

Tutti Frutti

- Best Said in an Inverness Accent

A sociolinguistic variationist study of phonological variation and change in Inverness

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ABSTRACT IN NORWEGIAN

I denne masteroppgaven har det blitt forsket på språkendring og -variasjon i Inverness, en liten by i det skotske høylandet. Denne sosiolingvistiske studien har særlig fokusert på å avdekke lingvistiske mønstre som korrelerer med de sosiale variablene alder, kjønn og stil. Studien har sett på realiseringen av fem konsonantvariabler, (l), (th), (wh), (r) og (t). Hovedfokuset har vært å undersøke om de tradisjonelle variantene av disse variablene blir erstattet av varianter med større geografisk utbredelse. Dette har blitt implementert ved bruk av auditorisk analyse og taleopptak av 18 informanter fra Inverness, tilhørende tre forskjellige generasjoner, har blitt analysert.

Tidligere sosiolingvistisk forskning i Skottland har vist at tradisjonelle skotske trekk som uttalen [ɹ] for ortografisk *wh* og bruken av enten [r] eller [r̥], særlig i intervokalisk posisjon, er recessive. Tendensen er at disse stereotypiske skotske trekkene blir erstattet av [w] og [ɹ], varianter som er assosiert med Anglo-engelsk. Det har òg blitt vist at fonologiske varianter som har sin opprinnelse i arbeiderklassedialekten i London nå er til stede i det fonologiske repertoaret til arbeiderklasseungdom i flere byer i det skotske lavlandet. Dette er varianter som [f] for [θ] i ord som *thing* og *south*, bruken av [ʔ] for intervokalisk /t/ samt en vokalisert realisering av postvokalisk /l/. Et av forskningsspørsmålene i denne masteroppgaven adresserer derfor nettopp dette. Målet har vært å finne ut om disse ikke-tradisjonelle konsonantvariantene forekommer i Inverness engelsk, til tross for Inverness sin perifere posisjon i forhold til London.

Kort oppsummert viser alle variablene i denne studien tegn til at de er i endring. Endringene og variasjonsmønstrene som har kommet frem indikerer at de tradisjonelle skotske variantene blir erstattet av ikke-tradisjonelle trekk, men også at det, særlig blant den eldre generasjonen, fortsatt er trekk assosiert med skotsk som er betraktet som standard.

Lite sosiolingvistisk forskning har blitt gjennomført i det skotske høylandet, og målet med denne oppgaven er å bidra til bedre forståelse av den lingvistiske situasjonen i Skottlands nordligste by.

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ABBREVIATIONS AND CONVENTIONS

InvE	-	Inverness English
HE	-	Highland English
SSE	-	Standard Scottish English
RP	-	Received Pronunciation
SVLR	-	The Scottish Vowel Length Rule
CS	-	Casual style
RS	-	Reading style
WLS	-	Word list style
()	-	Variable
//	-	Phonemic transcription
[]	-	Phonetic transcription

1: INTRODUCTION

1.1 Aim and scope

This thesis is a sociolinguistic variationist study that seeks to uncover patterns of accent variation and change in Inverness English (InvE). Inverness is the largest city in the Scottish Highlands and in the last twenty years, Inverness has been subject to rapid population growth from England as well as from other parts of Scotland. The varieties of English that are spoken in the Scottish Highlands are often referred to as Highland English (HE) or by the collective term Highland and Island English, which encompasses the Western Isles as well. The pronunciation of these varieties of English is said to be close to that of Scottish Standard English (SSE) as spoken in the Lowlands, though interspersed with phonological modifications derived from the Gaelic substratum (Speitel 1981: 116). Gaelic was the native language spoken all over the Highlands up until the fall of the second Jacobite rising in the middle of the 18th century. After the English victory at the battle of Culloden, the implantation of English at the expense of Gaelic was seen as paramount in establishing social control over a peripheral and inaccessible area 'over which governments found it difficult to exercise their authority' (Shuken 1984: 152). The medium through which the Highlanders acquired English was SSE, not Scots, which may offer an explanation as to why contemporary HE is said to approximate SSE.

The amount of sociolinguistic research focusing on the Englishes spoken in the Highland region of Scotland has been rather scarce. My study will be a contribution to start filling the research gap pertaining to this particular area. In order to reveal indications of change in progress, I have recorded and analysed speech data from three different generations of native-born Invernesians. I have investigated the sociolinguistic distribution of five consonantal variables and sought to answer if and in what way these variables display variation according to the social variables of age, gender and linguistic style. The linguistic variables are presented in the list below.¹

¹ A more comprehensive and detailed description of the variables will be given in chapter 3.

1. L vocalisation – (l) refers to the replacement of the lateral /l/ in postvocalic or syllabic position with a back vowel whose quality is close to [ʊ] or [o]. The traditional variant is the lateral [l], whereas the innovative, non-traditional variant is the vocalised [ʊ].
2. TH fronting – (th) refers to the replacement of the dental fricatives /θ/ and /ð/ by the labiodental fricatives [f] and [v] respectively. The traditional variants are [θ] or [ð], whereas the innovative, non-traditional variants are [f] or [v].
3. The whine-wine merger – (wh) refers to the merging of the voiced labiovelar approximant [w] and the voiceless labiovelar fricative [ɸ]. In SSE, the traditional variant is [ɸ], whereas the non-traditional variant is [w].
4. The realisation of /r/ – (r) refers to whether /r/ is pronounced as the traditional SSE variant, the alveolar tap [ɾ], or as the non-traditional variant, the alveolar approximant [ɹ].
5. T glottaling – (t) refers to the replacement of the alveolar plosive /t/ with the glottal stop [ʔ]. The traditional variant is [t], whereas the non-traditional variant is [ʔ].

Based on previous research from other parts of Scotland and Britain, these variables are expected to be subject to sociolinguistic change and/or variation. The main focus in the analyses of these variables has been to see whether traditional Scottish features associated with SSE are being surpassed by features considered supraregional and/or non-traditional. Recent sociolinguistic research in Scotland (Robinson 2005; Stuart-Smith, Timmins & Tweedie 2007; Brato 2007; Schützler 2010; Reiersen 2013) has shown that the linguistic development in urban Scotland shows an overall tendency for marked Scottish features to be recessive. The stereotypical Scottish variants such as [ɸ] and [ɾ,ɹ] are currently being replaced by variants considered supralocal in that they are associated with Anglo-English. This is part of a larger process of dialect, or more specifically, accent levelling in Britain, a process that is arguably leading to increased homogenisation on a national level. This homogenisation also encompasses the spread of certain consonantal features, such as TH-fronting, L vocalisation and T glottaling, to urban areas all over Britain. These features are considered to have their origin in the working-class accent of London and an increase in these features is more likely to occur in varieties in close proximity to London rather than in varieties further removed from London. However, in recent years, several studies have found that these features are making their way into urban varieties of Scottish English, such as Glasgow English (Stuart-Smith, Timmins & Tweedie 2007), Livingston English (Robinson 2005), Aberdeen English (Brato 2007) and Edinburgh English (Reiersen 2013). According to Britain

(2010), there is general agreement that this extensive geographical distribution of supralocal features can be attributed to the increased mobility and dialect contact that characterise urban life in Britain in late modernity (2010: 197). I seek to investigate whether the same linguistic trends are operative in Inverness, a city far removed from London and with a linguistic history different from that of both England and Lowland Scotland.

To sum up, this study situates itself in the context of the large number of sociolinguistic studies conducted in recent years investigating the development towards increased homogenisation in Britain. Additionally, the present study serves as a contribution in filling the research gap for sociolinguistic variationist research in the Scottish Highlands.



Figure 1.1: *Inverness and the River Ness*

1.2 Research questions and hypotheses

This section will present the four research questions and research hypotheses that are relevant for this thesis.

Research questions

1. Are the linguistic variables subject to ongoing change? If so, are these changes indicating that marked Scottish features are recessive?
2. Are the variables showing patterns of linguistic change that correlate with the social variable of gender?
3. Are the variables displaying stable patterns of stylistic variation that correlate with the level of attention paid to speech?
4. Is InvE influenced by the same ongoing consonantal changes, i.e. the introduction of non-standard variants originating from London, which have been attested in urban England and Lowland Scotland?

Research hypotheses

1. The linguistic variables are subject to ongoing variation and change. The changes attested will show that marked Scottish features are recessive.
2. The variables in this study will show patterns of linguistic change that correlate with the social variable of gender. The females in this study will show the highest frequency of variants associated with SSE and the adoption of the innovative London features will be led by the youngest female speakers.
3. The variables in this study will display stable patterns of stylistic variation that correlate with the level of attention paid to speech. The variation will be ranged along a continuum, where most traditional SSE variants will be used when most attention is paid to speech. The frequency of non-traditional and/or innovative variants will be highest in less formal style.
4. InvE is influenced by the same ongoing consonantal changes that have been attested in urban England and Lowland Scotland. The introduction of these features is a very recent event in Inverness, hence, they will be present only in the speech of the youngest informants.

1.3 Structural notes

This first chapter presents the aim and the scope of the study you are about to read. It also presents the research questions and hypotheses that the study is based on and gives a structural overview of the thesis.

Chapter 2 provides the relevant theoretical background for this study. It is divided into two parts where the first part deals with linguistic theory and discusses the relevant social variables and concepts, such as the apparent-time hypothesis and dialect levelling. The second part of chapter 2 deals with previous sociolinguistic research in Scotland in general and more specifically in the Scottish Highlands and in Inverness.

Chapter 3 provides a more thorough description of the five phonological variables that have been investigated in this study. The relevant variants for each variable are presented and the variables' relevance for being studied in Inverness is discussed.

Chapter 4 presents the methodology relevant for collecting, analysing, quantifying and presenting the data. It describes decisions made during these procedures and it provides the token classifications for the linguistic variables as well as an introduction of the informants who have so kindly taken part in this study.

In chapter 5 the quantified results from the analyses are presented. Each variable has been dealt with individually and results are given both for individual scores and for group scores. Group scores provide a useful source from which generalisations can be drawn. However, they may conceal individual variation, therefore, individual scores are provided as well.

In chapter 6, the results from chapter 5 will be discussed in relation to linguistic theory and previous research. The last section of chapter 6 also includes comments about other phonological observations that were collecting the data and through spending much of the last year in Inverness.

The final chapter of this thesis, chapter 7, provides answers to the research questions that were presented in 1.2 and it comments on whether the results in chapter 5 corroborate the research hypotheses. Additionally, comments are made about the shortcomings of this thesis and on some possible directions for further research on InvE.

2: THEORETICAL BACKGROUND

This chapter presents the linguistic theory and social variables relevant to this study. It gives an overview of previous accent studies in Scotland and provides background information about the linguistic situation in the Scottish Highlands and in Inverness.

2.1 The sociolinguistic variationist framework

The branch of linguistics concerned with the interrelation between language and society is most commonly referred to as *sociolinguistics*. At the very heart of sociolinguistics lies the understanding that the use of certain linguistic variables tends to correlate with various social variables (Chambers 1995: xvii). The most common social variables in sociolinguistic studies are age, gender, social class and social network. The framework of *variationist sociolinguistics* with its quantitative paradigm was developed by Labov in the 1960's. This tradition of research made it possible to treat linguistic variability as structural units that are both integral and necessary elements of any language (Milroy & Gordon 2003: 1–2). According to Weinreich, Labov and Herzog, variability is considered as so essential to the Labovian paradigm that any language serving communicative purposes in a real society will be dysfunctional without it (1968: 101). In the variationist tradition, *the linguistic variable* is treated as a structural unit that can be realised by many different *variants*. Each variant expresses the same meaning, but typically, different variants have different social connotations. We can say that they are linguistically *insignificant* but socially *significant*. At the phonological level, this can be exemplified by the choice between /haus/ and /aus/. Semantically there is no difference; both pronunciations refer to *house*. Socially however, the pronunciation *without* initial /h/ is associated with working-class speech, whereas the pronunciation *with* initial /h/ is considered prestigious. The variationist tradition's major goal is to 'specify and order the constraints which lead to one choice rather than another' (Milroy & Gordon 2003: 5).

Sociolinguists share an understanding that analyses of linguistic behaviour must be based on empirical data representing actual speaker performance (Milroy & Gordon 2003: 2–3). Hence, conducting sociolinguistic research entails going out in the field and collect actual speech data. The present study is situated within the sociolinguistic variationist framework and the social variables of relevance for this study are age, gender and style. These variables will be described and discussed in the subsequent sections.

2.2 Social variables

The data collection methods pioneered by Labov have allowed for large sets of data from different types of speakers to be systematically compared and analysed. The three subsequent sections will describe the social variables relevant for this study as well as discuss the interpretations and implications that can be inferred from analysing linguistic data in relation to these social variables.

2.2.1 Age and the apparent-time hypothesis

Ever since Labov's pioneering work in the 1960s, studying how and why languages change has been integral to sociolinguistics. In trying to reveal indications of language change, the researcher is faced with two different approaches, *real-time studies* or *apparent-time studies*. In real-time studies, contemporary linguistic data is gathered and compared to linguistic data collected from the same population at an earlier stage in real time (Chambers 1995: 193). Ideally, this approach entails revisiting the speech community to gather comparable data, years after the initial study was performed. It is a time-consuming process requiring a substantial amount of resources. Alternatively, real-time studies could entail comparing results from a contemporary study to previous linguistic reports from the same area. However, this has other potential setbacks in that previous linguistic reports might not be available/and or comparable. Additionally, real-time studies can only detect linguistic change after a change has happened; hence, they provide little insight into *how* the changes happened or to the motivating factors behind the changes.

The alternative to real-time studies is the apparent-time approach. The apparent-time construct was developed by Labov after his observations on Martha's Vineyard in 1961. Based on the observations done there, Labov put forward a set of methodological innovations that allowed the researcher to 'track the progress of linguistic changes as they were taking place' (Bailey 2004: 312). Labov's findings were the first to show that through synchronic evidence, researchers can make statements and predictions about diachronic linguistic change. The way in which researchers can make such claims is by comparing speech data from speakers of different generations. Therefore, age is the only variable that can allow us to make statements about linguistic change in a synchronic study. The apparent-time approach has become a crucial element in understanding language variation and change, particularly language change in progress.

The apparent-time hypothesis holds that 'people of different ages can be taken as representative of different times' (Milroy & Gordon 2003: 35). Therefore, one important

prerequisite for applying the apparent-time construct is that after a certain age, a person's linguistic behaviour remains rather stable throughout his or her life. Hence, the speech of an eighty-year-old person today can be taken as representative of the speech of a twenty-year-old person sixty years ago. If there is a frequency change for a linguistic variant when comparing younger speakers to older speakers, this could be implicational of language change in progress. A synchronic comparison of speakers from different generations can thus allow the researcher to draw diachronic inferences about language development over the course of different generations' lifespan (Milroy & Gordon 2003: 35). The apparent-time approach can provide an interesting and insightful glimpse into a linguistic past.

The overall tendency that has emerged from sociolinguistic research is that adolescents lead in the introduction of innovative linguistic forms (Milroy & Gordon 2003: 39). The reason might be sought in the experienced transition from being a child to becoming an adolescent. This transition often results in a wish to renegotiate the relationship with adults. Adolescents tend to have a highly sophisticated knowledge of adult norms, and at the same time, adolescence is that part of life when peer interaction and influence is strongest (Kerswill 1996). A wish to create and maintain a sense of individual social identity is likely to arise. This identity may be expressed through linguistic norms that are in opposition to adult norms, such as the utilisation of innovative, non-standard variants (Stuart-Smith, Timmins & Tweedie 2007).

Even though studies analysing data according to the apparent-time hypothesis have yielded fruitful and valuable results, some critique has been raised questioning its validity. Linguistic patterns showing synchronic differences across generations are not necessarily the result of language change in progress. Similar patterns might emerge as the result of *age grading*, which is a concept where a specific linguistic form is associated with a specific stage of life (Chambers 1995: 188). Hence, if the adolescents in a study show a frequency increase for a specific variant, this could simply mean that this variant is associated with that specific stage of life. T glottaling in Macaulay's (1977) Glasgow study has been interpreted as being subject to age grading (Chambers 1995: 191–192). In this study, class was the most important factor predicting the frequency of T glottaling and the adult and the 15-year-old middle-class speakers used T glottaling considerably less than the working class. The 10-year-old middle-class speakers appeared to be anomalies in this picture and their use of the glottal stop reflects that of the 10-year-old working-class informants. This suggests that by the time Glaswegian middle-class adolescents reach 15, they have learned to control the use of the highly stigmatised

glottal stop. However, it should be kept in mind that linguistic variables showing stable age grading patterns are extremely rare, and age grading can therefore not be considered damning to the apparent-time hypothesis (Milroy & Gordon 2003: 36).

Through analysing synchronic evidence, we can only make inferences about language change. The apparent-time hypothesis is a hypothesis, not an axiom (Chambers 2004). Hence, synchronic data cannot uncritically be assumed to represent diachronic, real-time developments. However, the apparent-time construct has proven an excellent surrogate for real-time evidence. The relative ease of collecting apparent-time data, compared to collecting real-time data makes it unquestionably the most applied approach when analysing linguistic change in progress (Bailey 2004: 329).

2.2.2 Gender

Gender is another social variable that has shown stable patterns of linguistic variation. The concept of gender in sociolinguistics is not simply understood as the biological sex of the speaker. Gender is understood as a social construct, whereas sex is biologically given (Chambers 1995: 103). In sociolinguistic studies, biological sex has often been used as the variable against which linguistic variables are correlated, regardless of the specific gender roles in the society in question. The reason is probably that the speaker's sex is easily accessible to the researcher (Chambers 1995: 104). In the present thesis, the word gender is used to refer to the biological difference between men and women. However, it should be kept in mind that the reason behind any linguistic differences is only indirectly a result of biological sex.

Two general trends have emerged from sociolinguistic research and Labov summarises the results with the two following principles:

Principle 1: In stable sociolinguistic stratification, men use a higher frequency of nonstandard forms than women.

Principle 2: In the majority of linguistic changes, women use a higher frequency of the incoming forms than men (Labov 1990, 205-206).

The use of standard versus non-standard forms can in many ways be linked to the concept of *prestige*. The notion of prestige in sociolinguistics refers to the level of regard in which a specific dialect, accent or feature is held. The prestige variety tends to acquire its position through cultural norms and historically, there has been a close link between prestige and the standard variety of the language (Giles & Powesland 1975). Linguistic prestige is a complex value that speakers orient to in various ways. Therefore, it is

common to make a distinction between *overt prestige* and *covert prestige*. Features holding overt prestige are usually those that are considered 'correct', 'standard' and they are often associated with the speech of the middle class. Covert prestige, on the other hand, is less obvious, and it is often associated with the speech of the working class (Wells 1982a: 104–105). The use of features holding covert prestige can gain access to an exclusive group, whereas using features associated with overt prestige is more likely to be considered appropriate for public use.

By looking more closely at Labov's two principles above, we see that we are in fact dealing with a *gender paradox*. Labov describes this paradox as of how 'women conform more closely than men to sociolinguistic norms that are overtly prescribed, but conform less than men when they are not' (2001a: 293). Hence, women are both likely to be the most conservative, and also, most likely to be linguistic innovators. The reason for why men and women seem to prefer different linguistic variants cannot be explained with reference to their biological sex, but rather with reference to the social identity that these variants may contribute in constructing. Men may prefer linguistic forms that are associated with the working class' 'roughness and toughness', not because they are men, but rather because they wish to index masculinity. Likewise, women may use more forms that are associated with overt prestige, not because they are women, but because these linguistic variants may serve a symbolic resource indexing a certain social identity (Meyerhoff 2011: 217).

