acceptability follows certain other factors as well, such as accentuation and the content/function word class split. It seems that the pre-consonantal environment is so well accepted that the content items

actually lead the function items within this environment (and the difference is significant at $p<0.01$), while function words are 'spearheading' acceptability in pre-pausal environments (it must be noted that the difference between function and content items pre-pausally is not significant here, although the 'function at pre-pausal' condition is significantly different from the pre-vocalic conditions, $p<0.05$). The pre-vocalic environment is the most highly stigmatised. As we saw in the reading passage results, prevocalic and pre-pausal environments in careful speech also strongly disfavour t-glottalling.

In summary then, phonetic environment is a better predictor of acceptability judgements than the division between different word categories. T-glottalling is clearly a contextually- determined variant, both in production and reception. In the case of reception only, Stress (here called accent) differences are significant, as the above results show, while the difference between content and function items has a lesser effect which interacts with phonetic environment. The role of word stress and word class in production of glottal stop has not been studied here, but could prove to be a fruitful area of future research.

The results reported here suggest that these speakers make overt judgments of correctness which reflect their Reading Passage speech style, and not their Interview (less formal) Style of speech. Few speakers overtly accept t-glottalling in pre-vocalic and pre-pausal environments, just as they generally avoid t-glottalling in these environments in the Reading Passage data.

It should also be noted that there were no significant differences involving the division of speakers according to sex. This reflects the lack of male versus female differences in both casual (Interview Style) and careful speech (Reading Passage style). We cannot point to one of the sexes leading the change to t-glottalling word-finally; similarly, we cannot see a sex difference in acceptability judgements and therefore cannot conclude that one sex is leading the move away from stigmatisation of t-glottalling.[119]

If we arrange the means from greatest to least acceptability, using only the significantly different means, we see the following scale:

pre-consonantal content > pre-consonantal function > pre-pausal > pre-vocalic

As t-glottalling becomes more and more common in the speech of these upper-middle class, public-school background speakers, so acceptance of it has followed the same pattern, proceeding from pre-consonantal to pre-pausal to pre-vocalic environments. In the case of the pre-pausal and pre-vocalic environments word-finally, it is still highly stigmatised in more formal speech styles, a fact which is reflected in patterns of style-shifting.

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[119] The sample size was too small to enable reliable analysis of the discrimination data by region.

# CHAPTER 7: CONCLUSIONS: THE SOCIOLINGUISTIC STATUS OF T-GLOTTALLING

In chapter 6 we examined the results of the data analysis central to this study. Our task now is to unite the various results into a coherent account of the status of t-glottalling in the speech of these young ex-public school speakers, a variety which we called 'modern' RP in earlier chapters. There are four major results, pointing in a similar direction, which require interpretation:

1. the regional differences,
2. the uniformity of the school status results,
3. the influence of phonetic environment on t-glottalling production and reception,
4. the lack of male/female differences.

Another result concerning the analyses by parental Origin and School association is somewhat more complicated, and will be discussed separately. Finally, we will also consider the implications of the data for phonological and sociolinguistic theories.

We start by reconsidering the regional differences found in Interview Style. Interview Style is the less formal of the two styles of speech represented in the data (although note that it probably does not represent these speakers' most casual speech styles). In this non-formal speech, we can see a wave-like profile of t-glottalling through the regions, beginning with speakers in London (see Figure 25). The regional spread of t-glottalling word-finally from London is simple to explain: its source in London speech has provided an influential location for its spread, both because of the size of the population and London's dominance of the Southeast. Post-war migration of London speakers to areas further afield has also played a part in spreading features of London popular speech (Kerswill and Williams 1994). Rates of t-glottalling for the speakers in the present sample are highest in London itself. The Home Counties also show high rates of t-glottalling, but only in the case of the pre-consonantal and pre-pausal environments; the pre-vocalic environment does not show t-glottalling at the same rate as in London. That these public school speakers approach, but do not replicate, the norms of London speech can be seen by com-

paring these results with Pointner's Cockney data (Pointner 1996: 102-104, presented in chapter 2), which showed an average rate of 92% word-final t-glottalling across all environments. The corresponding London average in my data is 65%, for the Home Counties 61%, and for the 'rest of England' category, 51%. Within word-final t-glottalling, then, there is a quantitative difference between London working class speech and London upper middle class speech, as well as a significant difference between upper middle class speech in the Southeast and the other regional areas in pre-vocalic and pre-pausal environments.

The second major result of the present analysis was the uniformity of the groups across different measures of school status. As was discussed in chapter 5, educational history in primary and secondary school was considered under the 'educational factor' rubric. No significantly different groups were found within most of the educational factors (but see the discussion of the HMC result below). These students' educational backgrounds do not have a statistically significant influence on the rates of t-glottalling that they exhibit. T-glottalling is probably not a variable which can be used to separate 'county primary' from 'independent primary' students, boarders from day students, top league schools from less academic schools.

The third result was the strong conditioning by phonetic environment on the production rates of t-glottalling as well as the overt acceptability of t-glottalling. Moreover, the acceptability ratings followed the phonetically-conditioned 'wave' which we saw in the regional results for Interview Style: Consonant > Pause > Vowel. Here we can see an interplay between usage and acceptability: acceptability lags behind usage, and usage must reach a critical level before acceptability of the previously stigmatised variable begins. One could hypothesise that the critical level of usage is 50% in casual speech:[120] the stigmatised variant must regularly occur more often than it does not in a specific phonetic environment before overt acceptability judgments start to reflect the new status of the previously stigmatised variant. This hypothesis matches the data presented in chapter 6. As we saw in Figure 4, only the preconsonantal environments in Interview Style reach an average over 50%. The pre-vocalic and pre-pausal results show averages below 50%.

One further result of the present analysis is the overall lack of male-female difference in t-glottalling. Rather than being a clearly male-led, vernacular variant or a female-led prestige variant, t-glottalling seems to be a form which is led by young people in general, originating in London (as noted by writers since Wells 1982).

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[120] This idea was suggested to me by Preston's (1991) discussion of VARBRUL weightings above and below 0.5 in the interpretation of social class and stylistic variation. Preston explores the concept of social class and stylistic factors in variation as metaphorical "weights on a coin" which bias the rates of occurrence of stigmatised or prestige variants in a given speech situation.

We turn now to the results for parental background. An explanation for these results is more difficult to find, and thus more speculative, than the other results. It is not clear why speakers of mixed background should show significantly higher rates of t-glottalling than speakers with a non-mixed background. The fact that the speakers with a mixed background show higher rates of t-glottalling in both speech styles (with the caveat that it is not possible to definitively separate this result from the regional result) suggests that these speakers are somehow less affected by a stigma against t-glottalling, but further investigation is needed in this area.

As we discussed in chapter 6, a combination of several factors was probably also responsible for the result in the school association analyses, where in Reading Passage Style the HMC group showed significantly higher rates of t-glottalling before stops. Due to a possible overlap with other categories, this was attributed to a combination of other non-significant trends in the reading passage data:

1. a regional trend with the Southeast group leading in pre-consonantal environments,
2. the gap between males and females in pre-stop environment in reading passage data,
3. a 'parental origin' trend with mixed background speakers leading in pre-stop environment.

As we also noted in chapter 6, it remains a speculative conclusion that the male 'public school' speakers from the Southeast are leading a shift way from the stigmatisation of t-glottalling pre-consonantally in careful speech. Confirmation of this by means of a comparison with male HMC school students from outside the Southeastern region was not possible within the scope of the present study, but should be considered in future work.

If there is a male versus female factor involved here, it is not strong enough to affect the overall analysis by sex either in Interview or Reading Passage style. In the light of the results of the present study, we cannot analyse t-glottalling as a male-led change-in-progress.

This overall lack of significant male/female difference in the results has implications for the 'sociolinguistic status' of t-glottalling. This status can be expressed in terms of whether t-glottalling is understood by the speech community primarily as a 'rough' norm, a 'sophisticated' norm, or perhaps as something in between.