To this day, it remains unclear *why* women tend to orient towards the prestige norm. Trudgill argues that the conservatism of women's language can be explained by their supposed lack of power in society. This forces them to utilise symbolic resources, such as language, in order to express social status (Trudgill 1972: 94). However, even though this hypothesis explains the dataset from Trudgill's (1972) Norwich study in a satisfactory way, it does not explain Labov's second principle, that women often are the instigators of language change. The spread of the glottal stop in Britain has revealed a rather interesting and complex pattern where gender differences appear to play a major role. Traditionally, the use of the glottal stop has been associated with London based, working-class male speech and it has been heavily stigmatised (Wells 1982b: 324). However, the trend today is that the frequency of glottal stops is increasing across Britain, and this change is being led by young, middle-class women (Milroy & Gordon 2003: 103). This pattern has been attested, amongst other places, in Cardiff (Mees & Collins 1999) and in Newcastle (Milroy et al. 1994). One of the generalisations that might be drawn from these results is that instead of women *preferring* prestige variants, the

variants preferred by women *become* the prestige variants *because* women favour them (Milroy & Milroy 1993: 65). As mentioned above, the norm associated with overt prestige is usually the variety that holds a special position in society in that it is considered either tacitly or explicitly as standard. In England, Received Pronunciation (RP) has traditionally been the holder of this status (Wells 1982a: 34). According to Foulkes and Docherty, there is evidence that 'the dichotomy between standard and non-standard is being superseded by an orientation on the part of the speakers to *non-local* versus *local* forms' (1999: 16 emphasis original). This tendency has also been noted by Milroy and Milroy; they point to how men tend to favour local forms, whereas the forms favoured by women are the ones that are supra-local (1993: 65), regardless of whether they are considered standard or not. What we can see then is an orientation away from a division where women prefer prestige variants associated with middle-class speech to a situation where women tend to prefer variants that are non-localisable. As a result, the geographically widespread linguistic innovations adopted by young female speakers may become less socially stigmatised.

2.2.3 Social class

The variable of social class has been given much attention in variationist research. Milroy and Gordon argue that any researcher wanting to make claims about the interrelationship between language and society needs to consider social class at some level of the analysis (2003: 40). The results that have been achieved through having class as a social variable have been exceedingly consistent. In spite of this, sociolinguists have received critique for uncritically adopting social class models without a 'satisfactory theoretical framework within which to interpret recurrent and robust correlations between language and class' (Milroy & Gordon 2003: 95).

Social class is undeniably a rather awkward variable to operationalise. In sociolinguistic studies, it has been customary to classify informants as belonging to the same social class if they share similar occupations, income, education, lifestyles and beliefs (Milroy and Gordon 2003: 95). Some of these factors are more easily quantified than others and as social class is not binary, drawing the line between different classes is not a straightforward matter. The most common procedure is to categorise the informants as being either working class or middle class. Some researchers operate with an even more fine-grained categorisation and subdivide, for example, the middle class into upper middle class, middle-middle class and lower middle class. However, a satisfactory classification of an individual's social class is possible only in prototypical

cases and in most other cases, some quantifiable ranking conditions will be necessary. One strategy has been to apply a *social class index score*, where a number is assigned to an occupation and this number will then facilitate quantifications. Chambers (1995) presents one such ranking system, one which is derived from Canadian evaluations of social class standing in relation to occupations. In this index, occupations such as lawyer, scientist and advertising manager are ranked at the top, whereas occupations such as janitor, cleaner and shoemaker are at the bottom (1995: 41-42). It should be noted that factors indicating social class are not homogenous across communities, and different factors may be more or less important depending on the social structure of the community. Hence, basing classifications of social class exclusively on occupation may be problematic. Even though more factors than occupation are taken into consideration, social mobility may cause a person's social-class affiliation to change throughout their lives. This may create a discrepancy between an index score and a person's actual social status (Milroy & Gordon 2003: 43).

The relevance of social class as a social variable is likely to vary across different communities. In more egalitarian societies, for example, linguistic patterns correlating with class are less likely. In the present study, based on the informants' occupation and educational level, it is likely that most of them would be classified as being either upper working class or lower middle class. Hence, the sample is not socially stratified enough to allow for quantifications according to social class. Still, whenever relevant, comments about social class have been made in the result and discussion chapters, especially when comparing the results to previous research where class was a variable.

2.2.4 Style

Linguistic style variation involves variation in the speech of individual speakers, i.e. *intraspeaker variation*, and not variation across different groups of speakers, i.e. *interspeaker variation* (Schilling-Estes 2004: 375). In the variationist tradition, *style-shifting* can be understood as shifts and variation in how much a certain linguistic feature is used across different speech situations (Schilling-Estes 2004: 376). According to Milroy (1987), 'intra-speaker stylistic variation can be said to reflect inter-speaker social variation, with speakers in their more careful styles approximating progressively to the norm of higher-status social groups' (1987: 173). Therefore, stylistic variation may provide valuable information about what forms are considered prestigious within a speech community. Labov describes linguistic style as being 'ranged along a single dimension, measured by the amount of attention paid to speech' (Labov 1972b: 208).

According to this axiom, the speech most closely representing a person's casual style will be produced when least attention is paid to speech, e.g. when talking freely. A person's formal style will be produced when people are paying more attention to speech, e.g. when reading a list of words (Milroy & Gordon 2003: 200). Trudgill (1974) revealed that in Norwich, this axiom was useful when investigating features displaying variation across a continuum ranging from non-standard to standard. The pattern that emerged from this study was exactly as described above; in casual speech, speakers used more non-standard forms, whereas, in formal speech, standard forms were more prevalent.

Labov emphasises that the axiom of attention paid to speech is not meant as a model explaining the motivational factors behind style shifting, nor how style shifting is produced and organised in everyday speech. Instead, it is meant as a methodological tool that allows the researcher to elicit data that can make up a comparative analysis of intraspeaker stylistic variation (Labov 2001b: 87).

2.3 Dialect levelling

In Britain, deciding where a person is from based on their accent is a more challenging task today than what it was 30 years ago. Varieties of British English have developed in such a way that locally and socially marked features disappear and become replaced by features that show greater geographical and/or social distribution. This development is causing British varieties of English to become more and more homogenous. Mapping this development has been one of the main focuses of accent variation and change studies in Britain in the last twenty years. The process of homogenisation has by many sociolinguists been referred to as dialect levelling, or, in the case of phonological homogenisation, accent levelling (Trudgill 1986; Foulkes & Docherty 1999; Kerswill 2003). Levelling of vowels tends to be a regional phenomenon, whereas levelled consonant features seem to be a national phenomenon (Kerswill 2003: 231). The main stimulus for accent levelling is said to be contact between speakers of different varieties of the same language (Cheshire et al. 1999: 1). This contact is facilitated by the increase in social and geographical mobility that is characteristic of contemporary urban Britain.

Two of the possible mechanisms behind dialect levelling are *accommodation* and *geographical diffusion*. Accommodation is a social psychological mechanism congruent with social psychology *Speech Accommodation Theory*. This theory holds that people tend to adjust the way they speak by either converging or diverging linguistically to their interlocutors (Giles & Powesland 1975). In order for levelling to be a likely outcome of speech accommodation, some factors must be present. The first is the mutual presence

of goodwill amongst the interlocutors, meaning that accommodation in the form of convergence happens only if the speaker perceives the other as socially attractive. A second factor is that the context must be one where speakers of mutually intelligible dialects come together. In such a situation, 'countless individual acts of *short-term accommodation* over a period of time lead to *long-term accommodation* in those same speakers' (Trudgill 1968, in Kerswill 2003: 223 emphasis original). Features that are in any way 'marked' tend to lose currency and become replaced by unmarked more ubiquitous features. Marked in this sense refers to linguistic forms that are in minority or that are in some way unusual (Trudgill 1986: 98) and a linguistic form may be marked either socially or geographically.

The other process by which linguistic innovations may enter a speech community is through geographical diffusion. The features that spread through diffusion typically have their origin in a populous, economically and culturally important centre. From this centre, the innovative features tend to spread to other urban areas in a wave-like fashion. In Britain, London is generally considered the most important source of linguistic influence and consonantal features associated with London English are currently spreading throughout Britain. In the model of geographical diffusion, speakers adopt linguistic features from other speakers who they are in face-to-face contact with (Kerswill 2003: 223). Therefore, one of the prerequisites for this model of language change is geographical mobility. In the last decades, Britain has seen a drastic increase in geographical and social mobility, which in its turn has led to increased contact between speakers of mutually intelligible varieties of English. As mentioned above, this is arguably the main stimulus for dialect levelling. Milroy (1987) points to how this increase in geographical and social mobility may have the effect of weakening the intrapersonal ties of close-knit networks. Communities with this kind of network structure are often characterised by a collective maintenance of linguistic norms and by resistance to linguistic change (1987: 106–107). According to Kerswill, the weakening of close-knit communities with 'group-internal linguistic norms, will render a population more receptive to linguistic (and other) innovations' (2003: 224–225). It is therefore unsurprising that levelling will happen at a faster rate in today's society than what it has done in earlier times when geographical and social conditions were more stable.

One of the features that is currently diffusing from London is TH fronting. This phenomenon is a well-known characteristic of the working-class accent, Cockney, and it involves the replacement of the dental fricatives [ð] and [θ] with the labiodental fricatives [v] and [f] respectively (Wells 1982b: 328). In recent years, TH fronting has been attested

in several urban areas all over England, for example in Milton Keynes, Reading, Hull, Newcastle, Derby (Foulkes & Docherty 1999: 11) and in areas as far north as Glasgow (Stuart-Smith, Timmins & Tweedie 2007), Livingston (Robinson 2005) and Aberdeen (Brato 2007). Even though the onset and the recent rapidity of the spread can assumedly be contributed to geographical diffusion, other factors must also be considered. Robinson argues that the presence of TH fronting in areas such as Livingston, Glasgow and various pockets of northern England cannot be ascribed to geographical mobility and direct contact between speakers. These areas are too far removed from London for such an explanatory model to be probable. She suggests that the media could be a substitute influence in cases where direct contact is lacking, but that this alone is not a convincing enough reason for why people adopt TH fronting. A third suggestion is that [f] and [v] are immature forms, however, she argues that the explosion in the usage of the fronted variants amongst adolescents, and not children, contradicts this hypothesis (2005: 189-190). Milroy and Gordon point to how the *fin/thin merger* could constitute 'part of a set of youth norms originating from the southeast of England' but that these same norms have now 'become relatively independent of physical space' (2003: 134). The spread of these youth norms is likely being facilitated by popular TV shows and other media. However, the general picture is still that the reasons for the geographical spread of TH fronting are presently not satisfactorily explained or understood.

2.4 The linguistic situation in Scotland

The linguistic history in Scotland is different from the English in several ways. Scotland was an independent nation until 1707 and there was a resurgence of national consciousness and pride from the 1970s and onwards. This national consciousness has led to an increased awareness and emphasis on the aspects that distinguish Scotland from England. One of the consequences is that RP does not hold the same status of prestige in Scotland as it has had and partly still has in England and Wales and Wells argues that 'a Scottish accent can be prestigious in a way that a local English accent is not' (Wells 1982b: 393). It is therefore unlikely that speakers of Scottish varieties of English will orient towards RP. The accent norm that is associated with overt prestige and correction in Scotland is one that is consistent with SSE, that is, Standard English² spoken with a Scottish accent.

² According to Trudgill (1999a), Standard English with a capital *S* refers to a dialect of English. It refers to grammar and vocabulary and has nothing to do with pronunciation. A use of the term congruent with Trudgill's definition has been adopted in this thesis.

The linguistic situation in Scotland is further complicated by the fact that English is not the only language spoken in Scotland. Historically, Scottish Gaelic was spoken all over Scotland. However, throughout the nineteenth century, both the social and the geographical distribution of Gaelic retracted. Today, it is spoken as a native language only on the Western Isles and in some secluded areas in the Highlands (Maguire 2012: 53). Another element contributing to Scotland's complex language picture is the Scots language; as Gaelic retracted, Scots replaced Gaelic in the central belt. There is an ongoing debate as to whether Scots should be considered a language of its own or whether it is better treated as a variety of English. However, since Scots has never been spoken in the Highlands, this debate is beyond the scope of this thesis.



Figure 2.1: Figure 2. 1: The Highland Line - according to the Linguistic Atlas of Scotland (Mather, Speitel & Leslie 1985: 9).

The fact that Gaelic was replaced by Standard English in the Highlands and the fact that this happened so much later than in the Lowlands, has led to the development of a distinctive variety of English referred to as Highland English. This was originally a second language variety of English, which was influenced by the speakers' native language, Gaelic (Maguire 2012: 2). Figure 2.1 above shows a map depicting the linguistic Highland-Lowland dividing line as drawn by Mather, Speitel and Leslie (1985) in relation to *the Linguistic Atlas of Scotland*. Maguire refers to this line as 'one of the most striking geographical, cultural and linguistic boundaries in Scotland' (2012: 3). This line used to be the dividing line between two very different Indo-European languages, namely Scots

on the Lowland side and Scottish Gaelic on the Highland side. This is no longer the case, and the boundary today marks ‘the bundle of isoglosses between Scottish Standard English (SSE) and local varieties of Scots’ (Clement 1997: 301).

Concerning more recent linguistic developments in Scotland, Scottish cities have recently been the focus of much sociolinguistic research. These studies have shown that urban Scotland is in no way isolated from the changes observed in urban varieties in England. Sections 2.4.2 and 2.4.3 below will provide a somewhat comprehensive report on the currents and trends of linguistic change in Scotland.

2.4.1 A descriptive account of Standard Scottish English

One of the characteristic traits of Scottish English is its relatively conservative nature compared to anglicised varieties of English. This is particularly true when considering the Scottish English consonant system. The retention of the voiceless velar fricative /x/ in place names and local lexis, like *Avoch* and *dreich* ‘dreary, gloomy’, the distinction between the voiceless labiovelar fricative [ɱ] and the voiced labiovelar approximant [w] in words such as *witch* /wɪtʃ/ *which* /mɪtʃ/ and the fact that Scottish English has remained rhotic are all conservative features associated with SSE (Wells 1982b: 408–409).

Plosives in Scottish English are often unaspirated in initial position. Concerning non-initial /t/, there is a great deal of glottaling in Scottish English. The distinction between dark and clear /l/ that can be found in most southern varieties of Anglo-English is usually not present in Scottish English. In Anglo-English, /l/ tends to be dark in postvocalic position and clear in other positions. In SSE, the expected pronunciation of /l/ will be velarised [ɫ], regardless of its place in the syllable. SSE is, as mentioned, firmly rhotic, and traditionally, the realisation of a Scottish /r/ is said to be the alveolar trill [r]. However, in contemporary Scottish English, the approximant [ɹ] or the tap [ɾ] are more common, and the trill is today used mostly by older, rural speakers (Wells 1982b: 409–411). Apart from these idiosyncrasies, the SSE consonant system is rather similar to that of Anglo-English.

The Scottish vowel system differs from that of Anglo-English both typologically and realisationally. SSE typically lacks the distinction between /u:/ and /ʊ/. In anglicised varieties, one would expect /u:/ in *goose* and /ʊ/ in *foot*, whereas in Scotland, the pronunciation is a more central [ɯ] or possibly even a centralised front [ɥ] in both words. The GOAT and FACE vowels usually have a monophthongal realisation in SSE, their quality being [o] and [e] respectively. The KIT vowel is often more open and centralised in SSE than in Anglo-English and a pronunciation approaching [ɛ̞] instead of [ɪ] is not

uncommon. One conservatism of Scottish phonology is that not every variety has undergone the NURSE merger. Those speakers who have the merger will realise all NURSE words with [ɜː]. However, some speakers may realise the vowels in *heard*, *bird* and *hurt* with [ɛ], [ɪ] and [ʌ] respectively, thus evidencing a clear link with orthography. A two-way distinction within the lexical set NURSE is also possible, where the vowels in *bird* and *hurt* are merged and realised with [ʌ], whereas *heard* is realised with [ɛ] (Wells 1982b: 400–407).

One feature that clearly distinguishes the Scottish vowel system from Anglo-English is vowel length. SSE vowels tend to be phonetically determined, meaning that it is dependent on the nature of the following segment. Aitken discovered that vowel length is so regular in Scottish English that one could talk about a *Scottish Vowel Length Rule* (SVLR), more commonly referred to as *Aitken's Law*. A simplified explanation of this rule is that all vowels, except /ɪ/ and /ʌ/, are phonetically short unless followed by /r/, a morpheme boundary or a voiced fricative (Aitken 1984: 98). This phenomenon originated in the central belt of Scotland and varieties of English spoken in these areas are most likely to display vowel length determined by the SVLR (Harris 1985: 22).

2.4.2 Previous sociolinguistic research in the Lowlands

Almost 70% of the Scottish population lives in urban areas in the central belt. Therefore, traditional dialect studies in Scotland, whose focus was on conservative, rural speech varieties, tell us little about the majority of Scottish English speakers. In recent years, the sociolinguistic situation in urban Scotland has been given much more attention. It has been shown that localised features are declining, that there is a sharp disjunction between the linguistic behaviour of the middle class and the working class and that changes to the consonant system of urban Scottish varieties seem to model changes currently happening to the consonant system in urban England (Maguire 2012: 7).

One of the earliest sociolinguistic studies in Scotland was conducted by Macaulay (1977) in Glasgow. The focus of this study was vowel qualities, with T glottaling as the only consonant feature. Since then, Stuart-Smith has been one of the main contributors in mapping the sociolinguistic situation in Glasgow. Her 1997 fieldwork has resulted in several published articles revealing interesting and sometimes unforeseen patterns of linguistic variation and change. The focus of Stuart-Smith, Timmins & Tweedie (2007) was consonant features; they wanted to investigate whether the consonantal changes attested in various locations in England were operating in Scotland. The linguistic variables investigated with this aim were TH fronting, T glottaling and L vocalisation. The

working-class speakers in Glasgow were leading the change of introducing non-local, non-standard features that have their origin in the working-class accent of London. The middle-class speakers were the ones who maintained traditional Scottish features, like rhoticity and the distinction between [w] and [ɹ]. Traditionally, working-class speakers are believed to uphold stronger social network ties and to have fewer opportunities for social and geographical mobility. These strong network ties are believed to prevent language change and make the members of these networks more resilient to incoming linguistic features. The middle class, on the other hand, is believed to have more opportunities for mobility and to have weaker network ties. Hence, they are more receptive to language change by being more exposed to contact with speakers outside their network (Milroy & Milroy 1993: 67). Stuart-Smith, Timmins & Tweedie (2007) argue that in order to understand their findings, local context must be taken into consideration and that in this case, 'the sociolinguistic polarisation is underscored by class based language ideologies which serve to differentiate' (2007: 253). The reason why working-class adolescents in Glasgow use features associated with London English can arguably be related to their wish to disassociate themselves from the middle class. In order to do so, they use 'all possible linguistic resources to construct identities which are as anti-middle class, and anti-establishment as possible' (Stuart-Smith, Timmins & Tweedie 2007: 251). Another interesting issue emerging from this study is that the variants associated with London seem to behave differently in relation to style-shifting. For the (θ) variable, the incoming non-standard feature [f] was not blocked in read speech. For (l), non-standard [ʊ] was not just *present* in read speech; it was actually *more* frequent in read speech than in spontaneous speech (2007: 235).

The results from Robinson's (2005) study in Livingston mirror the results from Stuart-Smith, Timmins & Tweedie's (2007) Glasgow study to some extent. Robinson's focus was three consonant features, the innovative TH fronting, and two traditional Scottish features, (x) and (ɹ). Robinson contrasted primary and secondary school pupils and the results indicated a rapid ongoing change where Scots and SSE features were being replaced by anglicised features. In Livingston, boys seem to be the instigators of the introduction of TH fronting. In the same way as in Glasgow, [f] was frequently used when performing the reading tasks. For the traditional Scottish features, the results were somewhat ambiguous; girls were leading in the merger of [x] and [k], whereas they remained conservative in their retention of [ɹ] (Robinson 2005).

Brato's (2007) results from Aberdeen also point in the same direction as those from Glasgow and Livingston. His 2007 article presents the first reading list results for

the variables of (th) and (wh). For (wh), the results were unambiguous; the variable was subject to change in Aberdeen and [w] was found frequently in all groups except the older MA (Mixed Area – between middle class and working class) speakers. Overall, [w] was the most used variant, thus contrasting previous descriptive accounts of SSE, where [ɹ] is said to be the leading variant (e.g. Grant 1913). Additionally, Brato found a high level of intermediate forms that were not quite [w] or [ɹ], which he argues is indicative of change in progress (2007: 1490). For (th), the results were less straightforward. Variation seems to be the key factor as ‘TH fronting was found only infrequently and seems to be restricted to some speakers’ (Brato 2007: 1489) and [θ] was clearly the most prevalent variant for all the speakers. Hence, TH fronting seems to be less established amongst the young speakers in Aberdeen than in Livingston and Glasgow.

Schützler (2010) investigated the sociolinguistic distribution of two consonant features, non-prevocalic /r/ and the contrast of [w] and [ɹ] in Edinburgh. Concerning (r), both realisation and articulation were investigated. Schützler (2010) found that the realisation of /r/ in Edinburgh, to a large extent, confirmed previous findings. The early report on Edinburgh English to which Schützler refers is that by Romaine (1978). Her study on rhoticity amongst working-class children in Edinburgh showed that boys were more likely to drop /r/ in non-prevocalic position. When /r/ was articulated, they were more inclined to use the tap, [ɾ], whereas the girls favoured the approximant, [ɹ]. Schützler found that amongst his middle-class informants, the younger speakers were the ones most likely to retain /r/ in all positions. However, Schützler argues that this should not be interpreted as a change indicating that Edinburgh English is becoming more rhotic. Instead, it is likely a case of age grading (see section 2.2.1) ‘with those speakers engaged in professional careers intermittently becoming less Scottish with regard to this particular accent feature’ (Schützler 2010: 10). Schützler also investigated which and to what extent different factors were significant for predicting the articulation of /r/. The results showed that language internal factors were the best indicators. Additionally, having a university degree and being in contact with speakers of Anglo-English were factors that reduced the frequency of articulating non-prevocalic /r/. For (wh), the results were in line with findings from the other Scottish cities; [ɹ] is recessive and the young speakers have, to a large extent, merged [ɹ] and [w]. However, as opposed to in Livingston, the male speakers in Edinburgh were the most conservative concerning the retention of [ɹ]. This variable also seemed ‘to be highly responsive to dialect contact’ as contact with other varieties of English and university education were strong disavouring factors in the retention of [ɹ] (Schützler 2010: 15).

2.4.3 Previous sociolinguistic research in the Highlands

Section 2.4.2 shows us that the amount of sociolinguistic research conducted in the Scottish Lowlands has been plentiful in the last decades. The same cannot be said about the Scottish Highlands. It has usually been the Gaelic, not the English, spoken in these regions that has been the subject of sociolinguistic investigation (Shuken 1984: 152). HE pronunciation is described as being 'close to Standard English as pronounced in the Scottish Lowlands, from which it is historically derived, but it has been modified by the Gaelic substratum in certain ways' (Speitel 1981: 116). When researching the linguistic situation in Inverness, and when talking to my informants and other locals, I often came across statements about how InvE is supposedly the purest form of English in the world. It was frequently described as the variety of English closest to 'the Queen's English'. A study by Kingston (2015) mapped Scottish dialect perceptions in Buckie, a town 55 miles north-east of Inverness. The informants in this study described Invernesians as 'lovely Inverness clear speakers' (2015: 333) and referred to Inverness as having 'the best speakers, lovely, really nice clear speakers' and the English spoken there was said to be pure English (2015: 340). Kingston's informants were also asked to rate Scottish dialects according to the level of 'Scottishness'. In these results, the Highlands, with Inverness as the area most commented on, was one of the top three most Scottish-sounding regions (2015: 341). It is my impression that when people describe HE and InvE as being close to 'the Queen's English', they do not equate it with RP. It is a reference to Standard English with standard grammar, vocabulary and SSE pronunciation.

The reasons why a city so far removed from Westminster is associated with speaking 'the Queen's English' can probably be sought in the way English was implemented in the Highlands. After the fall of the second Jacobite Rising in 1746, it became illegal to speak Gaelic, wear tartan and do anything strongly associated with the Highland clan system's way of life. Given the nature of the Jacobite rebellion, it became of paramount importance and a policy of both state and the religious institutions to gain social control over this geographically inaccessible area. One of the key ways in which this was acquired was the imposition of the English language, at the expense of Gaelic, through public institutions such as the school system, the military forces and the church. By the late sixteenth century, SSE had already become the prestige variety in Scotland. Therefore it is likely that the English variety the Highlanders were exposed to was some form of SSE. The language shift was also accompanied by an effort to bring education to the Highlands, through a Standard English medium (Shuken 1984: 152).

Another interesting topic emerged in most of the interviews in this study. It was a common denominator amongst almost all my informants that they did not want to admit to having an Invernesian accent. Most of them said they had no accent at all, others said they would describe their own accent as being Scottish, but not as being specifically Invernesian. The reason for this can possibly be sought with reference to the prestige associated with InvE. One of my informants had some insightful comments on this:

11M: I think there might be a couple of psychological things there. There could be, like I was saying to you before, it could be that actually because there is this idea that it is so pure, and it is the best sort of, supposedly, the best spoken form of English, then maybe people think that they don't do that, and they don't want to be the kind of standard bearer for that, cause if you're judging based on them...

In the same interview, another informant commented on the connotations associated with InvE compared to other varieties of Scottish English by saying:

12M: I've got quite a few friends who've come back, or moved back to Inverness from other places cause they said they didn't want their children growing up with a Glaswegian accent, they would rather have them come back here, and sound like whatever they're gonna sound like, it's better than sounding like a Weegie.

As mentioned, there have been few studies investigating the English of the Highland region of Scotland. Shuken (1984) provides one of the few sources we have on HE and her focus is on the English spoken in the northern Hebridean Islands of Lewis, Harris and Skye. She included some mainland informants, however, there are too few to make any valid generalisations. Gaelic has had and still has a much stronger foothold in the western isles than what it has in the mainland regions of the Highlands, and particularly in Inverness itself. In a report for the National Records of Scotland, data pertaining to Gaelic's position in Scotland were presented in Scotland's Census 2011 (2015). This census showed that most native speakers of Gaelic live on the western isles. In Inverness, only between 1 and 5% of the population speak Gaelic, whereas, on the Outer Hebrides, more than 50% of the population are native Gaelic speakers. Hence, phonological influence from Gaelic is likely to be much stronger on the Hebrides than what it is in Inverness.

Shuken points to several linguistic features that were present in the speech of her Hebridean informants that can clearly be ascribed to phonological influence from Gaelic. One of these is retroflexion, and she states that in Gaelic influenced Englishes, all the alveolar consonants have retroflex variants. Another consonant characteristic is the extended level of aspiration when compared to SSE. As mentioned in section 2.4.1,

SSE voiceless plosives show little to no aspiration in initial position. In Gaelic influenced Englishes however, strong aspiration is the norm, and plosives are also expected to show pre-aspiration in final position, rendering pronunciations such as [kʰɪn] *kin* for initial aspiration and [bʰɪk] *book* for pre-aspiration. Concerning fricatives, Shuken reports of voicing inconsistencies compared to SSE and that devoicing happens irregularly to all lenis fricatives, both word-initially, word-finally and word-medially. For the dental fricatives, the only deviation from the SSE system reported by Shuken is the devoicing phenomenon and she also mentions that some Hebridean English varieties will not have the phoneme /ð/ (1984: 159). If these consonant features are present in HE, this can likely be ascribed to influence from the Gaelic substratum.

One contribution in mapping the sociolinguistic situation in Inverness has been made by Vedå (2015). She investigated the sociolinguistic distribution of seven linguistic variables amongst 13 Invernesians. These variables were TH fronting, T glottaling, realisation of /l/, rhoticity, diphthongisation of GOAT and FACE and the WHINE-WINE merger. Concerning TH fronting and L vocalisation Vedå's results showed only four attestations of [ʊ] for [ɪ] and zero attestations of any fronted fricatives. It should be kept in mind that Vedå's youngest informant was 20 years at the time and all her informants were classified as being middle class. In other Scottish cities, the introduction of TH fronting and L vocalisation seems to be led by the adolescent, working-class speakers. Hence, as Vedå (2015) herself points out, including such speakers might have yielded different results. For T glottaling, Vedå's overall results showed an even distribution between [t] and [ʔ]. In Vedå (2015), it seems like the glottal stop in Inverness is preferred by male speakers; her male informants used it 72% of the time, whereas her female informants used it 55% of the time. Her results also indicate that the use of [ʔ] is increasing. The youngest age group used [ʔ] 72%, whereas, the oldest age group used it only 35% of the time.

As mentioned in 2.4.2, studies in Edinburgh have shown a tendency for increased derhoticisation, particularly amongst working-class, male speakers. In Inverness, Vedå found that firm rhoticity is still the norm. For (wh), high scores of [w] were found in both age groups, but only three speakers had completely merged [w] and [ɹ]. As expected, [ɹ] was used most by the oldest generation. They used it 28% of the time, whereas, the youngest generation used it 9%. [ɹ] was also more frequent amongst the female speakers than amongst the male speakers. Vedå's results for diphthongisation showed that GOAT remains fairly 'Scottish'; there was a monophthongal realisation in 99% of the tokens. For FACE, the results were quite different. The overall results showed 31%

usage of the diphthong and there was a clear increase amongst the younger age group in the diphthongisation of FACE. Overall, Vedá's (2015) results indicate that InVE remains rather conservative and close to SSE.

2.5 Inverness – an expanding city

Inverness is a city located in the Scottish Highlands, right where River Ness meets the Moray Firth. The name of the city derives from Gaelic *Inbhir Nis* meaning 'mouth of the River Ness'. Informally, Inverness is often referred to as the capital of the Scottish Highlands and it is the administrative centre for the Highland Council area. The settlement of Inverness is ancient and dates back to year 600 AD. Due to its location, Inverness has always been an important port and market town, hence, the flow of people visiting and passing through Inverness has been substantial for centuries. The nineteenth century saw many developments that would have a great impact on the then small Highland town. The Caledonian Canal was finished in 1822, thus connecting east and west Scotland and the railway reached Inverness in 1855. These events facilitated the transportation of goods and sparked off what would become Inverness' main industry, namely tourism. Inverness is the gateway to many of Scotland's most famous tourist attractions, such as Loch Ness and Culloden Battlefield. According to a poll by VisitBritain, Inverness is the 12th most visited city in the UK, with 340 000 people staying there every year (VisitBritain 2016).

Inverness was granted city status in the year of 2000 and it has since then been one of the fastest growing city in Western Europe. According to a census report by the Highland and Island Council (2014), the population of Inverness was 67 208 in 2001, and 79 202 in 2011, resulting in a growth of 17.8% percentage points. This is a substantial growth rate, particularly when considering that depopulation has been the norm in the Scottish Highlands. One reason for this growth may be the relatively cheap housing market in Inverness, compared to other British cities. Additionally, Inverness has a reputation for being a very happy place to live. In a survey by the property website www.rightmove.co.uk, 50 000 people in Britain were asked to rank how happy they felt about their place of residence, their community and their neighbours, how much they worried about the value of their home and how proud they felt of their city. According to this poll, Inverness is the second happiest place to live in the entire UK (Roscoe 2014). Additionally, Inverness has a very thriving economy, and all these factors have probably contributed to the increasing amount of people wanting to call Inverness their home.

Inverness got a university campus in 2012. This campus is part of The University of the Highlands and Islands (UHI), which comprises 13 campuses around Scotland. Several of my informants commented on the positive effect the opening of Inverness campus has had for young people's possibilities in the Highlands. It has given Invernesians the opportunity to study to degree level without having to leave Inverness.

The rapid growth of the city has, however, not received an exclusively warm reception amongst native Invernesians. There seemed to be a polarisation amongst the younger and the older informants in this study concerning how they feel about the changing nature of Inverness. The older informants all reported that Inverness used to have a much stronger sense of community and that the growth of the city has been to the detriment of what was once an idyllic, small and very safe Highland town. The younger informants spoke of Inverness' newfound city status and its urbanisation as something exclusively positive and progressive. The older informants, on the other hand, were ambiguous and expressed concern about the direction in which the city is heading and lament for the loss of the way Inverness used to be. As mentioned in 2.4, there has been discovered a link between the different community structures and language change. In areas where there is high population movement, linguistic change is facilitated, whereas, in close-knit communities, linguistic change is inhibited. Due to Inverness' rapid population growth, it is likely to assume that the old, close-knit communities existing when Inverness was a small town has been weakened. This, as well as the increased urbanisation and contact between speakers of different varieties of English, are factors that are likely to facilitate language variation and change.

3: THE LINGUISTIC VARIABLES

The linguistic variable as an analytic unit is very central to sociolinguistic variationist research. A linguistic variable is an element of speech that is known in advance to have potentially different realisations (see 2.1). The different realisations are referred to as different variants of that said variable. In this thesis, linguistic variables will be presented inside brackets (), variants of a variable will be presented inside square brackets [] and phonemes will be presented inside forward slashes / /. This chapter describes the five consonantal variables that have been investigated in this thesis. The selection of these variables is based on findings from studies in other Scottish cities where these variables display sociolinguistic variation and change.

3.1 L vocalisation

As mentioned in 2.4.1, in Scottish English, the realisation of /l/ is velarised, regardless of the phonetic environment in which /l/ occurs. This differs from most southern English varieties, in which /l/ has two allophones, contingent on the phonetic environment (Wells 1982b: 411). The realisation of /l/ in HE is distinctive from both the southern English and SSE: it is said to be clear in all positions. Wells assigns this characteristic feature to be of Gaelic origin as Gaelic has clear /l/ invariably (1982b: 413). In Shuken (1984) the speakers generally had a clear realisation of /l/, the exception was young speakers on Skye who often used the velarised variant and Shuken assigned this to mainland influence. The few Highland informants included in Shuken's study had a realisation of the lateral that ranged from one that was not clearly dark or clear, to a realisation that was strongly velarised (1984: 160).

A vocalised realisation of /l/, originally a stigmatised London feature, is currently spreading throughout urban areas of England. L vocalisation refers to the replacement of non-prevocalic /l/ with a vowel whose quality is similar to [o] or [ʊ] (Wells 1982a: 258), rendering pronunciations such as [mɪʊk] for *milk*. [ʊ] is attested in Derby (Docherty & Foulkes 1999), Sandwell (Mathisen 1999), Reading and Milton Keynes (Williams & Kerswill 1999). Stuart-Smith, Timmins & Tweedie (2007) found an increase of L vocalisation amongst the younger working-class speakers in Glasgow. The spread of this phenomenon has often been explained in terms of geographical diffusion from London. However, Johnson and Britain argue that the extensiveness of the spread of L

vocalisation cannot solely be contributed to linguistic influence from London. Instead, they suggest that it is a natural sound change in accents where there is either a noticeable distinction between clear and dark /l/, or a relatively dark /l/ in all positions (2007: 298). Due to the lack of previous research on InvE, it is problematic to make statements about the diachronic development of /l/. However, since Inverness was traditionally Gaelic speaking, we might assume that any potential distinction between dark and clear /l/ is of rather recent nature. Vedå found only four instances of L vocalisation from a total of 1349 /l/ tokens (2015: 75). Her results also pointed towards an increase in the use of clear /l/. Vedå suggested that the limited use of L vocalisation in Inverness could be caused by the retention of clear /l/ in InvE rather than by Inverness' peripheral geographical location in relation to London. However, when conducting the fieldwork for this study, the researcher observed vocalised variants of /l/ being used by adolescents in Inverness and therefore found it interesting to include (l) as a variable.

3.2 TH fronting

TH fronting refers to the phenomenon by which the dental fricatives [θ] and [ð] are replaced by the labiodental fricative [f] and [v] respectively. Fronting of the voiceless fricative can happen in all environments, whereas fronting of the voiced fricative is restricted to non-initial environments. TH fronting is originally a London feature, associated with the working-class Cockney accent (Wells 1982b: 328). However, TH fronting is currently expanding its geographical distribution and it is now found, to a varying degree, in urban varieties of English throughout Britain. The first attestations of TH fronting in London English are reported from 1787 and there is evidence of how it spread rapidly in the area around London during the 19th century (Kerswill 2003: 235). Kerswill suggests that the introduction of TH fronting happened in large regions of Britain at approximately the same time. The geographical spread was not limited to areas surrounding London, but also encompassed the northern areas of England and the central belt of Scotland. The specific time of introduction seems to have been around the turn of the 21st century (2003: 234). By comparing the results from two different investigations on TH fronting, one in Newcastle, the other in Durham, Kerswill (2003) showed that the pattern of TH fronting in these two northern English cities was very similar. The boys used TH fronting more than the girls did and TH fronting seems to have entered both urban Newcastle and semi-rural Durham at approximately the same time. In Scotland, TH fronting has been attested in Glasgow (Stuart-Smith, Timmins & Tweedie 2007), Aberdeen (Brato 2007), Livingston (Robinson 2005) and Edinburgh (Reiersen

2013). In all these studies, TH fronting was found to be predominantly present in the speech of the younger informants, which affirms its recent emergence in these varieties. Concerning gender-related differences, no consistent pattern was found.

Shuken (1984) does not mention any TH fronting in HE and Vedå (2015) found zero attestations of this feature in InvE. Even so, TH fronting is included as a linguistic variable in this study and this is justified by the inclusion of speakers between the ages of 15 and 20 years. These young speakers were born around the same time as Inverness was granted city status, which was followed by an extensive immigration of people from all over Britain. As a result, the people born around 2000 grew up in a more urban and linguistically diverse city. This might be implicational for whether or not they have adopted the features presently spreading throughout urban Britain. Additionally, when collecting data for this thesis, it became clear to the researcher that TH fronting was indeed present in the linguistic repertoire of the youngest speakers of InvE.