We can find indications of a possible answer to the question of t-glottalling's status by examining the results for male versus female speakers in Interview Style, the speech style in the present study closest to casual, unmonitored speech. As the simple effects for sex and phonetic environment in Interview Style showed, mean rates of t-glottalling in the separate phonetic environments do not show significant differences between males and females.

| Simple Effects | F | df | *p* | Means: | Male | Female |
|---|---|---|---|---|---|---|
| Sex at S | 0.128 | 1,63 | 0.722 | S | 70 | 73 |
| Sex at F | 0.057 | 1,63 | 0.812 | F | 68 | 67 |
| Sex at LS | 0.001 | 1,63 | 0.972 | LS | 83 | 83 |
| Sex at V | 0.446 | 1,63 | 0.507 | V | 42 | 37 |
| Sex at P | 1.185 | 1,63 | 0.183 | P | 41 | 32 |

Extract from Table 12 (see chapter 6, section 6.2.1)

There are small, non-significant differences at the pre-vocalic and pre-pausal environments, where the males use t-glottalling more than the female speakers, but the result for the Stops category shows a slightly higher (non-significant) rate for female speakers. These data show that t-glottalling has no consistent marking as a 'male', vernacular form; nor does t-glottalling show the characteristic higher levels of use by females which indicate a prestige form. On this basis, and given that t-glottalling does not appear to be strongly male-led or female-led, we conclude that sociolinguistically, t-glottalling for this generation lies between 'roughness' and 'sophistication', between stigma and prestige.

T-glottalling in this study *does* however clearly show one feature of a vernacular or 'rough' form: it occurs at a lower rate in formal styles of speech. The significant style-shifting differences between Interview Style and Reading Passage Style which characterises all speakers show this (see chapter 6, section 6.7).

In summary, then, while t-glottalling in some respects looks like a vernacular feature (because of style-shifting), it does not exhibit strongly male-led characteristics. Nor does it exhibit features of a prestige innovation, as the change is not being led by women. Our conclusions are therefore that

1. T-glottalling in modern RP is stable in pre-consonantal environments in both speech styles and is accepted by these speakers in formal and non-formal speech.
2. It has entered modern RP as a vernacular change (spreading out from London), but its vernacular status is obscured by other factors.
3. It has to some extent lost its stigma, *but not yet acquired prestige*, in word-final pre-pausal and pre-vocalic environments.

In this context we can compare Holmes' work on t-glottalling as a prestige feature of New Zealand English (Holmes 1995). T-glottalling in New Zealand is being led by women, and, thus has prestige there. Mees (1987), as well as Mees and Collins (1999), report similar results: in Cardiff it is the middle class female speakers who show most t-glottalling, establishing it as a

prestige variant in Cardiff. For these 'modern RP' speakers, most of whom have strong links with the Southeast, the working class origin of t-glottalling is more apparent, and this can perhaps lead to a lag in t-glottalling's acquisition of prestige, even though its loss of stigma word-finally is already well advanced.

In the area of phonological theory, as discussed briefly in chapter 2, we can suggest two results which perhaps should be incorporated into a phonological account of t-glottalling. First of all, the acceptability or 'grammaticality' of t-glottalling seems to be dependent on speech style. While t-glottalling before Vowel and Pause is 'grammatical' in Interview Style, and occurs frequently, it is not clear that t-glottalling prevocalically and pre-pausally are to be regarded as 'grammatical' in more formal styles of speech. The near-absence of t-glottalling in these environments in the Reading Passage data, combined with its low level of acceptance in the same environments in the discrimination test, indicates that these facts should be incorporated into a description of t-glottalling. Another phonologically-significant result, also related to speech style, was that the category of True Consonant, uniting oral and nasal stops, affricates and fricatives, could be applied to the Interview Style data, but not to the Reading Passage data. The robustness of these results across the statistical analyses suggests strongly that these insights should be incorporated into a phonological description.

We turn finally to implications of the present study for language pedagogy. As was discussed in chapter 3, one of the pressing pedagogical issues is to decide what status t-glottalling has for the purposes of teaching English as a foreign language. Again, empirical results can help us to decide. The generation represented here (20-30 year olds) uses t-glottalling at a uniformly high rate pre-consonantally in Interview Style: the rates are very similar across speakers. The utterance-final position (pre-pausal) is more controversial, since it shows much greater variation between speakers, and variation which has been shown to be a regionally-determined. High rates of t-glottalling in the pre-vocalic environment in Interview Style are restricted to London speakers.

In addition, pre-pausal and pre-vocalic t-glottalling are avoided in Reading Passage style. If we take London as the basis of innovations in the standard accent, as it seems to have been for some time (Wells 1982: 106), there is some support for the idea that the pre-pausal environment will become the next 'acceptable' environment, perhaps within the next generation or two.

However, this change has not yet occurred; pre-pausal and prevocalic t-glottalling have not yet come into more formal speech, as the reading passage and style-shifting results showed.

In addition, variation in rates of usage for pre-pausal t-glottalling in Interview Style within the population do not show the same consistently high rates as the pre-consonantal environment, and so it seems premature to accord pre-pausal t-glottalling the same status. Pre-vocalic

t-glottalling at a significantly high rate (London 55% versus Home Counties 38% versus else-where 25%) seems to be restricted to speakers from London as a group, although other speakers do certainly have it, as the figures show. The London speakers here form a group separate from the rest of England.

These results point us towards a 'teaching model' definition: word-final pre-vocalic glottalling is a localised London feature of non-formal speech alone, and not something we can regard as widespread, remembering that 'widespread distribution' was the criterion used by Windsor Lewis for General British; see chapter 2. Regional levelling has occurred across the pre-consonantal environments, and social levelling has occurred in London, where public school students have moved towards popular London usage of glottal stop, without in any way approaching London norms.

We return now to the concept of non-localisability (see section 3.5) and discuss it in the context of sociolinguistic theory. Wells (1998) proposes non-localisability as the single most important criterion for RP. The present study provides support for Wells' definition from a sociolingusitic standpoint. Non-localisability, as we have shown through the quantitative sociolinguistic analysis presented in this study, can be tested empirically: do the socially-defined speakers from different regions show significantly different results? If so, the feature in question is not part of c-RP. If not, the feature displays non-localisability. The regional results based on n-RP presented above now give us a basis for deciding which non-localisable forms are to be defined as within c-RP. First, we need to acknowledge a difference between degrees of formality within an RP model. In a less formal style of speech, word-final pre-consonantal t-glottalling is a non-localisable feature. Word-final pre-pausal t-glottalling is approaching non-localisability, but has not moved significantly further than the Home Counties. Word-final pre-vocalic t-glottalling occurs in the speech of all speakers in the sample; but t-glottalling in this position at a significantly high rate (over 50%) is a localisable London feature. In formal speech, t-glottalling occurs only pre-consonantally, and is absent from pre-pausal and pre-vocalic glottalling. All speakers show this result in formal speech, and so it must be considered a widespread and non-localisable characteristic, and thus part of c-RP.

As a recommendation for foreign language teaching then, it seems reasonable to describe t-glottalling as an emerging standard pronunciation in word-final environments (which need to be distinguished from word-internal environments). Speech style and levels of speech formality also play a crucial role: t-glottalling is generally reduced in formal style. The conditioning phonetic environment is another important parameter in t-glottalling's description. Word-final pre-consonantal t-glottalling may be considered non-localisable and acceptable, in formal as well as less-formal speech. Utterance-finally, before pause, however, t-glottalling is less widespread in

the population, and foreign speakers may choose whether they wish to use a pronunciation which is 'ahead of' the native population, or lags behind it (the latter may be more sociolinguistically acceptable for foreign speakers). Word-final pre-vocalic t-glottalling, as we have seen, is probably to be used cautiously, as it still provokes negative judgments by native speakers, and is generally avoided by them in their formal speech. This solution maintains a reasonable compromise between the need to 'bring RP up-to-date', and to keep a linguistic distance from the newest developments until such features have stabilised and become 'acceptable'. As we have seen in the present study, the status of t-glottalling can be characterised as a middle position between stigma and prestige. Future modern RP speakers may well bring the change to completion.

The results for t-glottalling presented here are not to be understood as sufficient evidence for Estuary English. As we have seen, the London speakers exhibit significantly higher rates of word-final t-glottalling before Vowels than the speakers from other regions. At the same time, while they do not reveal significantly different rates of t-glottalling in formal speech, the differences were close to significance. If it were clear that the London speakers showed significant differences in t-glottalling over all environments and both speech styles, there would be some support for the idea that they represented a distinct variety of speech. However, this is not the case, and so it remains unclear to what extent the London speakers represent a separate variety. It is perhaps unclear whether London and the Home Counties unite in a single levelled variety, as they do not present systematic differences over all phonetic environments and both speech styles. It must also be remembered that the analyses according to educational background (as we saw in chapter 3, a socio-economically determined factor, and thus related to social class) presented a homogeneous picture of t-glottalling. While t-glottalling is clearly spreading geographically, and, as we can see from the present study, has reached the upper middle class, and so has spread socially from working-class London speech, there is not enough evidence on the basis of one linguistic feature alone for a variety which can be labelled Estuary English.