3.3 The whine-wine merger

Whine and *wine* are not homophones in many Scottish varieties of English. This is because these varieties have not undergone the whine-wine merger and the voiceless labiovelar fricative [ɱ] is retained in most words with orthographic *wh* (Wells 1982b: 408). *Whine* and *wine* are not homophones for those who retain [ɱ] and will be pronounced [ɱaɪn] and [waɪn] respectively.

Historically, orthographic *wh* was presumably 'very seldom replaced by [w] in Scottish speech' (Grant 1913: 38) and today, its association with SSE is likely to deem it the prestige variant. However, in Scotland today, sociolinguistic research has shown an ongoing process that seems to be leading to a merger between [w] and [ɱ] and the loss of [ɱ] (Robinson 2005; Brato 20007; Stuart-Smith, Timmins & Tweedie 2007; Vedå 2015). Linguistic mergers have a tendency to proceed slowly and ambiguously (Milroy 2004: 50) and the development of the whine-wine merger might have started much earlier than what has previously been assumed. Minkova presents evidence for how, in some varieties of southern British English, [w] and [ɱ] were not consistently distinguished even in the Old English period. She also points to how the development of this merger has not been a linear process; there was a redevelopment of the contrast between [w] and [ɱ] in the sixteenth and seventeenth century. The redeveloped contrast 'was motivated by external factors such as literacy, prestige, dialect borrowing and word frequency' (Minkova 2004: 35). Today, [w] and [ɱ] are completely merged in southern varieties of British English. The exception is some RP speakers who will use [ɱ] as a

conscious decision in words with orthographic *wh*, because it is considered 'correct, careful and beautiful' (Wells 1982a: 229). In Shuken's (1984) study from the Hebrides, most of the informants used [ɹ], though to a varying degree. She also points out that [ɹ] corresponds to no phoneme in Gaelic (Shuken 1984: 159), hence, its presence in the Highlands and Islands can probably be ascribed to Lowland influence.

Concerning the sociolinguistic distribution of [ɹ], the results from studies in Scotland are somewhat ambiguous. In some cases, [ɹ] seems to be retained by older, middle-class speakers. Stuart-Smith, Timmins & Tweedie (2007) found that in Glasgow, the use of [ɹ] and other traditional SSE features such as [x] and postvocalic /r/ were retained by the middle class, despite the presence of social mobility and direct dialect contact with Anglo-English varieties. In Edinburgh and Aberdeen, [ɹ] was being dropped by the middle class and both Schützler (2010) and Brato (2007) point to a correlation between direct dialect contact with Anglo-English and the merging of [w] and [ɹ] into [w].

3.4 The realisation of /r/

Concerning the realisation of /r/ in Scotland, both interspeaker, as well as intraspeaker variation is expected. The stereotypical Scottish pronunciation has traditionally been the alveolar trill [r]. Today, the trill is seldom heard and if it is used, it is solely for emphatic reasons. In contemporary Scotland, the most common realisations of /r/ are either a post-alveolar or retroflex approximant [ɹ - ɻ] or an alveolar tap [ɾ]. The tap tends to dominate in intervocalic position (Macafee 1983: 32). In Anglo-English, [ɹ] or [r] are seldom heard and the dominant variant is the approximant [ɹ] (Schützler 2010: 5). Therefore, a potential increase in the usage of the approximant in Scotland at the expense of the traditional Scottish variants might arguably be treated as anglicisation of Scottish English.

One important thing to mention in relation to /r/ in Scotland is the rhotic status of SSE. Wells states that SSE 'is firmly rhotic, with /r/ retained in all positions where it occurred historically' (1982b: 410). However, several sociolinguistic studies in Scotland have shown that Scottish English is not as consistently rhotic as previously assumed. Stuart-Smith et al. (2014) argue that observations on postvocalic /r/ across the twentieth century 'reveal a socially-constrained, long-term process of derhoticisation' (2014: 60). Previous studies on /r/ dropping in Scotland have focused on the two cities on each side of the central belt, namely Edinburgh and Glasgow (e.g. Romaine 1978; Stuart-Smith, Timmins & Tweedie 2007; Schützler 2010). The trend observed from these studies is that middle-class female speakers are leading in a change away from the stereotypical trill or tap and towards the approximant. Working-class speakers are leading in the

change 'resulting perhaps in the completion of derhoticisation which will be non-rhoticity' (Stuart-Smith et al. 2014: 65). In the Highlands and Islands, on the other hand, Shuken's (1984) reports do not mention any tendency of derhoticisation, so we may assume that /r/ is retained in all historical environments. She further describes the realisation of /r/ as being 'a retroflex approximant or fricative word-initially; a tap intervocalically; a fricative, or an affricated tap (a tap followed by a fricative) word-finally' (1984: 160).

Schützler states that 'the complexity of /r/ suggests that it be subdivided into two variables, one pertaining to the *articulation* (i.e. presence or absence) and the other to the *realisation* (i.e. phonetic form, if present)' (2010: 6 emphasis original). In the present thesis, an analysis with a subsequent quantification of the results was done measuring the level of rhoticity in InvE. However, this analysis yielded incontestable results; InvE remains firmly rhotic. A decision was then made to focus only on the realisation of /r/. During the interviews, I asked my informants what characterises a strong Invernesian accent. Without exception, they all answered this question with the phrase *rubber bumpers* [ɹʌbəɹ bʌmpəɹz], pronounced with an accentuated retroflex approximant. However, distinguishing auditorially between a retroflex and an alveolar approximant when no emphasis is put on the retroflexion is very challenging. Therefore, the focus of the present study will be to investigate the sociolinguistic distribution of the traditional, SSE alveolar tap [r] versus the non-traditional alveolar approximant [ɹ].

3.5 T glottaling

T glottaling refers to the replacement of the voiceless alveolar plosive /t/ with the glottal stop [ʔ] in intervocalic position. T glottaling in this context is one of the features currently known to be spreading throughout Britain. Wells regards it as plausible that the main contributing factor for the rapid and extensive distribution of T glottaling can be ascribed to its association with London English (1982b: 323). He attributes London to be England's 'linguistic centre of gravity' and claims that '[London's] working-class accent is today the most influential source of phonological innovation in England and perhaps in the whole English-speaking world' (Wells 1982b: 301). Today, T glottaling is likely considered an urban feature, rather than specifically a London feature. More recent studies have attested extensive usage of T glottaling, especially amongst the youngest speakers, in cities such as Norwich (Trudgill 1999b), Sandwell (Mathisen 1999), Milton Keynes, Reading and Hull (Williams & Kerswill 1999). Williams and Kerswill argue that T glottaling is now showing 'similar phonological and sociolinguistic patterns throughout the country' and that this convergence in the British consonant system can probably be

linked to the phenomenon of dialect levelling (see 2.4) (1999: 147). T glottaling is also a characteristic trait of popular Scottish English, particularly in the central parts of the Lowlands (Wells 1982b: 409). Andréson (1968) presents a chronological overview of the geographical distribution of the glottal stop in Britain. In fact, the glottal stop originated in Glasgow, and it was first attested to appear there in 1860. The spread to other regions of Britain seems to have been gradual, and the first attestation in London was in 1909 (1968: 18). Concerning HE, Shuken (1984) does not mention any attestations of glottal stops on the Hebrides. However, she does point to the possibility of dental or retroflex realisations of /t/, which can probably be ascribed to influence from Gaelic. In Inverness, Vedå (2015) found an increase of [ʔ] amongst her middle-class informants.

T glottaling has traditionally been heavily stigmatised (Cheshire 2002: 430). In Glasgow, the glottal stop is described by Macaulay as the most characteristic feature of the Glaswegian accent and Glasgow's 'most openly stigmatised feature' (1977: 47). Macaulay's results show the distribution of [ʔ] in Glasgow amongst adults, 10, and 15-year-olds in different social classes. The distribution of the glottal stop was rather stable when comparing the 15-year-old speakers to the adult speakers and all the groups used the glottal stop to some extent. However, there was a clear quantitative difference between the social classes; the adult and 15-year-old working-class speakers used it 77% or more, and the adult and 15-year-old middle class used it only between 10 and 25% (1977: 61). Hence, T glottaling was a clear characteristic of working-class speech in Glasgow. More recent studies on T glottaling (e.g. Milroy et al. 1994; Mees & Collins 1999), have shown that this feature is becoming increasingly associated with the speech of the middle class, and particularly with that of middle-class women. Milroy et al. (1994) have also pointed to how T glottaling in word-final, intervocalic position (such as in *a lot of*) is presently making its way into RP (1994: 329). These factors are indicative of how the status and the social connotations associated with the glottal stop may be changing.

4: METHODOLOGY

4.1 Methods for data collection

The present study is a synchronic, sociolinguistic variationist study with the aim of investigating accent variation and change in Inverness. This has been implemented by analysing speech data from three different generations of native born Invernesians. This chapter has two main parts. The first (4.1) will describe the methods used for data collection as well as present the informants who have so kindly taken part in this study. The second part (4.2) will discuss the procedures of analysing and quantifying the data as well as provide the token classification for all the linguistic variables.

4.1.1 Sampling procedures

The modern methods for investigating language variation and change required in order 'to uncover the regularity in interpersonal and intrapersonal linguistic variability that typifies every community' were developed by William Labov in the 1960s (Milroy & Gordon 2003: 23). Paramount to this approach is the understanding that patterns of linguistic behaviour correlate with and are influenced by extralinguistic factors such as age, gender, social class and social context. In order to account for these patterns of variability, the investigation must be broad enough to include both different kinds of language and different kinds of speakers. However, even for the smallest speech community, including every member is impossible since analysing data for a study investigating language variation is a time-consuming process. Instead, we need to draw generalisations from a selected group within a speech community and this group must in some way be closely representative of the community as a whole (Milroy & Gordon 2003). The sample for a sociolinguistic study should be stratified in such a way as to account for the relevant social and linguistic variation in the speech community. Luckily, linguistic behaviour is far more homogenous than many other kinds of social behaviour. Additionally, language users' most important goal is successful communication and this will have the effect of limiting the amount of variation permitted. Hence, large samples are scarcely necessary, and fruitful generalisations can usually be made based on a rather small sample (Sankoff 1980: 51).

One approach that has been used in order to ensure representativeness is *random sampling*. Obtaining a random sample entails ensuring that everyone in the

relevant speech community has an equal chance of being selected and by doing so, it is suggested that bias is avoided. However, no random sample can be completely unbiased. Additionally, Milroy and Gordon argue that 'obtaining a balanced, stratified sample is more difficult when random procedures are employed' (2003: 30). Therefore, researchers have in general abandoned strict random sampling in favour of *judgement sampling*. Judgement sampling means to decide preliminarily upon the desired social variables and subsequently seek out informants who fulfil these criteria (Milroy and Gordon 2003: 30). My sample for the present thesis is a version of a judgement sample and my intention was to include an equal amount of female and male speakers that were evenly distributed between young, adult and older adult speakers. However, any study that includes informants is dependent on the goodwill of those informants. Since my fieldwork had temporal restrictions, I was willing to settle for a sample that was not perfectly balanced. The most important criterion in my judgement sample was that the informants were native speakers of InvE, which entails that they were born and raised in Inverness. Concerning the youngest age group, a particular effort was made by the researcher to assure a sample that included young speakers between the ages of 15 and 20. The reason being that one of my aims was to investigate whether and to what extent Inverness' recent population growth has affected InvE. Hence, I wanted my youngest age group to consist of speakers born around the year of 2000. In order to get in contact with these young speakers, I sent an inquiry to the head teacher at Inverness High School. This enquiry was met with goodwill, and four of my six young informants were pupils there.

I chose to conduct my study in the city of Inverness mostly because I have contacts there who were willing to assist me in making contact with potential informants. When finding informants for this study, my starting point was the people to which my acquaintances so kindly introduced me. During these first interviews, I asked if they knew someone else who would be willing to participate. This approach for filling the quotas for a judgement sample is often referred to as a '*snowball*' technique. One great advantage of this technique is that the researcher becomes less of a stranger when he/she is introduced to a prospective informant by someone already familiar to them (Milroy & Gordon 2003: 32). This approach proved very fruitful and resulted in 11 interviews. The other informants were found by randomly approaching people in the city centre of Inverness. In general, the people in Inverness were immensely helpful and willing to participate. The biggest problem I encountered was that approximately half of the people I approached were not actually from Inverness.

4.1.2 The informants

All in all, speech data from 18 Invernesians have been recorded, quantified and analysed. The informants who have taken part in this study are presented in table 4.1 below. The table also contains information such as the informants' age, place of birth, education level and their (or their parents') occupation.

Table 4.1: List of informants

	N	Gender	Age	Born	Occupation/parents' occupation*	Education
Young	1	F	15	Inverness	Nurse/self-employed*	In high school
	2	F	17	Inverness	Nurse/engineer*	In high school
	3	F	19	Inverness	Sales assistant	In high school
	4	M	16	Inverness	Housekeeper/unknown*	In high school
	5	M	17	Inverness	Unemployed/constructor*	High school
	6	M	20	Inverness	Sales assistant	In university
Adults	7	F	29	Inverness	Advisor	Honour's degree
	8	F	30	Inverness	Advisor	Honour's degree
	9	F	30	Inverness	Management assistant	Some college
	10	M	34	Inverness	Support worker	High school
	11	M	37	Dumfries	Entrepreneur	University diploma
	12	M	38	Inverness	Social worker	Honour's degree
Older adults	13	F	48	Inverness	Support worker	High school
	14	F	53	Inverness	Support worker	High school
	15	F	55	Inverness	Customer service	High school
	16	F	58	Inverness	Secretary	High school
	17	M	60	Inverness	Prison officer	High school
	18	M	64	Inverness	Technician	College

* = parents' occupation, mother/father

The informants have been divided into three different age groups: 'young', ranging from 15 to 20 years, 'adults' between the ages of 29 and 38 and 'older adults' between 48 and 64 years old. There are ten female speakers and eight male speakers. In the two youngest groups, the informants are evenly distributed between men and women, whereas in the oldest age group, there are four women and only two men.

All the informants except speaker 8F and 11M were born and raised in Inverness. Speaker 11M was born in Dumfries, but since he moved to Inverness at the age of five,

he can arguably be considered a native speaker of InvE. Another thing to consider concerning speaker 11M is that he has moved around after reaching adulthood, and he has spent several years abroad. This should be considered when interpreting his results. Speaker 8F was born in Inverness, but being the daughter of a military man, she moved around a lot during her childhood. However, she lived permanently in Inverness until she started school and moved back at the age of ten. One last disclaimer will be made here. At the time of the interview, speaker 6M was three years into his drama degree at the UHI. In that regard, he has received elocution training and he said that he had learned how to modify his accent and use more standard forms. This should be kept in mind when reading his results.

The UHI campus in Inverness was established rather recently, hence, all the informants who have attended university before 2012 had to leave Inverness in order to get their degrees. This means that speaker 7F, 11M and 12M all lived away from Inverness when studying. Speaker 10M, on the other hand, completed his degree in Inverness, and speaker 6M was, at the time of the interview, 1 year away from completing his Honour's degree at the UHI. Based on the education level and occupation of the informants in this study, they will probably be considered as coming from some upper working-class, lower middle-class background. Many of the informants stated explicitly that they considered themselves as being working class. In the interviews, the relevance of social class in Inverness was discussed and one informant's response was:

17M: [In Inverness,] nobody's interested in it. I think you'll find different classes, but there's less of an emphasis put on it in Inverness or in Scotland in general than there would be down south, in the likes of London and places like that. Eh, they have their social classes and stick to it, we don't bother

In general, this seemed to be the sentiment shared by most of the informants in my study. However, one informant in particular said class had been an important factor for him:

10M: You know, class was very much a factor, in as much as if you were from an upper to middle-class background, you were seen as somehow slightly better. I always felt that, but maybe that's my own shortcoming there since I come from a working-class family.

However, even though speaker 10M clearly states that he is from a working-class background, the fact that he has now got an honour's degree could indicate that he himself would be considered middle class. This is one of the problems causing social

class to be a difficult variable to operationalise. The sample in the present study is not socially stratified enough to allow for a comparative analysis of social classes.

4.1.3 The sociolinguistic interview

The most common method used for collecting data for a variationist sociolinguistic study is *the sociolinguistic interview* (Feagin 2004: 26) and this method has been adopted in the present study as well. The sociolinguistic interview is a *conversational interview* and it is usually a one-to-one correspondence between the person conducting the fieldwork and the interviewee. The normal procedure is that the fieldworker asks the interviewee a set of pre-determined, though adjustable questions designed to elicit free, continuous speech. Interviews administered by the researcher can easily be adjusted and modified as the conversation progresses; it allows for individual adaption (Milroy & Gordon 2003: 57). The interviews are 'designed to steer attention away from language itself toward topics of interest to the interviewees' (Schilling 2013: 93). Hence, the interview does not focus on *how* the informants use language or how they pronounce certain words. Instead, the focus is on topics that are likely to engage the interviewees and render longer stretches of free speech.

From the very beginning, sociolinguistic studies have been concerned with eliciting *the vernacular*. Labov (1984) argues that the vernacular is the variety that provides the best data for sociolinguistic research. The vernacular is a person's most casual and unmonitored speech and it is the variety acquired in pre-adolescent years (1984: 29). There are challenges associated with eliciting the vernacular in the context of a sociolinguistic interview. Much of the criticism directed at the sociolinguistic interview pertains to the fact that the interview as a speech act does not create a natural and informal setting likely to facilitate unmonitored speech (Feagin 2004: 26). Additionally, even though the researcher does not explicitly state which linguistic forms are of interest, it is explicit that *language* is the object of observation. Therefore, researchers find themselves faced with the challenges of *the observer's paradox*. Milroy and Gordon explain this paradox as how 'we want to observe how people speak when they are not being observed' (2003: 49). The paradox is that the interviewees in a sociolinguistic interview are well aware of being observed. Another aspect to consider in relation to this is that that the informants may consciously or subconsciously converge (or diverge) to the interviewer (see 2.4). The interviewer in the present study speaks a version of a non-native accent that probably approaches RP. Many of the informants explicitly commented on the Anglo-English and posh-sounding quality of the interviewer's accent. However,

RP is not a relevant prestige variety for the great majority of Scottish English speakers (see 2.4). Hence, it is unlikely that any of the interviewees tried or wished to accommodate towards RP, therefore, convergence might be more likely. In this contexts though, both outcomes would be harmful since the aim of a sociolinguistic interview is to elicit the interviewees' natural speech.

There are however various ways in which the effects of the observer's paradox and the accent characteristics of the interviewer can be limited. By encouraging the interviewees to engage in topics that make them emotionally involved, they are more likely to pay attention to *what* they say, rather than to *how* they say it. According to Feagin, questions that concern the informants' personal credentials and educational or work accomplishments are more likely to result in formal speech. Questions concerning topics of personal interest to the informants are more likely to elicit informal speech (2004: 30). The interview used in this present study was module based and consisted of eight different modules of questions. They were designed in order to cover a wide range of topics and fields of interests such as 'school', 'early memories', 'pets' and 'books and movies'. The researcher or the informants themselves initiated a topic, and if the conversation followed naturally from there, the pre-designed interview was not used. However, if the conversation halted, or the interviewee was not very talkative, the researcher would consult the pre-designed interview.

Another way to limit the effect of the observer's paradox is to alter the one-to-one dynamics of the interview. By allowing the informants to be interviewed in pairs with someone already familiar to them, they are more likely to feel at ease and comfortable with the situation (Milroy & Gordon 2003: 65–66). The interviews in the present study are a mix of individual, pair and group interviews. All the informants in the youngest age group, except speaker 6M, were interviewed in pairs of two with a person they were well acquainted with. Being recorded with a friend seemed to have the desired effect. However, one issue emerged in the interview of speakers 1F and 2F. Speaker 2F was somewhat dominant and often interrupted speaker 1F, who seemed slightly shyer. As a result, eliciting a sufficient number of tokens from speaker 1F proved unobtainable. For the two older age groups, three of the interviews were conducted in groups, and eliciting enough tokens from each speaker was unproblematic for the older informants. Speakers 16F and 18M are a married couple, and they were interviewed together. Speakers 15F and 17M are also married, and they were interviewed with their daughter, speaker 8F. Informants 11M and 12M were also interviewed together, whereas the remaining six interviews were done individually.

Ideally, the length of a sociolinguistic interview should exceed one hour. However, Milroy and Gordon argue that being categorical about length is difficult and that ‘useful phonological data can often be obtained in a relatively short time – perhaps as short as 20 to 30 minutes’ (2003: 58). However, if the interviewees are uncomfortable and self-aware in an interview situation, they will presumably relax into their casual speech style after a while, therefore, conducting longer interviews may be an advantage. The length of the interviews in this thesis varied from 30 minutes to more than one hour. Some of the interviews were done during lunch breaks and this restricted the time the informants had available. Whenever my interviews were longer than 30 minutes, I started the analysis after 20 to 30 minutes in the hope that the informants had then settled into their more casual speech. Overall, the informants seemed relaxed and comfortable with the situation and good contact between the researcher and the informants and an informal atmosphere characterised all the interviews.

Ethical considerations must also be taken into account before entering the field in order to collect data for a project such as this. Prior to the interview, all the participants in this study were informed on a general level about the nature of the study, about what would happen in the interview situation and they were given insurance that all their personal information would be confidential. A consent form was also distributed, which they were all encouraged to read and sign. This consent form contained information about the study, about how the data has been used and stored, that their participation was voluntary and that their consent could be withdrawn at any time. When presenting the findings in this study, no personal information that could reveal the informants’ identity has been given. In order to ensure their anonymity, the informants have been assigned a number, and this number is used when referring to the informants.

4.1.3.1 The sentences and the word list

Even though eliciting unmonitored speech is essential for most sociolinguistic variationist studies, eliciting other speech-styles can provide important and valuable information as well. Towards the end of the interview situation, the informants in this study were asked to read aloud a set of sentences and a list of individual words. Both the sentences and the word list³ were designed for this exact purpose, and thus included all the linguistic variables of relevance. The speech elicited in the interview, the reading of sentences and the word list represent a continuum of increasingly careful styles. The interview

³ The list of sentences and words that were used in this study can be found in appendix A.

represents the least careful speech, whereas the word list represents the most careful speech. The expected pattern of style-shifting when comparing free speech in the interview to the reading tasks 'is based on the view that speech style is conditioned primarily by how much attention the interviewee is paying to speech itself' (Schilling 2013: 98). When the interviewee pays less attention to speech, the speech is likely to be more relaxed and further removed from the perceived standard variety of the language. When the interviewee pays more attention to speech, i.e. when given reading assignments, his or her speech is likely to contain more standard features. The reason being that people presumably perceive a link between the written language and standardness (Schilling 2013: 98).

A few issues emerged from the reading tasks, and as the study progressed, the researcher did some minor modifications to the sentences and words. Two of the young informants struggled with the reading itself. Speaker 5M told me he had dyslexia and would struggle with reading. Even though the researcher assured him that he did not have to do it, he wanted to try and he only struggled with a few of the most complicated words. Speaker 1F struggled more with the task, and she kept repeatedly asking her friend, speaker 2F, what the text said. As a result, she skipped many words. Whenever she pronounced a word after it had been said by speaker 2F, the tokens in that word have been disregarded. The minor modifications that were done by the researcher pertained to some words that the first speakers had troubles with pronouncing. This was the word *whimsical*, which was there to elicit potential [ʍ], and some lexis of Scots and Gaelic origin like *trauchle* and *sassenach* that were included to elicit the voiceless velar fricative /x/. Since it was decided not to include /x/ as a variable, and since there were several other words with orthographic *wh*, these words were removed.

4.2 Methods for data analysis and quantifications

The following sections will present the methods used for data analysis and quantifications. The speech data has been analysed auditorially, which has traditionally been the most common method for analysing phonological variation and change data. In this study, the results have been tested for significance and this procedure will be outlined below. Additionally, an overview of the exact phonetic environments of relevance for each token will be given.

4.2.1 Auditory analysis

The speech data analysed for this study has been recorded using a Zoom H2n handheld audio recorder with a sampling rate of 44.1 kHz. The data was first transcribed orthographically and then analysed auditorially. In total, the transcribed corpus consists of approximately 65 000 words. To orthographically transcribe the interviews has its clear advantages in that the relevant tokens can be identified prior to the auditory analysis. However, in some cases, such as for T glottaling across word boundaries, the identification of tokens had to be done simultaneously as listening since a potential pause between words is not visible in an orthographic transcription. Auditory analysis relies heavily on the researcher's own subjective impression, and it is therefore frequently referred to as *impressionistic coding*. Relying solely on the researcher's impression is usually unproblematic when dealing with variables that display variants with discrete distribution (Milroy & Gordon 2003: 144). This is often the case with consonantal features such as the presence or absence of /r/, T glottaling or TH fronting. Vowels, on the other hand, might be more difficult as they tend to have a continuous distribution. In the present thesis, there are only consonantal variables and they are all treated as binary. Each variant may, however, include somewhat different realisations. All in all, the variants were articulatory sufficiently different and it was unproblematic to tell them apart through auditory analysis.

The major disadvantage of using auditory analysis is its reliability. It has been shown that two professional phoneticians can come to two different conclusions based on the exact same data; i.e. people hear different things. Milroy and Gordon suggest two possible solutions that could reduce the margin of errors. The first is to analyse a greater number of tokens than necessary, the second is to have another researcher control the analysis by performing his or her own analysis of the same data (2003: 151). For the present thesis, between 30 and 50 tokens have been analysed for each variable. Additionally, the researcher's supervisor, who is an experienced phonetician, has listened to an extract from the corpus. In cases where there was disconformity between what we heard, a second listening and evaluation were done by the researcher and if doubt still persisted, the token was disregarded. However, the conformity level between my supervisor's analysis and my own was well beyond the level necessary to consider the analysis reliable.

4.2.2 Quantifications

To investigate phonological variation quantitatively necessitates counting. Counting the linguistic variants is seemingly a straightforward matter. However, there are many aspects of the counting process that could cause problems and how the researcher chooses to encounter these problems will have implications for the results. Basic rules as to what should be counted and not need to be established. One should never select only those tokens that verify the hypotheses as this would contradict *the principle of accountability*. The principle of accountability holds that once the relevant token classification has been stated, every case where a token occurs in the relevant environments must be reported (Labov 1972b: 72).

Another thing to consider is how many tokens are needed to make valid generalisations. In general, this number should be high enough to avoid random fluctuation in the speech of each individual. Milroy and Gordon refer to Guy (1980) and state that a sample consisting of fewer than ten tokens might represent random fluctuation. They further point to how 30 tokens for each variable raise the likelihood of conformity to actual usage to 90%, whereas 35 tokens per variable increase conformity to 100% (2003: 163-4). In the present thesis, the first 30–50 tokens that occurred in the pre-specified environments for each variable and for each speaker were analysed. However, if the pronunciation of a word was unclear or if there was some background noise that distorted the recordings, the tokens affected were not counted.

One important thing to avoid is phonological or lexical bias in the speech sample. Considerations should be made as to how many occurrences of each word are counted. Certain phonetic environments might favour certain variants and this might lead to an unrealistic overrepresentation of that variant if a word has a particularly high frequency (Milroy & Gordon 2003: 162-3). In the present study, only the three first occurrences of each word with the relevant tokens have been counted.

In chapter 5, the quantified results for each variable have been presented as both numbers and percentages.⁴ Quantifications have been made both for group- and individual scores. Individual scores have the advantage of showing individual variation. This information would have been lost had the results only included group scores. Group scores, however, are highly useful since they allow the researcher to make generalisations about trends and changes in the speech community at large.

⁴ For an overview of the raw data, see appendix B.

4.2.3 Statistical analysis

The most straightforward way to measure phonological variation and change is to count each occurrence of the relevant tokens in the pre-specified phonetic context. The next step is to compare the number of occurrences of each variant across the different speakers and the different social variables. An analysis based exclusively on frequency results and percentages provides fruitful information. However, it cannot say whether the results are significant, i.e. whether any differences are the result of a genuine difference between two *independent variables* or whether these differences are simply due to chance (Light 2008: 1). The independent variable is the variable that is changed or controlled in a sociolinguistic study, e.g. age, in order to test which effect this has on the *dependent variable*, e.g. T glottaling (Chambers 1995: 17). In order to test for significance in this study, *the Chi-square* test has been used. This test is also referred to as a 'goodness of fit' statistic because 'it measures how well the observed distribution of data fits with the distribution that is expected if the variables are independent' (Light 2008: 1). It should be kept in mind that the results from the Chi-square test are meant as supplementary and not as absolute evidence for the truthfulness of the results.

The Chi-square test is designed in order to analyse *categorical data*, i.e. data that has already been quantified and divided into categories. The Chi-square test will only give information based on the categories designed by the researcher, it will not give any information as to whether the categories applied are meaningful (Light 2008: 1). Hence, the researcher needs to be careful when constructing categories that make up the independent variables. One disadvantage of the Chi-square test is that it cannot deal with very small numbers; the number of tokens in each cell needs to be 5 or above.

In order to perform a Chi-square test on a set of data, you need to insert the quantified and categorical data in a Chi-square grid. The next thing that needs to be worked out is the *degrees of freedom*, 'which tell you how many numbers in your grid are *actually* independent' (Light 2008: 3). The *p-value* (probability value) is the final and most important number resulting from a Chi-square test; it is the number that tells you whether or not the results are statistically significant. When calculating the p-value in the present study, I have used the Chi-square calculator on Social Sciences Statistics' webpage (<http://www.socscistatistics.com/tests/chisquare/Default2.aspx>). This calculator gives the probability value after the relevant data has been entered into a Chi-square grid. The closer the p-value is to 0, the more significant is the result, i.e. the less likely it is that the distribution of frequencies is purely due to chance. If the p-value is close to 1, the results are very likely to be due to coincidence (McEnery & Wilson 2001: 85). The interval

between 0 and 1 is a continuum, and therefore, it is important to operate with a cut-off point between significant and insignificant results. In linguistics, the most common cut-off point is a probability value of .05. P-values that are smaller than .05, i.e. that are significant, are conventionally written as <0.05 (McEneary & Wilson 2001: 85). In the present thesis, calculations were made both at the .05 level and at the .01 level and it was found that if the results were significant at the .05 level, they were also significant at the .01 level. If they were *not* significant at the .01 level, they were not significant at the .05 level either. Therefore, .01 has been used as the cut-off point for significance.

4.2.4 Token classification

In congruence with Labov's accountability principle, the exact phonetic environments must be specified and each token that occurs in these pre-specified environments must be counted (see 4.2.2). The following five sections will provide an overview of the relevant phonetic environments for each of the five linguistic variables in this thesis.

4.2.4.1 Token classification for (l)

L vocalisation is the phenomenon where velarised /l/ in postvocalic or syllabic position is replaced by a back vowel, typically [ʊ]. In the present study, the realisation of /l/ will be analysed as binary, i.e. (l) is either classified as [ʊ] or as [l] and the latter will potentially include both clear and dark realisations of /l/. If a variant was produced without alveolar tongue contact but no lip rounding, it has been classified as [l]. Hence, only if /l/ was replaced by a rounded vowel has it been counted as [ʊ].

4.2.4.2 Token classification for (th)

TH fronting refers to the replacement of the dental fricatives [θ] or [ð] with the labiodental fricatives [f] and [v] respectively. For the fortis [θ], this replacement can happen regardless of its position in the word, whereas, for the lenis [ð], the replacement is restricted to medial and final position. Fronting of the fortis variant can render pronunciations such as /fɪn/ for *thin*, /mɛfəd/ for *method* and /saʊf/ for *south*, and for the lenis variant, realisations such as /bri:v/ for *breathe* and /mʌvər/ for *mother* are possible. When quantifying the results, no distinction has been made between the fortis and the lenis variants. In Scottish English, there are some other possible realisations that could occur in the same phonetic environments. Lenition to [h] has been reported in several urban Scots varieties and TH stopping is also an option (Stuart-Smith, Timmins &

Tweedie 2007; Brato 2007). In the present thesis, the realisation of (th) has been treated as binary and if the fronted variant was not used, other potential realisations have been categorised as [θ].⁵ Hence, the two variants in this thesis are either the traditional [θ, ð] or the non-traditional [f, v]. For simplicity reasons, when presenting the results, only the variant symbols [θ] and [f] will be used to represent [θ, ð] and [f, v] respectively.

4.2.4.3 Token classification for (wh)

To identify relevant contexts for (wh) is a rather straightforward matter; according to older descriptive records of SSE, [ɹ] is used in words with orthographic *wh*, e.g. *whale*, *whisky*. In the present thesis, all words with orthographic *wh* have been regarded as a possible token. The only exception is words such as *who* and *whose*; these are not relevant tokens as, in these words, *wh* will be pronounced as [h]. The realisation of (wh) has been treated as binary and the two variants are either [ɹ] or [w]. Other studies in Glasgow (e.g. Stuart Smith, Timmins & Tweedie 2007) have shown that (wh) was often realised as some intermediate variant between [w] and [ɹ]. However, when analysing the data, the researcher found the quality of the (wh) tokens to be clearly either [w] or [ɹ].

4.2.4.4 Token classification for (r)

Due to the problems associated with auditorially distinguishing between a retroflex and an alveolar approximant, the two variants in this thesis are [ɹ] and [r]. Any retroflex variant of (r) has been categorised as [ɹ]. In addition to quantifying results for the realisation of (r), an analysis has been done that focused on which phonetic environment favours which variant of (r). The phonetic environments of relevance are intervocalic, as in *very*, non-prevocalic, as in *car* and prevocalic, as in *creep*. Since /r/ occurs in such an abundance of words throughout both the interview and the reading tasks, only stressed words have constituted potential contexts for (r) tokens.

4.2.4.5 Token classification for (t)

T glottaling can occur in various phonetic contexts,⁶ however, the present study has only investigated T glottaling in intervocalic position. Intervocalic position is in this context

⁵ The only other realisation of (th) in this study, apart from [f] and [θ], was 2 attestations of [h] and these were both produced by speaker 5M in conversational style.

⁶ For a full list of possible environments where T glottaling can occur in British English, see Wells (1982a: 260).

used to refer to /t/ between a stressed and an unstressed vowel, as in *city*, across word boundaries, as in *shut up*, and before a syllabic consonant, as in *button*. The reason for this is that T glottaling in these environments is much more salient than T glottaling in pre-consonantal or pre-pausal position (compare the salience difference between the glottal stop in [skɒʔɪ] *Scottish* and in [skɒʔlənd] *Scotland*). Additionally, if T glottaling occurs in the latter environment, it can arguably be considered a reduction feature, whereas T glottaling in intervocalic position is most likely an accent feature. Concerning stress patterns, most tokens occurred in positions that were followed by an unstressed syllable, particularly the tokens within words, such as *city*. However, some of the tokens found across word boundaries, such as *shut up*, were followed and preceded by a stressed syllable. One informant (5M) had a few, sporadic occurrences of T voicing but since the variable is treated as binary, these were grouped with [t].

Table 4.2 below sums up the phonological variables that have been analysed in this thesis. The table also gives an overview of the different variants for each variable and it shows which of the variants are considered traditional and which variants that are considered non-traditional

Table 4.2: *The linguistic variables with their associated variants*

Variables	Traditional variants	Non-traditional variants
(l)	[l]	[ɫ]
(wh)	[ʍ]	[w]
(th)	[θ]	[f]
(r)	[r]	[ɹ]
(t)	[t]	[ʔ]

5: RESULTS

This chapter will present and describe the quantified data. This is an apparent-time study, meaning that evidence of real-time language change may be inferred if there is a difference between the different generations. The main objective of this study has been to reveal patterns of linguistic variation and change in Inverness English.

Each variable has been dealt with individually and the presentation of the variables is done in the same order as in chapter 3. Since group scores may conceal variation within the group, individual scores are also presented for each variable. In the tables showing individual percentages, a black line indicates the division between the different age groups. The youngest speakers are found to the far left, starting with speaker 1F, who is 15, going up to speaker 6M, who is 20. The middle group consists of speakers between 29 and 38 years and the group to the far right, the oldest group, consists of speakers who are 48 to 64 years old.

In order to facilitate the reading experience, all percentage scores are given as whole numbers, without any decimals. In 4.1.3, it was mentioned that the variety that provides the best data for sociolinguistic research is the vernacular. Therefore, the quantifications in this chapter are based on the results from the conversational part of the interview only. It is believed that within the rather formal parameters of a sociolinguistic interview, the conversational part will most closely reflect the informants' unmonitored speech. This has been termed conversational style (CS) in the present study. By using two different reading tasks, two other linguistic styles were elicited in the interview. These are reading style (RS), elicited through reading a list of sentences, and word list style (WLS), elicited through reading a list of words. The results comparing all different levels of formality will be presented towards the end of each variable section.

5.1 Results for L vocalisation

The primary focus in the analysis of L vocalisation has been to see whether the informants in this study replace postvocalic /l/ with a vocalised and rounded variant qualitatively close to [o] or [ʊ]. For (l), between 26 and 40 tokens were elicited per speaker. Speaker 1F was the only exception, she only produced ten tokens and this should be taken into consideration when reading the results for this particular speaker. Altogether, the data set for this variable consists of 559 tokens for conversational style.

Table 5.1: *L* vocalisation - overall results

Variants	N	%
[l]	531	95
[ʌ]	28	5
Total	559	100

In table 5.1, we see that in CS, 531 tokens are realised as the traditional variant [l], whereas only 28 tokens are realised as the innovative [ʌ]. In percentages, this corresponds to 95% usage of [l] and 5% usage of [ʌ]; hence, there is a strong preference for using the traditional variant in InvE. Group results such as the above tend to mask individual variation and a better understanding of these results can be found by looking at the individual scores for each speaker. Figure 5.1 below presents the individual scores for this variable.