What then of the future of t-glottalling? It may or may not proceed to become a prestige variant in upper-middle class speech; whether it does or not hinges on its acceptance and increased adoption by female speakers. The next few generations will prove crucial in determining whether t-glottalling continues to advance or stagnates. If t-glottalling in pre-vocalic and pre-pausal environments continues to spread from London and reaches the hypothesised 50% point at which acceptability can begin (see footnote 120, p 143), the stage will be set for it to gain overt acceptability, in tests such as the discrimination test discussed in chapters 5 and 6, and, if adopted by female speakers, to gain prestige.

One other interesting feature of t-glottalling is perhaps pushing this feature along the path away from stigma and towards prestige. As we noted in chapter 2 (see p 24), in the discussion of

Trudgill's (1986) presentation of features which contribute to making a linguistic feature salient, t-glottalling fulfilled all criteria bar one: "increased awareness is also attached to variables that are involved in the maintenance of phonological contrasts" (Trudgill 1986: 11). T-glottalling does not generally have phonemic status, a fact which needs to be balanced against the other criteria: the auditory distance between [t] and [?], t-glottalling's relationship to orthography, and the ongoing process of linguistic change, all of which lead to t-glottalling's salience. As we saw chapter 6, t-glottalling has largely lost its overt stigma in pre-consonantal environments. T-glottalling's position as a stigmatised form in British English is in the balance: whether or not t-glottalling remains an allophonic variant will also have a bearing upon its future progress as a linguistic change.

We began this study with Well's observation: "...the increased use of glottal stops within RP may reasonably be attributed to influence from Cockney and other working class speech. What started as a vulgarism is becoming respectable" (Wells 1994a: 201). In the light of the sociolinguistic situation we have uncovered here, it seems only fitting to end it with a comment from Nolan (forthcoming: 12), where, in response to his own tongue-in-cheek question,

*Do the changes in RP mean that the British prestige variety is deteriorating?*

Nolan replies:

> Yes, of course. Ever since Chaucer, and earlier. The situation is only mitigated by the merciful habit of Nature to replace an older generation with a young generation who don't realise how bad things have become.

# APPENDICES

**Appendix 1: Interviewees' age spread**

| | |
|------|-----|
| M1 | 31 |
| M2 | 22 |
| M3 | 24 |
| M4 | 22 |
| M5 | 20 |
| M6 | 26 |
| M7 | 18 |
| M8 | 20 |
| M9 | 20 |
| M10 | 21 |
| M11 | 20 |
| M12 | 31 |
| F1 | 24 |
| F2 | 22 |
| F3 | 19 |
| F4 | 20 |
| F5 | 22 |
| F6 | 21 |
| F7 | 19 |
| F8 | 22 |
| F9 | 24 |
| F10 | 19 |
| F11 | 20 |
| F12 | 20 |

Male average age 23
Female average age 21

Standard deviation Male          4.3
Standard deviation Female      1.8

**Appendix 2: Interview protocol**

*Personal information:*

What is your full name?

Birth date?

Where were you born?

How long did you live there?

Have you lived in any other places?

What is your earliest memory?

Can you tell me about your parents? Where they were born, what they do?

Do you have any brothers or sisters?

How old are they?

Where do they live?

Do they have jobs or are they studying/still at school?

Are they married? What jobs do their spouses have?

Where did you go to primary school/prep school?

Can you describe your school for me?

Are there any teachers you particularly remember from primary school and why?

Did you like school in general at that age?

What about your secondary education?

Can you describe the school?

Would you say it was very traditional?

Any memorable teachers from secondary school?

What subjects did you take for the various exams, GCSC, A-levels

What subjects are you studying here?

Which college are you at?

What made you choose that particular college?

What was your interview like?

Were you nervous?

What do you think of college life?

What sort of employment are you interested in after you've finished studying here?

*Language background:*

Did you only speak English as a child?

Have you learned languages at school?

Are you studying languages now?  Which ones?

Did your mother or father ever talk about the way you spoke as a child?

Did they ever correct you or your brothers or sisters?

Do you remember changing the way you spoke after you went to school?

Have you ever been to any form of speech or drama training? For how long?

What do you think about accents on the BBC?

Do you think that the way you speak will make a difference when you are interviewed for your future job?

*Other interests:*

What do you enjoy doing in your spare time?

Have you travelled much? Where to?

**Appendix 3: Reading Passage 1**

The text is from Chapter 3 of E.M. Forster's *A Room with a View* (Penguin, 1990: 50-51) slightly adapted and with simplified punctuation to aid reading aloud. Shown here is a near-facsimile of the sheets as presented to the interviewees, but annotated with footnotes to show where the original text was modified.

---

**NB: the tape will be stopped so that you can read this through.**

**Reading Passage**

Music, violets, and the letter "S"

It so happened that Lucy, who found daily life rather chaotic, entered a more solid world when she opened the piano. She was then no longer either deferential or patronising, no longer either a rebel or a slave. The kingdom of music is not the kingdom of this world. It will accept those whom breeding and intellect and culture have alike rejected. The commonplace person begins to play and shoots into the heavens[121] without effort, whilst we look up, marvelling how he has escaped us, and thinking how we could worship him, and love him, would he but translate his visions into human words, and his experiences into human actions. Perhaps he cannot; certainly he does not, or does so very seldom. Lucy had done so never. She was no dazzling performer[122]: her runs were not at all like strings of pearls, and she struck no more right notes than was suitable for one of her age and situation. Nor was she the passionate young lady who performs so tragically on a summer's evening with the window open. Passion was there, but it could not be easily labelled. It slipped between love and hatred and jealousy, and all the furniture of the pictorial style, and she was tragical, only in the sense that she was great. For she loved to play on the side of victory. Victory of what, and over what, that is more than the words of daily life can tell us. But that some sonatas of Beethoven are written tragic, no-one can gainsay. Yet they can triumph or despair, as the player decides, and Lucy had decided that they should triumph.

---

[121] Originally *the empyrean.*
[122] Originally *exécutante.*

A very wet afternoon at the Bertolini permitted her to do the things she really liked, and after lunch, she opened the little draped piano. A few people lingered round and praised her playing, but finding that she made no reply, dispersed to their rooms to write up their diaries or to sleep. She took no notice of Mr. Emerson, looking for his son, nor of Miss Bartlett looking for Miss Lavish, nor of Miss Lavish looking for her cigarette case. Like every true performer, she was intoxicated by the mere feel of the notes. They were fingers caressing her own, and by touch, not by sound alone, did she come to her desire.

Mr. Beebe, sitting unnoticed in the window, pondered over this illogical element in Miss Honeychurch, and recalled the occasion at Tunbridge Wells, when he had discovered it. It was at one of these entertainments, where the upper classes entertain the lower. The seats were filled with a respectful audience, and the ladies and gentlemen of the parish, under the auspices of their vicar, sang, or recited, or imitated the drawing of a champagne cork. Among the promised items was "Miss Honeychurch, piano, Beethoven", and Mr. Beebe was wondering whether it would be "Adelaide" or the "March of the Ruins of Athens", when his composure was disturbed by the opening bars of Opus 111. He was in suspense all through the introduction, for not until the pace quickens, does one know what the performer intends. With the roar of the opening theme, he knew that things were going extraordinarily. In the chords that herald the conclusion, he heard the hammer strokes of victory. He was glad that she only played the first movement, for he could have paid no attention to the winding intricacies of the measure of nine sixteen. The audience clapped, no less respectful. It was Mr. Beebe who started the stamping. It was all that one could do.

**Appendix 4: Reading Passage 2**

From Wells, J.C. (1982) Accents of English (cassette tape). Cambridge: Cambridge University Press. The text was modified and presented in a similar way to Reading Passage 1 (Appendix 3).

One day last year, while[123] I was driving back to work after I'd had lunch, I had an amazing and unforgettable experience. It must have been two o'clock or perhaps a quarter of an hour later, a quarter past two. It was an incredible thing really. I was sitting there at the steering wheel of my new car, waiting for the lights to change, when all of a sudden the car started to shake this way and that, rocking from side to side, throwing me backwards and forwards, up and down. I felt as if I was riding a bucking horse. Worse than that, some mysterious spirit or hostile force seemed to be venting its vast fury upon the earth. And the noise! There was a kind of deep groaning and horrible awesome grinding which seemed to fill the air, and then, a short while after, the whole paroxysm stopped[124], just as suddenly. Everything was calm and smooth again, quiet and peaceful once more. I put my foot down, just a gentle pressure on the accelerator, or the gas pedal, as it's known in America, and drove off. Everything was utterly normal once more. So then, was this some very local and momentary earth tremor which had struck us, or, I ask myself, was it a supernatural visitation, some fiery storm of diabolical wrath? Or was it, rather, merely that I'd drunk a double vodka or two during my lunch?

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[123] Originally *when*.
[124] Originally *had stopped*.

**Appendix 5: Word list 1997**

Have you read any good books lately?
I can't stop worrying about her.
Please stop opening the door.
Songs round the campfire
Won't you please help me?
He hasn't got the gumption to see this through.
What's happening?
He said "Open sesame!".
She doesn't like Chinese cooking.
It's as American as apple pie
Don't call me 'cupcake'.
Don't stop me now.
Follow that car!
It went that way!
That's it! Quite!
It's not always the way it seems.
Michaelmas Term and Lent Term.
Take a look around.
What a scrumptious meal!
The red light means "Stop".
Is that malt whisky?
I'll wash the mattress protector.
A petrol tanker ran aground yesterday.
Put some cotton wool on that cut.
He works for Newsroom Southeast.
Will he go to Eton College?
I don't want to go to cattle sales!
When was the Battle of Britain?
She was standing at the gatepost.
Leave your coat on the hatstand.
He's learned to do neater writing.
Her son is a very sick boy.
It's a quick walk to the station.
The sign says "Walk".
Take a walk around the block.
What is the bank balance?
I couldn't hear what you said.
I'm going to buy some silk pyjamas.
I took a train to Clapham Junction.
That's sickening!
Would you like eggs and bacon?
One, two, buckle my shoe.
That boy had a flick-knife!
The teachers do a lot of backstabbing.
It's about time we stopped this.

**Appendix 6: Word list 1998**

Have you read any good books lately?
I can't stop worrying about her.
Please stop opening the door.
Songs round the campfire
Won't you please help me?
He hasn't got the gumption to see this through.
What's happening?
He said "Open sesame!".
She doesn't like Chinese cooking.
It's as American as apple pie
Don't call me 'cupcake'.
Don't stop me now.
Follow that car!
It went that way!
That's it! Quite!
It's not always the way it seems.
Michaelmas Term and Lent Term.
Take a look around.
What a scrumptious meal!
The red light means "Stop".
Is that malt whisky?
I'll wash the mattress protector.
A petrol tanker ran aground yesterday.
Put some cotton wool on that cut.
He works for Newsroom Southeast.
Will he go to Eton College?
I don't want to go to cattle sales!
When was the Battle of Britain?
She was standing at the gatepost.
Leave your coat on the hatstand.
He's learned to do neater writing.
Her son is a very sick boy.
It's a quick walk to the station.

The sign says "Walk".
Take a walk around the block.
What is the bank balance?
I couldn't hear what you said.
I'm going to buy some silk pyjamas.
I took a train to Clapham Junction.
That's sickening!
Would you like eggs and bacon?
One, two, buckle my shoe.
That boy had a flick-knife!
The teachers do a lot of backstabbing.
It's about time we stopped this.
chance
plastic
calf
Catholic Mass
maths
bath
dance
castle

Tuesday
during
not yet

more and more
law and order

happy
fury
private
delicate
chocolate

**Appendix 7: The Discrimination test**

This test was devised to determine if there were significant differences in the rates of acceptability of glottal stop for word-final /t/. My first hypothesis was that there would be a lower rate of acceptability for t-glottalling in the environments pre-Pause[125] and pre-Vowel than in the environment pre-consonant. Another hypothesis was that lexical items (here called **content** words) would be less readily accepted with glottal stop for /t/ than grammatical items (here called **function** words), and that accented items would be less readily accepted than unaccented items. Given the lack of significant sex difference in the usage data for t-glottalling (see chapter 6), it was also interesting to know if the reception data showed a sex difference.

I constructed sentences/phrases which fulfilled the following criteria:

- Only one occurrence of *only* the relevant variable (t) per test item (no occurrences of post-tonic /p/ or /k/ which may confuse hearers).

- Each content versus function word sentence item matched rhythmically shown with full (F) and reduced (R) syllables below (with the exception of pair 4 and 16, an unintentional error).

The sentence reading was performed by Inger Mees. The tape was listened to by Alan Howells, who confirmed that it represented natural spoken standard British English.

The test sentences were:

*Set 1 sentences*

| | | | |
|---|---|---|---|
| 1) | con#C acc | We saw some light blue sky. | FF-RFFF |
| 2) | con #V acc | She just cut a finger. | F-RF-RF-R |
| 3) | con #P acc | See the boat. | F-RF |
| 4) | con #C unacc | Do you eat bacon? | F-RFF-R |
| 5) | con #V unacc | One bucket of sand. | FF-RRF |
| 6) | con #P unacc | I've <u>had</u> a cat. | FF-RF |
| | | | |
| 7) | funct #C acc | I'll argue that with him. | FF-RFFF |
| 8) | funct #V acc | They are at a luncheon. | F-RF-RF-R |
| 9) | funct #P acc | I did not. | F-RF |
| 10) | funct #C unacc | They ran but missed her. | FF-RF-R |
| 11) | funct #V unacc | He gnawed at a bone. | FF-RRF |
| 12) | funct #P unacc | I'm sure of it. | FF-RR |

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[125] It should be noted that the definition of 'pause' in the discrimination test differs from that used in the analysis of Interview and Reading Passage data. In the discrimination test, all pre-pausal items are in fact sentence-final, whereas Pause in the Interview and Reading Passage data was defined as a period of silence, not necessarily occurring at the end of a grammatical unit (see chapter 5, section 5.9). The criteria of 'a period of silence' is the same for both.

*Set 2 sentences*

| | | | |
|---|---|---|---|
| 13) con #C acc | I didn't shut the door. | FF-RFFF |
| 14) con #C acc | Did you meet the leader? | F-RF-RF-R |
| 15) con #P acc | Mind his hat. | F-RF |
| 16) con #C unacc | Who's wicket keeper? | FF-RF-R |
| 17) con #V unacc | My jacket is warm. | FF-RRF |
| 18) con#P unacc | I know he's late. | FF-RF |
| | | |
| 19) funct #C acc | She wondered at the price. | FF-RFFF |
| 20) funct #V acc | I am not a liar. | F-RF-RF-R |
| 21) funct #P acc | Where was that? | F-RF |
| 22) funct #C unacc | We tried but lost her. | FF-RF-R |
| 23) funct #C unacc | He's down at the farm. | FF-RRF |
| 24) funct #P unacc | He labelled it. | FF-RR |

Note that in general each type of sentence occurs twice, but that the function #V unaccented and content #V accented types occur only once each (due to an overlooked error).

The test tapes as recorded (with the sentences in a scrambled order)

Order of presentation (counterbalanced): Glottal - Alveolar (GA) or Alveolar - Glottal (AG)

**TAPE** 1
Set 1, Version 1

We saw some light blue sky. (G,A)
He gnawed at a bone. (A,G)
One bucket of sand. (A,G)
I'm sure of it. (G,A)
I've had a cat. (A,G)
They are at a luncheon. (G,A)
I did not. (G,A)
See the boat. (A,G)
They ran but missed her. (G,A)
Do you eat bacon? (A,G)
I'll argue that with him. (A,G)
She just cut a finger. (G,A)

Set 2, Version 1

I didn't shut the door. (A,G)
He's down at the farm. (G,A)
My jacket is warm. (G,A)
He labelled it. (A,G)
I know he's late. (G,A)
I am not a liar. (A,G)
Where was that. (A,G)
Mind his hat. (G,A)
We tried but lost her. (A,G)
Who's wicket keeper? (G,A)
She wondered at the price. (G,A)
Did you meet the leader? (A,G)

**TAPE 2**

Set 2, version 2

I didn't shut the door. (G,A)
He's down at the farm. (A,G)
My jacket is warm. (A,G)
He labelled it. (G,A)
I know he's late. (A,G)
I am not a liar. (G,A)
Where was that. (G,A)
Mind his hat. (A,G)
We tried but lost her. (G,A)
Who's wicket keeper? (A,G)
She wondered at the price. (A,G)
Did you meet the leader? (G,A)

Set 1, version 2

We saw some light blue sky. (A,G)
He gnawed at a bone. (G,A)
One bucket of sand. (G,A)
I'm sure of it. (A,G)
I've had a cat. (G,A)
They are at a luncheon. (A,G)
I did not. (A,G)
See the boat. (G,A)
They ran but missed her. (A,G)
Do you eat bacon? (G,A)
I'll argue that with him. (G,A)
She just cut a finger. (A,G)

The instructions given at the Interview:

I want you to listen to twenty-four pairs of sentences. I'll stop after each pair, and I want you to tell me which one you would consider to be standard, good, correct pronunciation. You can say, the first, the second, both, or don't know. I can't reply to what you say while we're doing the test, we'll just run through it but then we can talk about it at the end.

The scoring sheet was arranged thus:

| Example number | A | B | Both | don't know | Example number |
|---|---|---|---|---|---|
| 1 | | | | | 1 |
| 2 | | | | | 2 |
| … | | | | | … |
| 23 | | | | | 23 |
| 24 | | | | | 24 |

Name:………………………………

Tape no:………………..