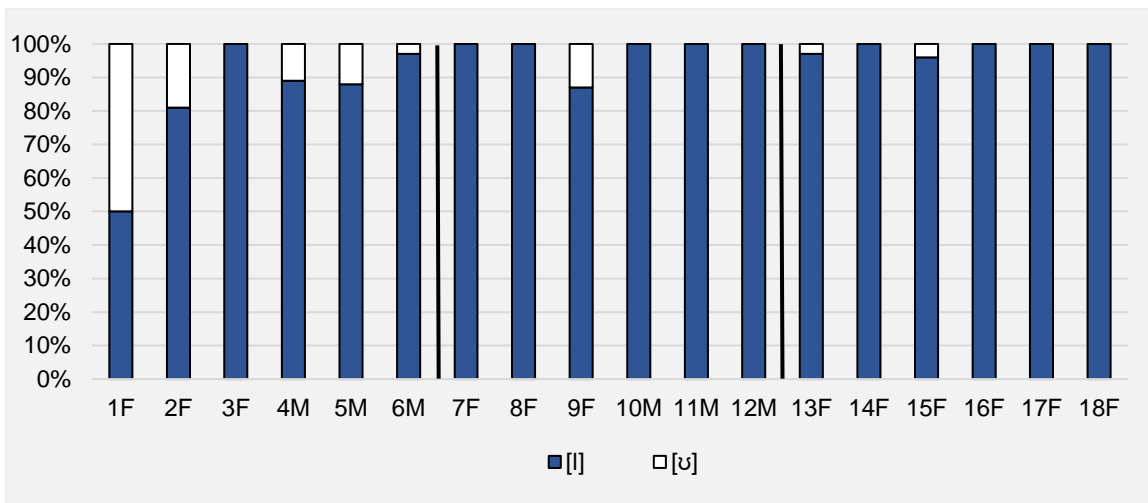


Figure 5.1: *L* vocalisation - individual percentage scores

It is evident that we find most of the vocalised variants in the youngest age group. With the exception of speaker 3F, all the informants in the young group use [ʌ], albeit to a varying extent. Speaker 1F is clearly the one responsible for producing most of the [ʌ] tokens; her results show an even distribution between [ʌ] and [l]. However, it must be kept in mind that her results are based only on ten tokens, hence; this *could* be due to random fluctuation rather than representative of her actual usage. Speakers 2F, 4M and 5M use the innovative [ʌ] variant between 11% and 19% of the time, whereas 6M only realises 3% of his (l) tokens as the vocalised variant. In the adult and older adult groups,

the overall usage of L vocalisation is lower than in the young group. In the adult group, the only speaker who uses the vocalised variant is 9F with a frequency level of 13%. In the older adult group, 13F and 15F use [ʊ] 3% and 4% respectively. This only constitutes one token for each speaker, hence, it is most likely a mispronunciation. All the other informants in the older age groups have a consistent lateral realisation of (l).

By comparing group scores from the different age groups, we see even clearer how L vocalisation is distributed amongst the different generations and these results can be seen in table 5.2 below.

Table 5.2: L vocalisation - number and group scores for age

Age group	[l]		[ʊ]		Total N
	N	%	N	%	
Young	163	88	22	12	185
Adults	178	98	4	2	182
Older adults	190	99	2	1	192

In total, 185 tokens were elicited from the young group and we see that 163 tokens of these were realised as [l], whereas 22 were realised as [ʊ]. In percentages, this equals 88% for [l] and 12% for [ʊ]. The two older age groups use the innovative variant only 2% and 1% each. These results could indicate a change in progress that is being led by the youngest speakers. However, it is important to keep in mind that 1F's data might skew the results in favour of the vocalised variant for the young group. On the other hand, excluding 1F's results of 4 [ʊ] tokens would still leave us with numbers that could indicate the initial stages of a change; the percentage score for [ʊ] for the young group would then be 10% instead of 12%. However, there are too few tokens to make any firm statements about L vocalisation, so this remains purely speculative. Further investigations on (l), with a more stratified sample of young informants, would yield interesting results.

Table 5.3 shows the gender results for (l).

Table 5.3: L vocalisation - numbers and percentage scores according to gender

Gender	[l]		[ʊ]		Total N
	N	%	N	%	
Female	287	94	19	6	306
Male	244	96	9	4	253

$\chi^2=2.0, p=.153$

The female speakers use the innovative [ʊ] variant 6% of the time, whereas the male speakers use it 4% of the time. In congruence with previous findings from Scotland (Stuart-Smith, Timmins & Tweedie 2007), there does not seem to be any notable gender differences for the vocalisation of /l/ and the results are not significant.

In order to see whether different linguistic styles have an effect on the level of L vocalisation, table 5.4 presents the results after they have been quantified according to three different styles. The overall dataset for all linguistic styles consists of 1086 tokens, 559 from CS, 325 from RS and 202 tokens from WLS. 1031 of the total 1086 tokens were realised as the traditional [l], i.e. 95%.

Table 5.4: *L vocalisation - overall results for all linguistic styles*

Style	[l]		[ʊ]		Total N
	N	%	N	%	
CS	531	95	28	5	559
RS	311	96	14	4	325
WLS	189	94	13	6	202
Total	1031	95	55	5	1086

$\chi^2 = 1.2, p = .554$

It is evident from looking at the numbers in figure 5.4 that L vocalisation is present in all linguistic styles. The frequency of the different variants does not vary more than two percentage point when comparing linguistic styles and the results are not significant. The overall percentage scores when all linguistic styles are combined are exactly the same as for CS; 5% of the tokens are realised as [ʊ]. One interesting observation was made when looking at the individual results for stylistic variation. Speaker 1F is the informant responsible for 77% of the vocalised tokens in CS and her results show a frequency rate of 91% usage of the vocalised variant in WLS. Hence, her usage of the vocalised variant increases in more formal style. This observation will be further discussed in 6.4

5.2 Results for TH fronting

TH fronting has traditionally been considered a stigmatised feature associated with the working-class accent of London. However, in contemporary Britain, TH fronting seems to spread in such a way that it is now becoming characteristic of urban youth speech in general. The focus of this analysis is to see whether the dental fricatives are subject to fronting in Inverness, the British city that is geographically furthest removed from London.

As mentioned in 4.2.4.2, when eliciting tokens for this variable, no distinction was made between the lenis and the fortis variant and extracting enough tokens was not a problem. The data set consists of 591 tokens for conversational style and table 5.5 presents the overall distribution of the different variants for (th).

Table 5.5: TH fronting - overall results for conversational style

Variants	N	%
[θ]	572	97
[f]	19	3
Total	591	100

There is clearly a strong preference amongst the informants in this study to use the traditional, non-fronted variant; in CS, [θ] is used 97% of the time. The remaining 3%, that is 19 of the 591 (th) tokens, have a fronted realisation. Even though there are few [f] tokens, this is noteworthy seen in relation to Vedå's (2015) findings for this variable in Inverness. She extracted 833 tokens for TH fronting and none was fronted. Hence, evidence for TH fronting in Inverness has, until now, been non-existent.

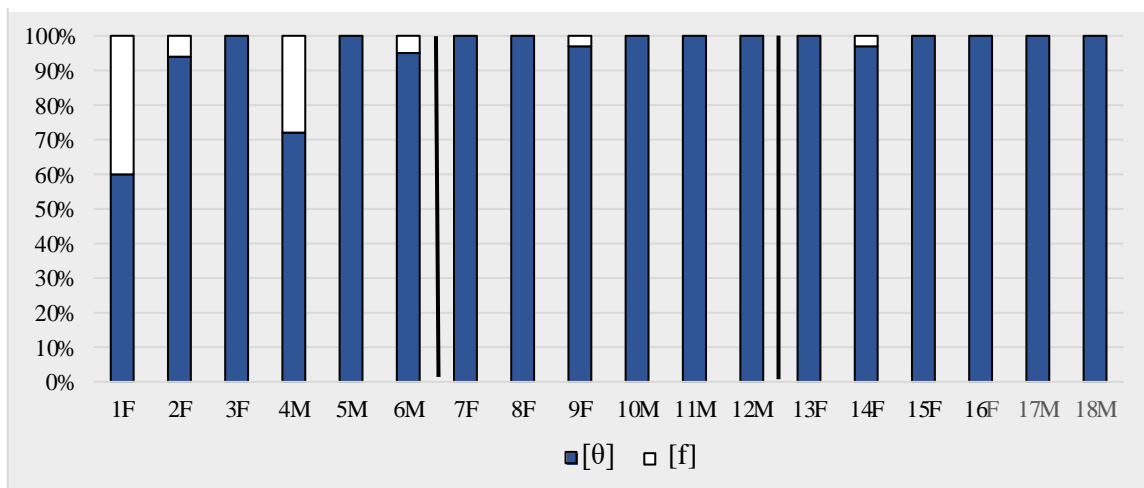


Figure 5.2: TH fronting - individual percentage scores for conversational style

In figure 5.2, we see how the fronted variants are distributed amongst each individual speaker in this study. It is evidenced that [f] is found almost exclusively in the young group. Additionally, we can see that two speakers within this group are particularly innovative, namely speaker 1F and speaker 4M. Speaker 1F uses [f] 40% of the time, whereas speaker 4M uses [f] 28% of the time. However, it should be kept in mind that

these two speakers were the only ones who did not produce the ideal number of 30 tokens or above. 1F's results are based on 20 tokens altogether, whereas speaker 4M's results are based on 18 tokens. However, since this is well above the ten tokens needed to avoid random fluctuation, the results can still be treated as statistically reliable. In the young group, the other two speakers who also show some attestations of TH fronting are 2F and 6M, with 6% and 5% usage respectively. The speakers in the adult and older adult groups seem to be quite conservative when it comes to the realisation of (th). The only two speakers who show any attestations of the non-traditional variant [f] are speakers 9F and 14F and they both use [f] 3% of the time. This is only 1 attestation out of a total number of 35 and 38 tokens respectively. Hence, this is most likely due to random fluctuation or mispronunciation and not evidence of these two speakers marginally fronting /θ/. The differences between the age groups become even clearer when looking at the numbers in table 5.6 below.

Table 5.6: TH fronting - number and group scores for age

Age group	[θ]		[f]		Total N
	N	%	N	%	
Young	158	90	17	10	175
Adults	214	>99	1	<1	215
Older adults	200	>99	1	<1	201

As there is only 1 token in each cell for the two older age groups, a Chi-square test was not applicable for the age results. However, the numbers in table 5.6 show that there is a difference between the age groups when it comes to the realisation of (th); it is only noteworthy present in the speech of the young informants. The young speakers use [f] 10% of the time, whereas the two older age groups both use [f] less than 1% of the time. However, as seen in figure 5.1 above, most of the fronted tokens in the young group are produced by only two speakers, hence, a larger sample would possibly yield different results. Either way, having a larger sample would enable the possibility of making more assertive statements about whether TH fronting is currently becoming an established feature amongst the youth in Inverness.

Table 5.7: TH fronting - numbers and percentage scores according to gender

Gender	[θ]		[f]		Total N
	N	%	N	%	
Female	337	97	12	3	349
Male	235	97	7	3	242

$\chi^2 = 1.2, p = .27$

Referring back to figure 5.1 above, there does not seem to be any significant gender differences in the level of TH fronting in Inverness and the gender results in table 5.7 above confirms this. The level of TH fronting for females and males in this study is exactly the same. Both the female and the male speakers use the non-traditional [f] variant 3% of the time and the results are not significant. In relation to TH fronting findings from other cities in Scotland, these findings are unsurprising as no consistent gender pattern has been observed for this variable in Scotland.

Table 5.8: TH fronting - overall results for all linguistic styles

Style	[θ]		[f]		Total N
	N	%	N	%	
CS	572	97	19	3	591
RS	247	96	9	4	256
WLS	280	99	4	1	284
Total	1099	97	32	3	1131

The results have also been quantified according to linguistic style. 1131 tokens were extracted for all linguistic styles combined, 591 tokens were extracted from CS, 256 from RS and 284 were extracted from WLS. Table 5.8 above shows the number and percentage scores for stylistic variation. We see in this table that TH fronting is present in all linguistic styles, albeit marginally. There were not enough tokens in each cell to perform a Chi-square test, however, these results are clearly not significant. Percentage-wise, the difference is marginal; [f] is used 3% in CS, 4% in RS and 1% in WLS. It is evident that the traditional variant [θ] is the favoured variant in all linguistic styles. The only speakers who front /θ/ in RS are the young speakers 1F, 2F, 4M and 6M. If we compare these results to the individual percentage scores in figure 5.2 above, we see that these speakers are the ones who front /θ/ in CS as well. In conclusion, TH fronting is only present in the linguistic repertoire of a few of the youngest speakers. However, the speakers who do use TH fronting, use it in both CS and RS. In WLS, on the other

hand, the only speaker who fronts /θ/ is 1F. Her individual results show a noteworthy 29% usage of [f] even in WLS and this will be further discussed in section 6.4.

5.3 Results for the whine-wine merger

When analysing the results of the whine-wine merger, the focus has been to see whether the traditional SSE variant [ɹ] is being replaced by the non-traditional Anglo-English variant [w]. The latter is the dominant variant in the most areas of England. Therefore, a potential increase in the frequency of [w] in Scotland can be interpreted as an anglicisation process of Scottish English. Potential tokens can be found only in words with orthographic *wh*, hence, extracting a sufficient amount of tokens from each interview proved unobtainable. The complete dataset for the whine-wine merger in conversational style consists of 328 tokens. Between 9 and 30 tokens were elicited from each speaker and the average number of tokens extracted from each interview is 18. The overall results for (wh) are presented in table 5.9 below.

Table 5.9: *The whine-wine merger - overall results*

Variants	N	%
[ɹ]	62	19
[w]	266	81
Total	328	100

The overall results for (wh) in CS clearly show that the anglicised [w], with a frequency of 81%, is the most commonly used variant amongst the speakers in this study. Comparatively, the traditional Scottish variant is used only 19% of the time. This clearly contradicts the claims made in previous descriptive accounts about Scottish English where it is said that [ɹ] is the preferred variant, e.g. in Grant (1913). It should be taken into account that no quantifications have been made in this study according to the social class of the speakers. Other sociolinguistic studies in Scotland have shown that the retention of [ɹ] tends to correlate with social class, although not in a consistent way. The most important factor for predicting whether [ɹ] is retained is arguably direct contact with speakers of Anglo-English (Brato 2007; Schützler 2010). The middle class is typically more socially and geographically mobile, and as a consequence, more likely to frequently be in contact with speakers of Anglo-English. As mentioned in 4.1.2, it is not sure how relevant the social variable of class is in Inverness. Additionally, all the speakers in this

study are rather socially equal. If the sample in the present study had been more socially stratified, the results might have reflected a class division for this variable.

Better insight into what is happening to this variable in InvE can be achieved by looking more closely at how the different variants are distributed amongst the individual speakers. The individual results for CS are presented in figure 5.3.

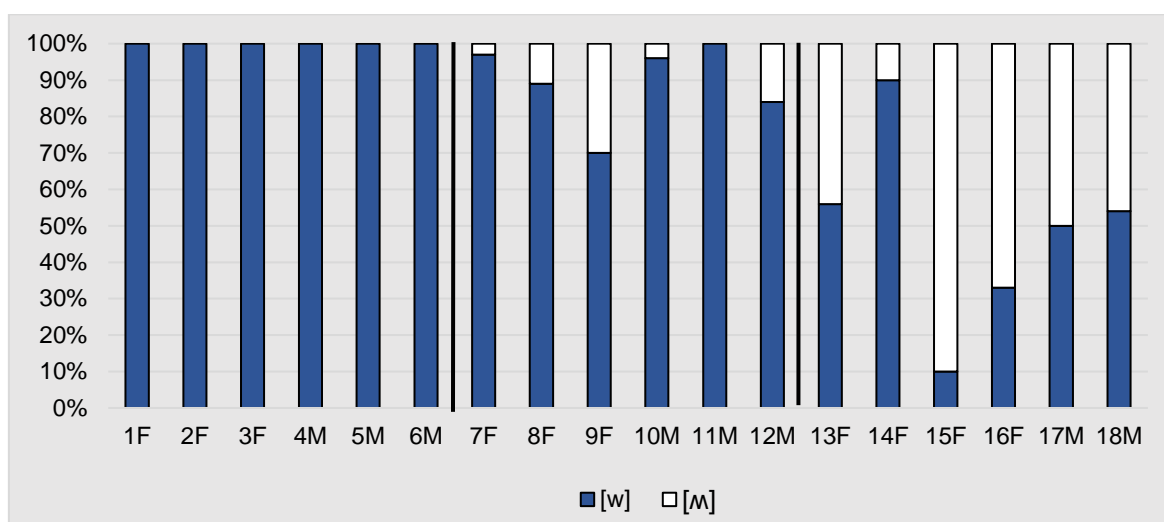


Figure 5.3: *The whine-wine merger - individual percentage scores*

The tendency emerging from figure 5.3 is that the traditional variant is preferred to a much higher degree by speakers in the older age group than by speakers in the two younger age groups. The only one in the older adult group who does not use [ɹ] to any considerable extent is 14F, she realises orthographic *wh* as [ɹ] only 10% of the time. The other five informants in the oldest group all have a frequency of [ɹ] use between 44% and 90%. In the adult group there is also variation, but there is clearly much less use of [ɹ] in this group than in the older adult group. All the adults, except 11M, use [ɹ] to some extent, although, 7F and 10M use it only marginally. 9F is the one in the adult group who uses the traditional variant the most, i.e. 30% of the time. The results from the youngest age group are noteworthy; the young speakers in this study seem to have completely merged [w] and [ɹ]. They all categorically realise orthographic *wh* as [w].

In table 5.10 we see the results after they have been quantified according to age. It is clearly seen that the young speakers in this study have all merged [w] and [ɹ]; of their 93 produced tokens for (*wh*), none were realised as the traditional Scottish [ɹ]. If we assume that the results from this study are generalisable to the population of

Inverness at large, these results suggest that the whine-wine merger has reached its completion with the younger generation in Inverness.

Table 5.10: *The whine-wine merger - number and group scores for age*

Age group	[M]		[w]		Total N
	N	%	N	%	
Young	0	0	93	100	93
Adults	11	9	117	91	128
Older adults	51	48	56	52	107

$\chi^2=45.8, p<.01$

Due to the lack of [M] tokens in the young age group, a Chi-square test comparing all three age groups was not possible. However, significance results have been calculated for the two oldest age groups, and these results were significant at the .01 level. By looking at the results from the two older age groups, we see that even in the oldest group, the overall usage of the traditional variant is only 48%, i.e. less than half of the tokens produced by the oldest speakers were realised as [M]. This is somewhat surprising given how [M] is the expected variant in SSE and InvE is said to be very close to SSE. From the numbers in table 5.10, we also see that the most severe change seems to have happened between the oldest speakers and the adult speakers. When comparing these two age groups, we observe a drastic decrease in the usage of the traditional variant; there is a percentage point drop of 39% from the older adults to the adults. The adult group uses [M] 9% of the time, hence, we can observe a continued decrease from this age group to the young group's 0%. Comparing these results to the results of Vedå (2015), we see that the numbers for the adult group in the present study are similar to the numbers of Vedå's youngest age group, who used [M] 9% of the time. As mentioned earlier, her young group consists of speakers between 20 and 30 years, which would correspond closely to the adult group in the present study.

Table 5.11: *The whine-wine merger - numbers and percentage scores for gender*

Gender	[M]		[w]		Total N
	N	%	N	%	
Female	37	30	87	70	124
Male	25	22	86	78	111

$\chi^2 = 1.6, p=.204$

The gender results are presented in table 5.11. Since the young speakers have completely merged [w] and [ɹ] and have no attestations of [ɹ], their results have been disregarded from the quantifications according to gender. Hence, the numbers in table 5.11 are based only on the results from the two oldest age groups. The female speakers use [ɹ] somewhat more frequently than the male speakers do. They use the traditional variant 30% of the time, whereas the males use it 22% of the time. However, the results for gender differences are not statistically significant. This suggests that gender is not an important factor influencing the whine-wine merger in Inverness.