Data matrix used in the analysis:

| ID number | Sex | 111 | 112 | 113 | 121 | 122 | 123 | 211 | 212 | 213 | 221 | 222 | 223 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | male | 0 | 100 | 0 | 0 | 100 | 0 | 0 | 100 | 0 | 0 | 50 | 0 |
| 2 | female | 0 | 50 | 0 | 0 | 100 | 0 | 0 | 100 | 0 | 0 | 50 | 0 |
| 3 | male | 0 | 100 | 0 | 0 | 100 | 0 | 0 | 66 | 0 | 0 | 100 | 0 |
| 4 | female | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | male | 100 | 100 | 100 | 0 | 100 | 100 | 100 | 100 | 100 | 50 | 100 | 100 |
| 6 | female | 0 | 100 | 50 | 0 | 100 | 0 | 0 | 66 | 50 | 0 | 100 | 0 |
| 7 | male | 0 | 100 | 0 | 0 | 100 | 0 | 0 | 66 | 0 | 0 | 50 | 0 |
| 8 | male | 0 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | female | 0 | 50 | 0 | 0 | 66 | 0 | 0 | 66 | 0 | 0 | 50 | 0 |
| 10 | female | 0 | 50 | 0 | 0 | 66 | 0 | 0 | 100 | 0 | 0 | 100 | 0 |
| 11 | male | 0 | 100 | 0 | 0 | 100 | 50 | 0 | 100 | 50 | 0 | 100 | 100 |
| 12 | male | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | 0 | 0 | 0 |
| 13 | male | 0 | 50 | 50 | 0 | 100 | 0 | 0 | 100 | 100 | 0 | 50 | 0 |
| 14 | female | 0 | 100 | 0 | 0 | 33 | 0 | 0 | 33 | 0 | 0 | 0 | 0 |
| 15 | female | 0 | 50 | 0 | 0 | 66 | 0 | 0 | 100 | 0 | 0 | 0 | 0 |
| 16 | female | 0 | 50 | 0 | 0 | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Codes for sentence categories:

111 content unaccented vowel
112 content unaccented consonant
113 content unaccented pause
121 content accented vowel
122 content accented consonant
123 content accented pause
211 function unaccented vowel
212 function unaccented consonant
213 function unaccented pause
221 function accented vowel
222 function accented consonant
223 function accented pause

## Appendix 8: Personal background data

| Main ID | Recorded | Sample tape | Discr. test | Age | Education† | Parents' occupations‡ |
|---------|----------|-------------|-------------|-----|------------|------------------------|
| F1 | 1997 | B1 | | 24 | Tertiary (pg) | F: architect<br>M: – |
| F2 | 1997 | #9 | | 22 | Tertiary | F: solicitor<br>M: charity |
| F3 | 1997 | B2 | | 19 | Tertiary | F: scientist<br>M: secretarial |
| F4 | 1997 | #10 | | 20 | Tertiary | F: teacher<br>M: head teacher |
| F5 | 1998 | #15 | ID09 | 22 | Tertiary | F: lawyer<br>M: secretarial |
| F6 | 1998 | #2 | ID02 | 21 | Tertiary | F: accountant<br>M: charity |
| F7 | 1998 | B3 | ID04 | 19 | Tertiary | F: headmaster<br>M: teacher |
| F8 | 1998 | #6 | ID06 | 22 | Tertiary | F: civil servant<br>M: teacher |
| F9 | 1998 | #17 | ID10 | 24 | Tertiary (pg) | F: Air Force commander<br>M: – |
| F10 | 1998 | B4 | ID14 | 19 | Tertiary | F: solicitor<br>M: medical registrar |
| F11 | 1998 | B5 | ID15 | 20 | Tertiary | F: accountant<br>M: secretarial |
| F12 | 1998 | #18 | ID16 | 20 | Tertiary | F: lecturer<br>M: – |
| M1 | 1997 | #8 | | 31 | Tertiary (pg) | F: veterinary surgeon<br>M: calligrapher |
| M2 | 1997 | B6 | | 22 | Tertiary | F: real estate agent<br>M: – |
| M3 | 1997 | #11 | | 24 | Tertiary | F: barrister<br>M: charity |
| M4 | 1998 | #16 | ID11 | 22 | Tertiary | F: civil servant<br>M: film censor |
| M5 | 1998 | #4 | ID03 | 20 | Tertiary | F: medical specialist<br>M: teacher |
| M6 | 1998 | #12 | | 26 | Tertiary (pg) | F: statistician<br>M: teacher |
| M7 | 1998 | #1 | ID01 | 18 | Tertiary | F: accountant<br>M: scientist |
| M8 | 1998 | B7 | ID05 | 20 | Tertiary | F: professor<br>M: professor |
| M9 | 1998 | #7 | ID07 | 20 | Tertiary | F: civil servant<br>M:- |
| M10 | 1998 | #14 | ID08 | 21 | Tertiary | F: university lecturer<br>M: teacher |
| M11 | 1998 | B8 | ID12 | 20 | Tertiary | F: professor<br>M: teacher |
| M12 | 1998 | B9 | ID13 | 31 | Tertiary (pg) | F: –<br>M: psycho-therapist |

† (pg) denotes postgraduate
‡ – denotes no paid employment or deceased (M12)

**Appendix 9: Cambridge Scale Scores for occupations**

Only the Score and Group Description columns are included; and only that part of the table showing the higher group of scores is presented here. For the complete scale, see Prandy 1992.

| Score | SOC Groups Description |
|---|---|
| 55.29 | Marketing & sales managers |
| 55.35 | Chartered & certified accountants |
| 55.43 | Publicity & public relations managers |
| 55.93 | Building society, Post Office & postal service managers |
| 55.98 | Air traffic planners & controllers |
| 56.00 | Management accountants |
| 56.19 | Officials of associations, unions, professional bodies & charities |
| 56.24 | Environmental health officers |
| 56.64 | General administrators: government, education, health services |
| 56.76 | Electrical & electronic engineers: telecommunications |
| 56.91 | Design & development engineers: electronic |
| 57.06 | Other electronic engineers |
| 57.09 | Design & development engineers: mechanical |
| 57.21 | Other technologists |
| **57.49** | **Officers in armed forces (F9)** |
| 57.84 | Software engineers |
| 58.06 | Personnel, training & industrial relations managers |
| 58.23 | Chemical engineers |
| 58.36 | Aeronautical, automobile & other mechanical engineers |
| 58.42 | Local government senior officers |
| 58.79 | Retail pharmacists & opthalmic opticians |
| 58.89 | Property negotiators, auctioneers |
| 59.17 | Other electrical engineers |
| 59.50 | Other financial & office managers |
| 59.57 | Insurance managers |
| 59.74 | Metallurgists |
| **60.18** | **Chartered or certified accountants: private practice (F6, F11, M7)** |
| 60.35 | Pharmacists (general) |
| 60.39 | Local government civil engineers |
| **60.74** | **Property & estate managers (M2)** |
| 60.82 | Other managers & administrators |
| 61.03 | Social workers |
| 61.04 | Agricultural scientists |
| 61.09 | Secondary school non-academic teachers & special school teachers |
| 62.05 | Chemists |
| 62.06 | Other civil, structural, mining & quarrying engineers |
| 62.12 | Writers, journalists, information officers |
| 62.19 | Company secretaries |
| **62.43** | **Architects (F1)** |
| 62.97 | Other clergy |
| 63.26 | Naval Architects |
| 63.74 | Export managers |
| 64.20 | Advertising managers & executives |
| 64.62 | Treasurers & company financial managers |
| 64.75 | Probation officers |
| 64.80 | Higher & further education teachers |
| 65.06 | Primary & nursery teachers |
| **65.07** | **Therapists (M12)** |
| 65.34 | Bank managers |
| 65.52 | Physicists, geologists, meteorologists |
| 65.96 | Medical radiographers |
| 68.04 | Pharmacologists & non-retail pharmacists |
| **68.77** | **Other natural scientists (F3)** |

| | |
|---|---|
| 70.82 | General managers; large companies & organisations |
| 71.67 | Officers of the court, legal advisers |
| 72.02 | Biological scientists, biochemists |
| 72.44 | Town planners |
| **72.64** | **General administrators; national government (F8, M4, M9)** |
| 72.90 | Town planning assistants, technicians |
| **73.51** | **Solicitors (F2, F5, F10)** |
| **74.77** | **Actuaries, economists, statisticians (M6)** |
| **75.70** | **Secondary school teachers (F4, F7)** |
| 77.51 | Aircraft flight deck officers |
| **77.73** | **Veterinarians (M1)** |
| 78.86 | Librarians, archivists & curators |
| 80.30 | Private secondary school teachers |
| 80.36 | Dental practitioners |
| 81.38 | General medical practitioners |
| 82.04 | Clergy (established church) |
| **82.71** | **Judges, magistrates, barristers & advocates (M3)** |
| 83.18 | Polytechnic teachers |
| **85.02** | **Hospital medical staff, psychologists (M5)** |
| **85.04** | **University teachers (F12, M8, M10, M11)** |

**Appendix 10: Categories of speakers according to social and educational factors**

| ID | Sex | Region | London vs elsewhere | SE versus elsewhere | Parental origins | Prep/Ind vs Local | HMC/GSA School[126] | Day/ Boarding school | School league |
|---|---|---|---|---|---|---|---|---|---|
| M1 | 1 | 2 | 2 | 1 | 2 | 1 | 2 | 1 | 2 |
| M2 | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 |
| M3 | 1 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 1 |
| M4 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 |
| M5 | 1 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 1 |
| M6 | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 1 |
| M7 | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 1 |
| M8 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 1 |
| M9 | 1 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 1 |
| M10 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 |
| M11 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 |
| M12 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 1 |
| F1 | 2 | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 1 |
| F2 | 2 | 2 | 2 | 1 | 1 | 2 | 1 | 2 | 2 |
| F3 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 1 | 1 |
| F4 | 2 | 3 | 2 | 2 | 2 | 2 | 3 | 1 | 2 |
| F5 | 2 | 3 | 2 | 2 | 2 | 2 | 1 | 2 | 1 |
| F6 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 1 |
| F7 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 1 |
| F8 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 1 |
| F9 | 2 | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 2 |
| F10 | 2 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 2 |
| F11 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 2 |
| F12 | 2 | 3 | 2 | 2 | 2 | 2 | 1 | 2 | 1 |
| Key: | 1=M (12) 2=F (12) | 1=London (7) 2=HC (11) 3=Rest (6) | 1=London (7) 2=Rest (17) | 1=Southeast (18) 2=Rest (6) | 1=non British parent(s) (9) 2=British (15) | 1=Local (4) 2=Prep/Ind (20) | 1=GSA (7) 2=HMC (15) 3=neither[127](2) | 1=Day school (9) 2=Boarding school (15) | 1='top 100' (17) 2= not 'top 100' (7) |

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[126] The names of the schools the interviewees attended are omitted to preserve individuals' and schools' anonymity.

[127] This category includes one speaker whose school has subsequently closed; no information on the school was available via ( http://www:isis.org.uk ) See also footnote 88

**Appendix 11: Survey of Glottalisation Studies**

| RP | Examples | Environments | Jones 1923 | Jones 1932 | Firth [1935] 1957 | Christ-ophersen 1952 | O'Connor 1952 | Roach 1973 | Wells 1982 | Gimson 1989 | Cruttenden 1994 | Wells 1990b, 1994a, 1997a | London: Cruttenden 1994 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Glottal Rein-forcement of /p t k tʃ/, Pre-glottalisation | heighten | long V_.n̩ | | | | - | | variable | | | | | |
| | tartan, Eton | long V_ n̩ | | | | - | | variable | | | | | |
| | flatten | short V_.n̩ | | | | | | variable | | | | | |
| | button | short V_ n̩ | | | | | | variable | | | | | |
| | neutral | long V_.LS | | | | - | - | - | | | | | |
| | mattress | short V_.LS | | | | | - | - | + | | | | |
| | writes | _True C | | | | | | + | | + | + | | + |
| | witness | _.S | | | | | + | + | + | | + | | + |
| | Catford | _.F | | | | | | + | | | + | | + |
| | Gatwick | _.LS | | | | | | Type 2 | | | + | | + |
| | thoughtful | _+F | | | | + | + | + | + | | + | | + |
| | thoughtless | _+LS | | | | + | | Type 2 | | | + | | + |
| | suited | _+V | | | | - | | tʃ only | | | tʃ only | | tʃ only |
| | peat-bog | _++S | | | | + | + | + | | | + | | + |
| | nutshell | _++F | | | | + | + | + | | | + | | + |
| | bootlace | _++LS | | | | + | | tʃ only | | | + | | + |
| | street-artist | _++V | | | | + | - | tʃ only | | | tʃ only | | tʃ only |
| | beat | Long V_# | | | | + | | | | + | + | | + |
| | bit, commit | Short V_# | | | | + | | | | + | + | | + |
| | that part | _#S | | | | | + | | | + | + | | + |
| | not funny | _#F | | | | | + | | | + | + | | + |
| | bit late, | _#LS | | | | | | | | + | + | | + |
| | Quite! | _#P | | | | | - | | | + | + | | + |
| | not only | _#V | | | | | - | | | ch only | ch only | | ch only |
| | bitter | short V_V | | | | | - | | | | | | |
| | water, | long V_V | | | | - | - | | | | | | |
| | fruity | long V_+V | | | | - | - | | | | | | |
| | turtle | long V_l̩ | | | | - | | - | | | | | |
| | fatal | long V_+l̩ | | | | - | | - | | | | | |
| | bottle | short V_.l̩ | | | | | | - | | | | | |

| RP | Examples | Environments | Jones 1923 | Jones 1932, | Firth [1935] 1957 | Christophersen 1952 | O'Connor 1952 | Wells 1982 | Gimson 1989 | Cruttenden 1994 | Wells 1990b, 1994a, 1997a | Pointner 1996 | London: Cruttenden 1994 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T-glottalling, Glottal replacement | heighten | long V_. n̩ | | | | | | | | | | + | + |
| | tartan, Eton | long V_ n̩ | | | | | | | + | + | | + | + |
| | flatten | short V_. n̩ | + | + | | | | | | | | + | + |
| | button | short V_ n̩ | + | + | + | | | | + | + | | + | + |
| | neutral | long V_.LS | | | | | | | | | | | |
| | mattress | short V_.LS | | | | | | | | | | | |
| | writes | _True C | | | | | | | | | | | |
| | witness | _.S | | | | | | | + | + | + | | + |
| | Catford | _.F | | | | | | | + | + | + | + | + |
| | Gatwick | _.LS | | | | | | | + | + | + | + | + |
| | thoughtful | _+F | | | | | + | | + | + | + | + | + |
| | thoughtless | _+LS | | + | | | | | + | + | + | + | + |
| | suited | _+V | | | | - | | | | | | | |
| | peat-bog | _++S | | | + | | | | + | + | + | | + |
| | nutshell | _++F | | | | | | | + | + | + | + | + |
| | bootlace | _++LS | | | | | | | + | + | + | + | + |
| | street-artist | _++V | | | | | | | | | | | |
| | beat | long V_# | | | | | | | | | | | |
| | bit | short V_# | | | | | | | | | | | |
| | that part | _#S | | | + | | + | + | + | + | + | + | + |
| | not funny | _#F | | | | | + | + | + | + | + | + | + |
| | bit late, | _#LS | | | | | | + | + | + | + | + | + |
| | Quite! | _#P | | | | | | | | | + | + | + |
| | not only | _#V | | | | | (younger) | | | | + | + | + |
| | bitter | short V_V | | | - | | | - | | | - | + | + |
| | water | long V_V | | | - | | | | | | - | + | + |
| | fruity | long V_+V | | | | | | | | | | + | + |
| | turtle | long V_. l̩ | | | | | | | | | | + | + |
| | fatal | long V_+ l | | | | | | | | | | + | + |
| | bottle | short V_. l̩ | | | | | | - | - | - | | + | + |

**Appendix 12: Codes used for raw data tables**

| # S | raw score for number of word final /t/ before oral or nasal stops |
|---|---|
| # Gl S | raw score for number of t-glottalling before oral or nasal stops |
| %S | ratio #Gl S to #S as a percentage |

| # F | raw score for number of word final /t/ before fricative |
|---|---|
| # Gl F | raw score for number of t-glottalling before fricative |
| %F | ratio #Gl F to #F as a percentage |

| # LS | raw score for number of word final /t/ before liquid or semivowel |
|---|---|
| # Gl LS | raw score for number of t-glottalling before liquid or semivowel |
| %LS | ratio #Gl LS to #LS as a percentage |

| # V | raw score for number of word final /t/ before vowel |
|---|---|
| # Gl V | raw score for number of t-glottalling before vowel |
| %V | ratio #Gl V to #V as a percentage |

| #P | raw score for number of word final /t/ before pause |
|---|---|
| # Gl P | raw score for number of t-glottalling before pause |
| % P | ratio #Gl P to #P as a percentage |

| # To | raw score for number of word final /t/ before all environments |
|---|---|
| # Gl To | raw score for number of t-glottalling before all environments |
| %To | ratio #Gl Total to #Total as a percentage |