The results for stylistic variation seem to confirm previous findings from other Scottish cities like Edinburgh, Glasgow and Aberdeen. The complete dataset for (wh) in all linguistic styles consists of 415 tokens, where 235 were extracted from CS, 96 tokens from RS and 84 tokens were extracted from WLS. In the young group, two speakers (2F and 3F) realised only one of their tokens as the traditional variant in RS and there were no attestations in WLS for any of the young speakers. Therefore, the results for the youngest age group have been disregarded when quantifying according to linguistic style. The overall results measuring intraspeaker variation are presented in table 5.12.

Table 5.12: *The whine-wine merger - overall results for all linguistic styles*

Style	[ɹ]		[w]		Total N
	N	%	N	%	
CS	62	26	173	74	235
RS	53	55	43	45	96
WLS	58	69	26	31	84
Total	173	42	242	58	415

$\chi^2 = 55.7, p < .01$

There seems to be a clear correlation between the level of attention paid to speech and the use of the [ɹ] variant and the results are significant at the .01 level. In the conversational part of the interview, the speakers in the two oldest age groups in this study used [ɹ] 26% of the time. When reading words in connected speech, they used it 55% of the time and when they read the list of words, the frequency of [ɹ] increased to 69%. These results indicate that the traditional, SSE variant [ɹ] is considered as 'standard' and holds overt prestige in InvE. This substantiates the claim that SSE is considered the prestige variety and when shifting to a more formal style, speakers in Inverness do not orient towards any variety of Anglo-English.

5.4 Results for the realisation of /r/

The main objective in relation to the realisation of /r/ has been to measure whether the traditional Scottish tap [r] (or potentially the trill [r]) is being replaced by the Anglo-English alveolar approximant [ɹ]. In a Scottish situation, this substitution can likely be treated as part of an anglicisation process of Scottish English. Quantifications have also been made in order to see if any specific phonetic environments favour any of the potential realisations of /r/ in Inverness. None of the informants had any attestations of the trill, so the two variants in the following results are the approximant [ɹ] and the tap [r].

Table 5.13: *The realisation of /r/ - overall results*

Variants	N	%
[r]	170	19
[ɹ]	744	81
Total	914	100

The dataset for (r) consists of a total of 914 tokens, giving an average of 51 tokens per speaker. The numbers in table 5.13 show the overall results for (r) and we can see that there is an overall preference for using the non-traditional [ɹ] in CS in Inverness. 170 of the tokens were realised as the traditional tap [r], i.e. it was used only 19% of the time. The remaining 744 tokens were realised as the non-traditional [ɹ], giving a percentage score of 81%. The results from Inverness confirm the statement that Scottish English is firmly rhotic. However, the results contradict the traditional assumption that the trill or the tap is the most common variant.

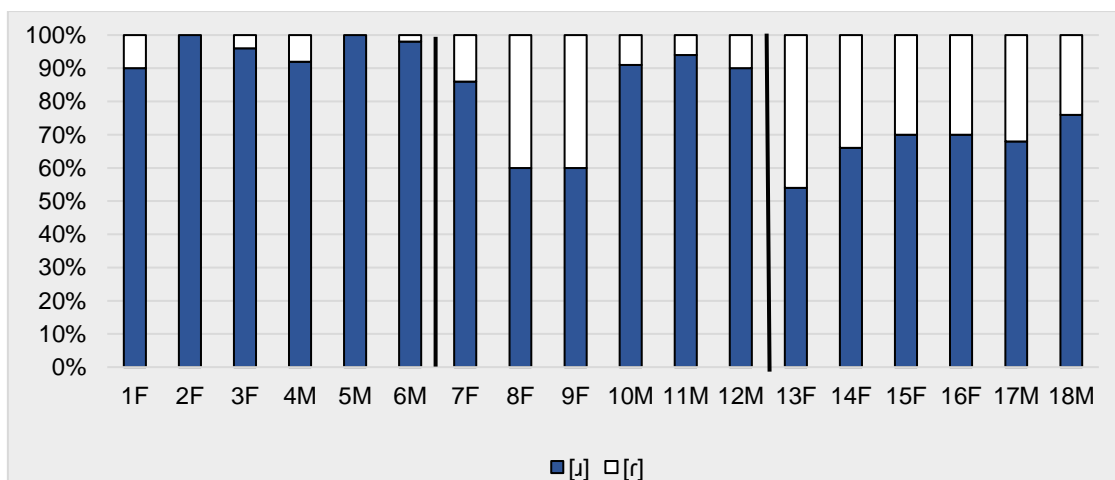


Figure 5.4: *The realisation of /r/ - individual percentage scores*

Figure 5.4 shows the percentage scores for how the variants are distributed amongst each individual speaker in CS. We see from this figure that the only two speakers who categorically use [ɹ] are speaker 2F and speaker 5M. Speaker 3F and 6M are very close to categorical usage of the non-traditional variant and speakers 1F, 4M, 10M, 11M and 12M all use the traditional variant [r] at a ratio of 10% or less. In the youngest group, none of the speakers uses [r] more than 10% of the time. Hence, there seems to be a significant age difference in the usage of the traditional variant and it is clearly preferred by the older speakers. In the oldest group, all speakers use the traditional variant more than 24%, and speaker 13F even approaches a 50/50 divide with a usage rate of 46%. In the adult group, there seems to be a clear gender divide. Speaker 7F uses [r] 14% of the time and speaker 8F and 9F both use [r] 40% of the time, whereas none of the male speakers 10M, 11M or 12M use [r] more than 10% of the time. Speakers 8F and 9F stand out in this group with high percentage scores for [r]. The reason for this is not necessarily clear, however, their results are the reason for the relatively high percentage scores in the adult group compared to the young group.

Table 5.14: *The realisation of /r/ - number and group scores for age*

Age group	[r]		[ɹ]		Total N
	N	%	N	%	
Young	12	4	298	96	310
Adults	60	20	244	80	304
Older adults	98	33	202	67	300

$\chi^2 = 83.9, p < .01$

In table 5.14 we see the age results. The pattern revealed suggests that the traditional Scottish [r] is recessive and is currently being replaced by the Anglo-English [ɹ]. There seems to be a gradual decline in the use of the traditional variant. The quantified results for age are significant at $p < .01$. It is also noteworthy that even though the oldest group in this sample uses the traditional variant at a much higher ratio than the youngest group, [r] is still just used only 33% of the time by the oldest group. Hence, even for the oldest speakers in this sample, the non-traditional [ɹ] is the preferred variant. The adult group in this sample uses the traditional variant 20% of the time, whereas the youngest age group uses [r] only 4% of the time. These results confirm the findings from previous studies in Scotland where it was found that the traditional variants [r] and [ɹ] are losing ground and [ɹ] is becoming increasingly more common (see 3.4).

Middle-class women are said to be leading the change towards an overall preference for [ɹ]. In order to see how these findings relate to the findings in Inverness, table 5.15 below shows the results after they have been quantified according to gender.

Table 5.15: *The realisation of /r/ - numbers and percentage scores according to gender*

Gender	[r]		[ɹ]		Total N
	N	%	N	%	
Female	125	24	390	76	515
Male	45	11	354	89	399

$\chi^2 = 25.1, p < .01$

Contrary to previous findings in Scotland, it is the women in this study who prefer the traditional Scottish variant. The female speakers use [r] 24% of the time, whereas the male speakers use [r] only 11% of the time and the gender differences are significant. One explanation for this can be sought with reference to the level of prestige associated with the different variants. Women tend to use variants that are associated with overt prestige. [r] is the traditional SSE variant, hence, this might be why [r] is the variant preferred by the female speakers. However, as we saw in figure 5.4 above, the overall gender differences displayed for this variable are mainly due to speakers 8F and 9F and the significance of the gender differences should be considered in light of this.

To see if a specific phonetic environment favours the different variants of /r/, quantifications were made of /r/ in intervocalic, non-prevocalic and prevocalic position.

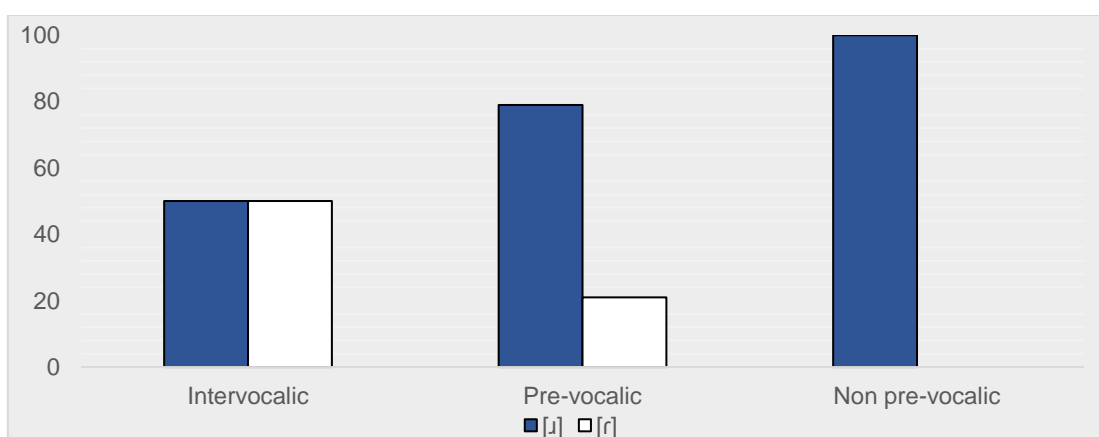


Figure 5.5: *The realisation of /r/ - percentage scores according to phonetic environment*

In figure 5.5 we see that there is a clear preference for where the traditional Scottish variant occurs. [r] is used most frequently in intervocalic position, i.e. in words such as *very* and *sorry*. 201 intervocalic tokens were extracted, and 50% of these were realised as [r]. In pre-vocalic position, i.e. words such as *three* and *present*, 21% of the 330 tokens extracted were realised as [r], whereas in non-prevocalic position, i.e. *car* and *sort*, none of the 383 tokens were realised as the traditional Scottish variant. Compared to previous results of the realisation of /r/ in the Highlands, Shuken (1984) found that her informants most commonly used an approximant prevocalically and a tap intervocalically (see 2.4.3). These results are consistent with the findings in the present study. However, Shuken (1984) found that in word-final position, speakers on the Hebrides favoured a fricative or an affricated tap. It is problematic to compare these results to the results in the present study as Shuken does not specify the context beyond word-final position. One likely assumption would be that Shuken's word-final context refers to pre-pausal /r/, however, this remains purely speculative, so a direct comparison is problematic.

The results have also been quantified according to linguistic style and the complete dataset for all styles consists of 1627 tokens. 914 tokens were extracted from CS, 467 tokens from RS and 246 tokens from WLS.

Table 5.16: *The realisation of /r/ - overall results for all linguistic styles*

Style	[r]		[ɹ]		Total N
	N	%	N	%	
CS	170	19	744	81	914
RS	145	31	322	69	467
WLS	82	33	164	67	246
Total	397	24	1230	76	1627

$\chi^2 = 38.6, p < .01$

The results in table 5.16 show that there is a clear correlation between the linguistic style and the use of the traditional [r] and the results are significant. In CS, the informants in this study use the traditional variant 19% of the time, whereas, in RS and WLS, the percentage score for [r] raises to 31% and 33% respectively. Hence, we can observe a difference between CS and the two reading styles, but not a difference between the two reading styles. As mentioned in section 2.2.4, the more formal the style, the more likely it is that more standard forms associated with overt prestige will be utilised. Since the frequency of [r] increases in more formal style, this further substantiates the suggestion

made relating to gendered variation. The traditional, Scottish variant seems to be associated with standardness and possibly also with overt prestige in Inverness.

5.5 Results for T glottaling

The (t) variable concerns the realisation of /t/ in intervocalic position as either the traditional [t] or the non-traditional, non-standard [ʔ]. The use of [ʔ] in these positions has traditionally been considered a stigmatised feature associated with the London working-class accent. In a Scottish context, it is also considered a stigmatised urban feature, and one particularly associated with Glasgow English. The dataset that the following results are based on consists of 692 tokens, giving an average of 38 tokens per speaker.

Table 5.17: *T glottaling - overall results*

Variants	N	%
[t]	167	24
[ʔ]	525	76
Total	692	100

Table 5.17 gives the overall number and percentage scores for (t). We can infer from these results that the preferred variant in Inverness is the non-traditional [ʔ]. In CS, the speakers in this study use the glottal variant 76% of the time, whereas the alveolar variant is used only 24% of the time. Considering that InvE is said to be very close to SSE and that the glottal stop in intervocalic position is still largely considered a stigmatised, non-standard feature, these results are somewhat surprising. If we compare these results to Vedå (2015), we see that the overall percentage score for [ʔ] is higher in the present study. Vedå's results showed 49% usage of [t] and 51% usage of [ʔ]. It should be noted that the results are not directly comparable as Vedå looked at T glottaling in a wider range of contexts than in the present study. Her analysis included /t/ in preconsonantal position as well, as in *Scotland*, whereas, the present study has only analysed /t/ in intervocalic position. In light of this, the comparatively low results for [ʔ] in Vedå's results are somewhat surprising. As mentioned in 4.2.4.5, [ʔ] in preconsonantal position is less salient and less stigmatised than in intervocalic position. Preconsonantal [ʔ] is arguably more of a reduction feature than an accent feature and therefore, we might have expected higher results of [ʔ] from a study including all environments. However, as seen from both Vedå's and my own results, there seems to be an increase of [ʔ] in Inverness.

Therefore, since the present study has younger informants than Vedå (2015), this could partially explain the higher percentage score for [ʔ]. Another factor could be the social status of the informants in the different studies. According to Vedå (2015), all her informants were middle class, whereas, in the present thesis, many of the informants described themselves as being working class. As mentioned in 4.1.2, it is unsure how relevant the variable of social class is in Inverness, however, it might be a contributing factor explaining the somewhat differing results for T glottaling in Vedå (2015) and the present study.

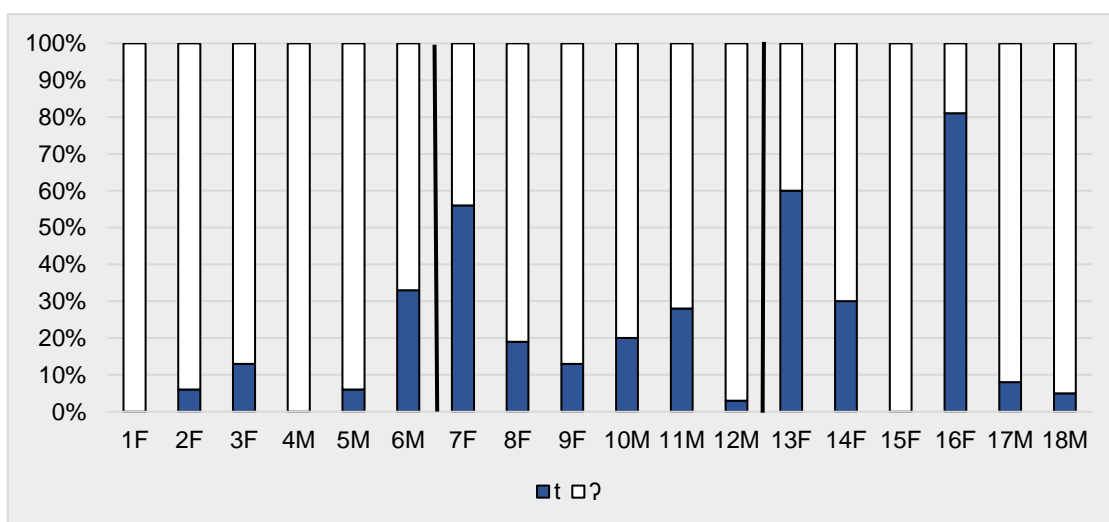


Figure 5.6: T glottaling - individual percentage scores

Figure 5.6 shows the individual percentage scores for (t). The overall impression is that (t) is subject to variation and possibly also to change in InVE. Of the 18 informants in this study, three of the speakers, speakers 1F and 4M from the young group and 15F from the older adult group, use [ʔ] categorically in intervocalic position. In the youngest age group, speaker 6M is the one who uses [ʔ] least frequently with a frequency rate of 33%. His results clearly stand out from the rest of the young group and his comparatively low score for T glottaling could be explained by his drama student background (see 4.1.2). The other young speakers all use [ʔ] at a ratio of 87% or more. In the adult group, speaker 12M is the one who uses the traditional variant the least, with only 3% of the tokens realised as [t]. Speaker 7F stands out, at the other end of the scale, with 56% usage of [t]. She commented on the extensive use of the glottal stop in Inverness at several times during the interview. Her attitudes clearly reflected that she considered [ʔ] to be stigmatised and that [t] was the proper pronunciation. The four other adult speakers

realise between 72 and 87% of their tokens as the non-traditional [ʔ]. It is amongst the oldest group in this sample we find the only two speakers who use the traditional variant more than 50%. Speaker 13F uses [t] 60% of the time, whereas speaker 16F is the one who clearly is most conservative concerning this variable, with her 81% usage of [t] and she is also the oldest female speaker in this study.

Due to the lack of historical research on InvE, it is hard to make diachronic statements about the development of [ʔ]. However, the results from this study suggest that it has been a prevalent feature of InvE for quite some time. The age results are presented in table 5.18 and this could give some indications about how this variable has changed in InvE through the last three generations.

Table 5.18: *T glottaling - number and group scores for age*

Age group	[t]		[ʔ]		Total N
	N	%	N	%	
Young	26	13	173	87	199
Adults	66	25	199	75	265
Older adults	75	33	153	67	228

$\chi^2 = 23, p < .01$

We can see that the non-traditional, and historically stigmatised glottal stop is the preferred variant by all age groups in this study. There is, however, an increase in the usage of [ʔ] from the oldest generation to the youngest. The older adult speakers use [ʔ] 67% of the time, and this score increases gradually with 75% usage in the adult group and 87% usage in the young group. This yields an increase of 20 percentage points from the oldest to the youngest generation and the age results are significant.

Findings from other cities in the UK have drawn attention to the potentially changing sociolinguistic status of T glottaling in urban Britain. Traditionally, T glottaling has been considered a characteristic of working-class male speech. However, Mees and Collins (1999) and Milroy et.al. (1994), amongst others, point to how T glottaling is now becoming associated with middle-class women’s speech. In order to see how this relates to the situation in Inverness, the data in this study has been quantified according to gender, and the numbers and percentages are presented in table 5.19 below.

Table 5.19: *T glottaling - numbers and percentage scores for gender*

Gender	[t]		[ʔ]		Total N
	N	%	N	%	
Female	118	32	247	68	365
Male	49	15	278	85	327

$\chi^2=28.3, p<.01$

We see that the males in this study use [ʔ] 85% of the time, whereas the females use [ʔ] 68% of the time. Both genders show an overall preference for the glottal variant, however, the male speakers use [ʔ] 17 percentage points more than the females do, which is a significant difference. The results for gender confirm Vedå's (2015) findings as she also found a male preference for the non-traditional variant.

Since it is only recently that the connotations associated with the use of [ʔ] seem to be changing, quantifications were made that measured the level of T glottaling across the different age groups and genders. These results will show whether the young women in this study use the glottal stop more than the older women and the results are presented in figure 5.7.