**Appendix 13: Interview raw data**

| ID | #S | #Gl S | %S | #F | #Gl F | %F | #LS | #Gl LS | %LS | #V | #Gl V | %V | #P | #Gl P | %P | #To | Gl To | %To |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M1 | 108 | 86 | 80 | 114 | 76 | 67 | 142 | 119 | 84 | 274 | 24 | 9 | 97 | 20 | 21 | 735 | 325 | 44 |
| M2 | 35 | 18 | 51 | 33 | 22 | 67 | 43 | 34 | 79 | 94 | 39 | 41 | 19 | 5 | 26 | 224 | 118 | 53 |
| M3 | 79 | 50 | 63 | 108 | 49 | 45 | 92 | 67 | 73 | 165 | 26 | 16 | 79 | 15 | 19 | 523 | 207 | 40 |
| M4 | 51 | 32 | 63 | 52 | 24 | 46 | 48 | 39 | 81 | 185 | 17 | 9 | 54 | 18 | 33 | 390 | 130 | 33 |
| M5 | 15 | 12 | 80 | 29 | 18 | 62 | 35 | 32 | 91 | 68 | 30 | 44 | 16 | 10 | 63 | 163 | 102 | 63 |
| M6 | 60 | 47 | 78 | 52 | 39 | 75 | 57 | 46 | 81 | 111 | 39 | 35 | 35 | 16 | 46 | 315 | 187 | 59 |
| M7 | 49 | 30 | 61 | 66 | 47 | 71 | 53 | 48 | 91 | 98 | 13 | 13 | 23 | 8 | 35 | 289 | 146 | 51 |
| M8 | 90 | 49 | 54 | 80 | 54 | 68 | 57 | 39 | 68 | 134 | 85 | 63 | 105 | 17 | 16 | 466 | 244 | 52 |
| M9 | 38 | 27 | 71 | 55 | 46 | 84 | 42 | 38 | 90 | 115 | 88 | 77 | 33 | 27 | 82 | 283 | 226 | 80 |
| M10 | 95 | 76 | 80 | 113 | 88 | 78 | 91 | 69 | 76 | 182 | 105 | 58 | 59 | 22 | 37 | 540 | 360 | 67 |
| M11 | 57 | 43 | 75 | 42 | 33 | 79 | 44 | 41 | 93 | 165 | 148 | 90 | 17 | 11 | 65 | 325 | 276 | 85 |
| M12 | 70 | 61 | 87 | 96 | 76 | 79 | 77 | 69 | 90 | 188 | 90 | 48 | 44 | 22 | 50 | 475 | 318 | 67 |
| F1 | 74 | 56 | 76 | 95 | 62 | 65 | 89 | 78 | 88 | 147 | 20 | 14 | 47 | 6 | 13 | 452 | 222 | 49 |
| F2 | 22 | 16 | 73 | 25 | 16 | 64 | 25 | 21 | 84 | 47 | 11 | 23 | 17 | 5 | 29 | 136 | 69 | 51 |
| F3 | 63 | 42 | 67 | 46 | 31 | 67 | 59 | 41 | 69 | 117 | 11 | 9 | 43 | 7 | 16 | 328 | 132 | 40 |
| F4 | 43 | 18 | 42 | 70 | 24 | 34 | 78 | 49 | 63 | 126 | 27 | 21 | 45 | 0 | 0 | 362 | 118 | 33 |
| F5 | 82 | 64 | 78 | 86 | 57 | 66 | 97 | 85 | 88 | 223 | 83 | 37 | 64 | 17 | 27 | 552 | 306 | 55 |
| F6 | 63 | 36 | 57 | 90 | 51 | 57 | 69 | 48 | 70 | 184 | 51 | 28 | 55 | 21 | 38 | 461 | 207 | 45 |
| F7 | 52 | 43 | 83 | 55 | 35 | 64 | 57 | 52 | 91 | 86 | 67 | 78 | 46 | 31 | 67 | 296 | 228 | 77 |
| F8 | 35 | 29 | 83 | 40 | 34 | 85 | 54 | 49 | 91 | 111 | 62 | 56 | 17 | 9 | 53 | 257 | 183 | 71 |
| F9 | 87 | 75 | 86 | 125 | 96 | 77 | 99 | 87 | 88 | 191 | 45 | 24 | 77 | 23 | 30 | 579 | 326 | 56 |
| F10 | 25 | 16 | 64 | 30 | 22 | 73 | 35 | 30 | 86 | 72 | 57 | 79 | 34 | 23 | 68 | 196 | 148 | 76 |
| F11 | 49 | 42 | 86 | 49 | 39 | 80 | 45 | 39 | 87 | 64 | 25 | 39 | 29 | 5 | 17 | 236 | 150 | 64 |
| F12 | 23 | 18 | 78 | 36 | 25 | 69 | 37 | 33 | 89 | 66 | 26 | 39 | 23 | 5 | 22 | 185 | 107 | 58 |

**Appendix 14: Reading Passage raw data**

| ID | #S | #Gl S | %S | F | Gl F | %F | #LS | #Gl LS | %LS | #V | #Gl V | %V | P | #Gl P | %P | #To | Gl To | %To |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M1 | 7 | 6 | 86 | 16 | 8 | 50 | 9 | 6 | 67 | 9 | 0 | 0 | 6 | 0 | 0 | 47 | 20 | 43 |
| M2 | 7 | 4 | 57 | 16 | 7 | 44 | 10 | 3 | 30 | 8 | 0 | 0 | 7 | 0 | 0 | 48 | 14 | 29 |
| M3 | 7 | 6 | 86 | 16 | 6 | 38 | 10 | 5 | 50 | 8 | 0 | 0 | 7 | 0 | 0 | 48 | 17 | 35 |
| M4 | 7 | 4 | 57 | 15 | 3 | 20 | 8 | 3 | 38 | 7 | 0 | 0 | 7 | 1 | 14 | 44 | 11 | 25 |
| M5 | 7 | 3 | 43 | 16 | 3 | 19 | 9 | 5 | 56 | 8 | 1 | 13 | 7 | 0 | 0 | 47 | 12 | 26 |
| M6 | 7 | 6 | 86 | 15 | 0 | 0 | 10 | 2 | 20 | 8 | 0 | 0 | 7 | 0 | 0 | 47 | 8 | 17 |
| M7 | 7 | 0 | 0 | 16 | 4 | 25 | 9 | 1 | 11 | 8 | 0 | 0 | 7 | 0 | 0 | 47 | 5 | 11 |
| M8 | 7 | 5 | 71 | 16 | 8 | 50 | 10 | 7 | 70 | 6 | 0 | 0 | 7 | 0 | 0 | 46 | 20 | 43 |
| M9 | 5 | 5 | 100 | 16 | 11 | 69 | 9 | 5 | 56 | 9 | 0 | 0 | 7 | 0 | 0 | 46 | 21 | 46 |
| M10 | 7 | 4 | 57 | 14 | 10 | 71 | 9 | 3 | 33 | 8 | 1 | 13 | 7 | 0 | 0 | 45 | 18 | 40 |
| M11 | 8 | 6 | 75 | 16 | 13 | 81 | 10 | 7 | 70 | 7 | 0 | 0 | 7 | 0 | 0 | 48 | 26 | 54 |
| M12 | 7 | 6 | 86 | 16 | 5 | 31 | 9 | 4 | 44 | 6 | 0 | 0 | 7 | 0 | 0 | 45 | 15 | 33 |
| F1 | 7 | 5 | 71 | 15 | 5 | 33 | 9 | 6 | 67 | 8 | 0 | 0 | 7 | 0 | 0 | 46 | 16 | 35 |
| F2 | 7 | 5 | 71 | 16 | 9 | 56 | 9 | 9 | 100 | 8 | 0 | 0 | 7 | 0 | 0 | 47 | 23 | 49 |
| F3 | 8 | 4 | 50 | 16 | 6 | 38 | 9 | 4 | 44 | 7 | 0 | 0 | 7 | 0 | 0 | 47 | 14 | 30 |
| F4 | 7 | 1 | 14 | 16 | 0 | 0 | 10 | 3 | 30 | 8 | 0 | 0 | 7 | 0 | 0 | 48 | 4 | 8 |
| F5 | 7 | 3 | 43 | 16 | 4 | 25 | 9 | 4 | 44 | 8 | 0 | 0 | 7 | 0 | 0 | 47 | 11 | 23 |
| F6 | 7 | 3 | 43 | 16 | 5 | 31 | 9 | 3 | 33 | 8 | 0 | 0 | 7 | 0 | 0 | 47 | 11 | 23 |
| F7 | 7 | 4 | 57 | 16 | 11 | 69 | 9 | 4 | 44 | 8 | 0 | 0 | 7 | 0 | 0 | 47 | 19 | 40 |
| F8 | 7 | 6 | 86 | 16 | 8 | 50 | 9 | 5 | 56 | 8 | 1 | 13 | 7 | 0 | 0 | 47 | 20 | 43 |
| F9 | 7 | 4 | 57 | 16 | 11 | 69 | 9 | 3 | 33 | 8 | 1 | 13 | 7 | 0 | 0 | 47 | 19 | 40 |
| F10 | 8 | 5 | 63 | 16 | 7 | 44 | 9 | 6 | 67 | 6 | 0 | 0 | 7 | 0 | 0 | 46 | 18 | 39 |
| F11 | 6 | 5 | 83 | 16 | 9 | 56 | 9 | 5 | 56 | 8 | 0 | 0 | 7 | 0 | 0 | 46 | 19 | 41 |
| F12 | 7 | 3 | 43 | 16 | 1 | 6 | 9 | 0 | 0 | 8 | 0 | 0 | 7 | 0 | 0 | 47 | 4 | 9 |

## Appendix 15: Maps

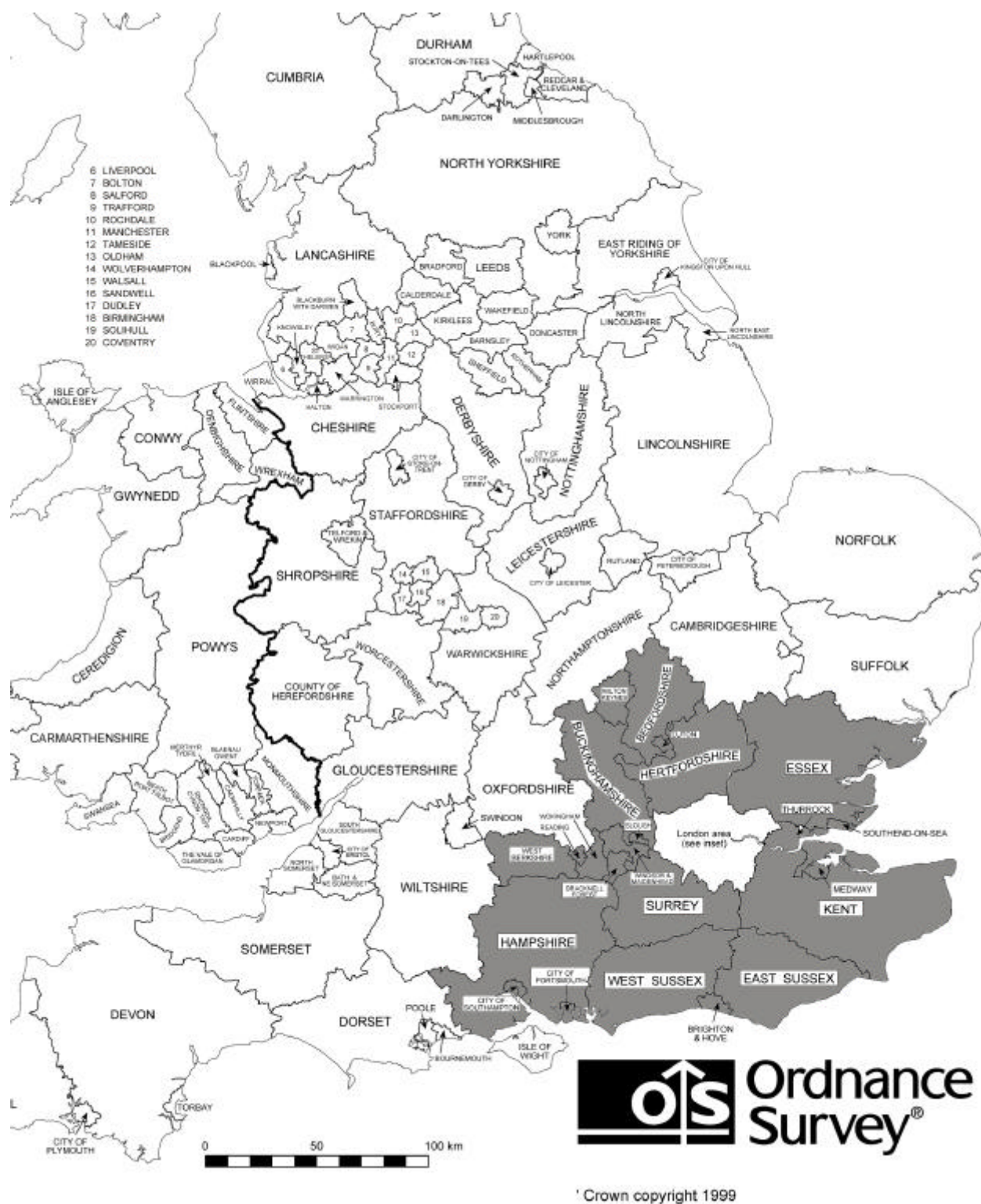The maps in this appendix were downloaded and custom-edited with the permission of *Ordnance Survey – Britain's national mapping agency.* (http://www.ordsvy.gov.uk).



**Figure 33 Partial map of the UK showing the "Home Counties".**

**London area inset**

| | | | |
|---|---|---|---|
| 1 | BARKING & DAGENHAM | 18 | HILLINGDON |
| 2 | BARNET | 19 | HOUNSLOW |
| 3 | BEXLEY | 20 | ISLINGTON |
| 4 | BRENT | 21 | LAMBETH |
| 5 | BROMLEY | 22 | LEWISHAM |
| 6 | CAMDEN | 23 | MERTON |
| 7 | CITY OF WESTMINSTER | 24 | NEWHAM |
| 8 | COUNTY OF THE CITY OF LONDON | 25 | REDBRIDGE |
| | | 26 | RICHMOND UPON THAMES |
| 9 | CROYDON | 27 | ROYAL BOROUGH OF KENSINGTON & CHELSEA |
| 10 | EALING | | |
| 11 | ENFIELD | 28 | ROYAL BOROUGH OF KINGSTON UPON THAMES |
| 12 | GREENWICH | | |
| 13 | HACKNEY | 29 | SOUTHWARK |
| 14 | HAMMERSMITH & FULHAM | 30 | SUTTON |
| 15 | HARINGEY | 31 | TOWER HAMLETS |
| 16 | HARROW | 32 | WALTHAM FOREST |
| 17 | HAVERING | 33 | WANDSWORTH |

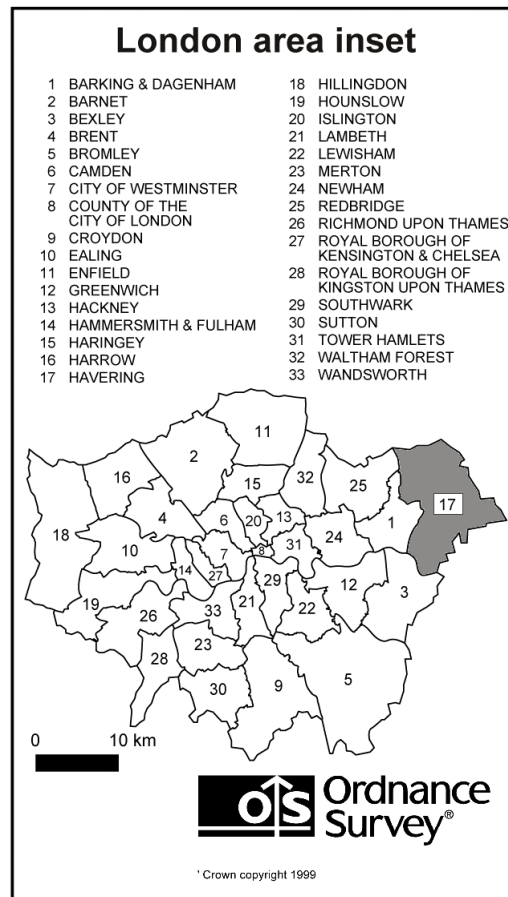0    10 km

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**Figure 34 Map of London boroughs**

The location of Havering, referred to in Pointner 1996, is marked.

**Appendix 16: Recording equipment used at Cambridge University**

The following equipment was kindly made available to me at the Department of Linguistics at Cambridge University in 1997 and 1998:

- Tape recorder: Nakamichi DR-2 (Dolby noise reduction off)
- Amplifier: Symetrix SX202
- Microphone: Sennheiser MKH40-P48
- Tapes: BASF TPⅡ Reference Maxima (IEC Type-II)

The recordings were made in a sound-damped studio in the Phonetics Laboratory.

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