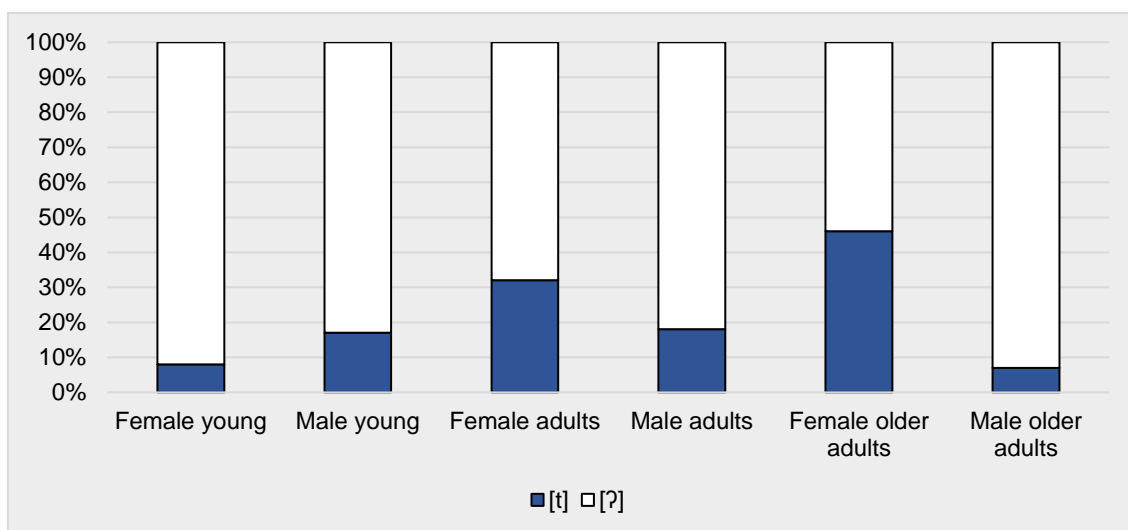


Figure 5.7: *T glottaling - percentage scores according to age and gender*

If we first consider the female speakers, there is a clear, linear increase in the usage of the glottal stop when comparing the older adult females to the young females. The female older adults use [ʔ] 54% of the time, the female adults use [ʔ] 68% of the time, whereas the young females use [ʔ] as much as 92% of the time, thus making their use of [ʔ] near categorical. Hence, we can see a tendency for the use of [ʔ] in Inverness to

become increasingly associated with female speech. The development of the glottal stop for the male speakers seems less linear and somewhat more complex. Contrary to the females in this study, it is the oldest males who use [ʔ] most frequently; they glottalise 93% of intervocalic /t/. There can be observed a decrease in the use of [ʔ] for the male adults, who use the non-traditional variant 82% of the time. Finally, there is a slight but insignificant increase in T glottaling from the adults to the young speakers as the youngest male speakers in this study use [ʔ] 83% of the time. It should be kept in mind that speaker 6M is responsible for 17 out of the 19 [t] tokens in this group. This probably explains why the percentage score for the young males' use of [t] is 9 percentage points higher than the young females' use of the same variant. Had we removed the results for speaker 6M, the gender differences for the young group would not have been noteworthy. It should be kept in mind that these results are based on rather few speakers. Additionally, the variation within each group for T glottaling is rather substantial, therefore, generalisations must be drawn with care.

Table 5.20: *T glottaling - overall results for all linguistic styles*

Style	[t]		[ʔ]		Total N
	N	%	N	%	
CS	167	24	525	76	692
RS	111	50	112	50	223
WLS	136	86	23	14	159
Total	414	39	660	61	1074

$\chi^2=220.8, p<.01$

Lastly, quantifications have been made for T glottaling according to linguistic style and these results are presented in table 5.20. The overall dataset for all linguistic styles consists of 1074 tokens where 692 of these are from CS, 223 from RS and 159 from WLS. Consistent with findings from sociolinguistic studies conducted throughout Britain, T glottaling seems to be showing particularly strong correlations with linguistic style in Inverness as well. In CS, the informants in this study realised 525 of the 692 tokens as [ʔ], rendering a percentage score of 76%. The score drops to 50% for RS and further down to 14% for WLS. Hence, there is a drastic difference of 62 percentage points differentiating CS from WLS and these results are highly significant. This indicates that it is the traditional [t] variant that holds overt prestige in InvE and that people orient towards this variant when the level of attention paid to how they pronounce words

increase. However, recent research in Britain has found that the social connotations associated with T glottaling are changing (see section 3.5). Therefore, calculations have been made measuring stylistic variation in the three different age groups.

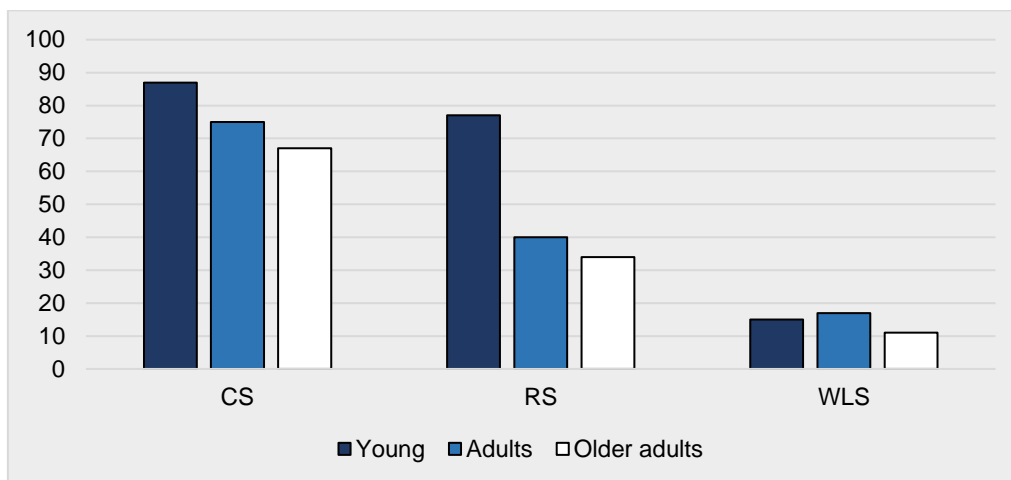


Figure 5.8: T glottaling – percentage scores for [ʔ] according to age and linguistic style

Figure 5.8 shows that the way in which the glottal stop is assessed in Inverness does indeed seem to be changing. In WLS, all age groups use [ʔ] to a fairly equal extent, 11% by the older adults, 17% by the adults and 15% by the young speakers. Hence, usage of the traditional variant [t] is considered appropriate in the most formal style. We also saw above that in CS, all age groups show an overall preference for the glottal stop and that the frequency level of [ʔ] increases with the younger speakers. These are both expected findings. More interesting though are the inferences we can make by looking at the RS results for the different age groups. The adult and the older adult speakers' results show a drastic decrease in the level of glottaling in RS when compared to CS. For the adult group, there is a percentage point drop of 35, whereas for the older adults, the percentage point drop is 33. The young speakers in this sample, on the other hand, use almost as much T glottaling of intervocalic /t/ in RS as they do in CS. This supports the claim made in other studies about how the status of the glottal stop seems to be changing in contemporary Britain. The results in this study suggest that, by the young speakers, the glottal stop is no longer perceived of as being inappropriate in RS.

5.6 Summary

The focus of this chapter has been to present the findings that have been made through auditorially analysing the speech data from the 18 informants who took part in this study. The results have been presented as overall scores, individual percentage scores and as number and percentage scores that have been quantified according to the social variables age, gender and style. We now have a much better impression of how the linguistic variables in this study behave in InvE. The general trend that emerges from these results seems to be that several linguistic innovations are currently happening in InvE and that conservative, Scottish speech features seem to be recessive. Most variables in this study show patterns of change that reflect findings done for consonantal features in other sociolinguistic studies across Britain; traditional variants are currently being replaced by non-traditional variants and this development is possibly leading to linguistic homogenisation on a national level.

6: DISCUSSION

The focus of this chapter is to bring together the results from chapter 5 and include these in a larger discussion that links the findings in this study to relevant linguistic theory. Additionally, the findings will be compared to observed patterns of linguistic change from previous sociolinguistic studies in Scotland. This chapter has also sought to answer the research questions that were presented in 1.2 and seen whether the results presented in chapter 5 confirm the research hypotheses that this study is based on. For convenience, the research questions are repeated below.

1. Are the linguistic variables subject to ongoing change? If so, are these changes indicating that marked Scottish features are recessive?
2. Are the variables showing patterns of linguistic change that correlate with the social variable of gender?
3. Are the variables displaying stable patterns of stylistic variation that correlate with the level of attention paid to speech?
4. Is InvE influenced by the same ongoing consonantal changes, i.e. the introduction of non-standard variants originating from London, which have been attested in urban England and Lowland Scotland?

6.1 The results in relation to the apparent-time hypothesis

This section will discuss the age-related patterns that were revealed in chapter 5 and compare them to patterns that have been attested in similar studies. The informants who have taken part in this study were divided into three different age groups. The youngest age group consists of speakers who were born between 2000 and 2005. The adult group consists of speakers born between 1978 and 1987, whereas in the oldest age group, the speakers were born between 1953 and 1969.

The way by which researchers can deduce that a historical change has happened is by comparing the results of the oldest group of speakers to the results of the younger groups of speakers. The prototypical pattern whereby a change could be revealed is one where some variant starts to appear sporadically in the speech of the oldest generation, and then that same variant is found with increasing frequency in the younger generations. In most cases, when comparing the age groups in this study, there was a

clear quantitative difference in the realisation of the different variants. The overall tendency was that the young group used less standard variants than the older groups.

The age of the informants is likely to correlate with the level of social mobility, geographical mobility and exposure to different varieties of English that they have experienced or been exposed to. Most communities in Britain have, in recent years, experienced a rapid increase in social mobility; the possibilities young people have today in terms of geographical mobility and educational opportunities by far exceed anything their grandparents or even their parents experienced. All the speakers in the oldest age group in this study have lived their entire life in Inverness. Prior to 2012, the option of studying to degree level in Inverness was non-existent, which means that none of the oldest speakers has an education that exceeds high school or college. In the adult group, on the other hand, 4 out of 6 speakers have attended university and speakers 7F, 11M and 12M all left Inverness in order to do so. Speaker 10M got his honour's degree from the UHI (the University of the Highlands and Islands), which is located in Inverness. In the youngest age group, speaker 6M is currently undertaking his degree at the UHI. Speaker 3F has finished high school and is planning on starting her university degree next year whereas speakers 1F, 2F, 4M and 5M are still high school pupils. All the young speakers (except speaker 1F, who did not know what she wanted to do after high school) expressed excitement about and interest in doing their degrees at the UHI.

Using different social media and watching television where different varieties of English are spoken, are also factors that can facilitate language change in Britain (see 2.4). It is likely that the young people are more exposed to different varieties of English through media than what their older, fellow citizens are. Hence, even though the youngest speakers in this study, the high school pupils, are not themselves very geographically mobile, their exposure to different varieties of English through (social) media is likely to be substantial.

Increased social and geographical mobility lead to increased contact between different varieties of English. Such a situation facilitates linguistic change, and accent levelling⁷ is a likely outcome (Trudgill 1986; Foulkes & Docherty 1999; Kerswill 2003). The youngest speakers in this study have grown up in a more diverse Inverness, linguistically and otherwise. In relation to this, it was hypothesised in 1.2 that the youngest informants would be the most likely adopters of the innovative features. It was also hypothesised that the young informants would use the most levelled variants and be the ones least likely to retain traditional, more conservative features. Table 6.1 below

⁷ See section 6.3 for a more thorough discussion about the results in relation to accent levelling

presents an overview of all the variables in this study and how the non-traditional variants are distributed amongst the different age groups.

Table 6.1: *Non-traditional variants - percentage scores for age in conversational style*

Variants	Young	Adults	Older adults
[ʊ]	12%	2%	1%
[w]	100%	91%	52%
[f]	10%	< 1%	< 1%
[ɹ]*	96%	80%	67%
[ʔ]*	87%	75%	67%
All non-standard forms combined	61%	51%	38%

* = statistically significant results

There seems to be a linear development for all the non-traditional variants. When reading from left to right in the table, the non-traditional variants are increasing steadily for all the variables from the oldest to the youngest age group. The results for age differences are significant at for (r) and (t). In addition to making comments about the direction of an ongoing linguistic change, the apparent-time construct can allow us to make statements about the chronological order in which the different variables were subject to change. By the looks of it, (r), (t) and (wh) were the first to change in InvE. According to the results in this study, [ɹ], [ʔ] and [w] were already the dominant variants of (r), (t) and (wh) in 1975, when the speakers in the oldest age group would have been in their mid-teens. These three variables had already passed the 50% marker back in the mid-70s. Hence, membership in the Invernesian speech community has entailed extensive usage of the non-traditional variants [ɹ], [ʔ] and [w] for quite some time. If we look at the percentage scores for the same three variables for the youngest group we see that for (wh) and (r), the change from the traditional to the non-traditional variants is complete or nearing completion. For (wh), the youngest age group uses the non-traditional [w] 100% of the time and for (r), the percentage score of 96% shows almost categorical usage of the non-traditional variant.

Concerning the merging of [ʌ] and [w], the change from an equal usage of the two variants to a complete merger of the two seems to have happened within a rather short time-span. It was mentioned in 3.3 that linguistic mergers tend to proceed slowly and ambiguously, hence, the results from Inverness are somewhat surprising. In previous studies in Scotland, the retention of [ʌ] has shown strong negative correlations with direct contact with Anglo-varieties of English. The recent changes in Inverness that are facilitating language change are probably contributing factors in this seemingly rapid loss of [w].

For the (r) variable, the observed tendency from other sociolinguistic studies in Scotland is a process of derhoticisation. This does not hold true in InvE as the results show InvE to be firmly rhotic. However, Stuart-Smith et al. (2014) argue that derhoticisation can diachronically be treated as a 'gradient phonetic lenition process' from a trill or a tap, through an approximant and towards a complete loss of postvocalic /r/ (2014: 61). This study's results show a change from the use of a tap, especially in intervocalic position, to an overall preference for the approximant in all positions. Hence, the process of derhoticisation might be in its very early stages in Inverness and further research into this variable, in order to investigate how it develops in the future, might yield interesting results. Another thing to note in relation to (r) is that a retroflex realisation of /r/ is considered stereotypical of InvE (see 3.4). Since no distinction has been made between a retroflex and an alveolar approximant in this study, making statements about whether [r] is being replaced by [ɹ] or [ɹ] is problematic. As mentioned in 2.4.3, all alveolar consonants have retroflex variants in Gaelic. Hence, if [ɹ] is becoming the dominant variant in InvE, this could be explained with reference to Gaelic influence. However, given how little awareness of and familiarity with Gaelic the informants in this study had, this seems unlikely. It is the researchers impression that [ɹ] was the dominant variant. However, since no quantifications has been made, this remains speculative and further research on this variable would be welcomed.

The results for (t) show that the use of the non-traditional, non-standard [ʔ] in intervocalic position is very high in all age groups. The oldest speakers use [ʔ] 67% of the time and the young speakers use [ʔ] as much as 87% of the time. There is no doubt that the glottal stop is highly characteristic of InvE. This also inspired the choice of the title for this study: *Tutti Frutti – Best said in an Inverness accent*. This is from a menu in a pub in Inverness, where it is the name of a cocktail. The typical InvE pronunciation of *Tutti Frutti* would be [tʰʔi fɹʰʔi], with the glottal stop in intervocalic position. This further reflects how prominent the glottal stop is in Inverness and it was explicitly commented

on as being typically Invernesian by most of the informants in this study. This variable will be further discussed in section 6.4 below.

None of the different variants for the three variables discussed above is recent innovations in Scottish English. The question was never *if* speakers of InvE used the non-traditional variants of (r), (t) and (wh), but rather *how much* they used them compared to the traditional variants. The situation for (th) and (l) is quite different and the non-traditional [f] and [ʊ] variants can be considered recent innovations in Scotland. [f] and [ʊ] have been attested, although to a varying extent, in several Scottish cities. However, Vedå (2015) found no attestations of TH fronting in Inverness and L vocalisation was only marginally present. Hence, systematic use of TH fronting and L vocalisations has, until now, never been attested further north than Aberdeen. The numbers in table 6.1 suggest that TH fronting and L vocalisation are possibly being introduced into the phonological repertoire of the youngest speakers in Inverness. These young speakers use [f] 10% of the time and they use [ʊ] 12% of the time. It seems as if the two variants have entered InvE at approximately the same time and the percentage scores for the adults and the older adults indicate that neither of these features has a long history in InvE. As mentioned in section 2.2.1, adolescents have for a long time been recognised as important and highly influential in the process of language variation and change and especially in language innovation. It is also likely that Inverness' recent population growth has created a situation where the youngest speakers find themselves increasingly exposed to other, mutually intelligible varieties of English where the non-traditional fronted and vocalised variants of (th) and (l) are present.

A closer examination of the individual scores for (th) and (l) shows that four of the young speakers are particularly innovative. Speakers 1F, 2F, 4M and 5M are responsible for producing most of the non-traditional variants. They are the youngest speakers in the sample, being between 15 and 17 years old and they are the only speakers who are still in high school. This, as well as Vedå's (2015) findings from Inverness add to the impression that these innovations are a very recent development in InvE. One explanation for why there seems to be an age-related division even within the youngest age group could be that TH fronting and L vocalisation are subject to age grading. Age grading is a phenomenon that does not conform to the apparent-time hypothesis. It can be understood as how young people may use certain linguistic innovations as adolescents and then later abandon them as young adults in order to conform to adult linguistic norms (Chambers 2004: 358). In all the other studies where the innovative [f] and [ʊ] variants have been attested in Scotland, they were used only by the youngest

informants in the sample. To take the study by Stuart-Smith, Timmins & Tweedie (2007) in Glasgow as an example, the data for this study was collected in 1997, i.e. 21 years ago. This means that the speakers who were the innovative 13 and 14-year-old adolescents in the Stuart-Smith, Timmins & Tweedie (2007) study are now in their mid-thirties. In order to investigate the role social media potentially has on language change, Stuart-Smith et al. (2013) collected another set of speech data from Glasgow in 2003. This dataset also revealed that TH fronting and L vocalisation were primarily youth phenomena. TH fronting was almost exclusively used by the adolescents, and in conversational style, only 15.1 to 19.6% of the adults' tokens for (l) were realised as the vocalised variant, as opposed to 17.8 to 32.1% of the adolescents' tokens. As this data was collected only 6 years after the initial study, it is hard to include them in any real-time comparison of Glaswegian English. It would, however, be very interesting to gather real-time data over a longer period of time and investigate whether the informants in Glasgow, who fronted as much as 21.6% or more in conversational style and 45.9% or more in reading style, still do this after they have reached adulthood.

As mentioned above, the linguistic norms that individuals find appealing and wish to conform to are not necessarily stable throughout a person's life. Adolescence is that stage of a person's life where peer interaction is strongest and the time where 'individuals seek to differentiate themselves from the adjacent life stages of childhood and adulthood' (Kirkham & Moore 2012: 399r). One way in which this differentiation can be expressed is through the utilisation of innovative linguistic forms that are in contrast to the ones used by children and adults. This might be one explanation for why TH fronting and L vocalisation are arguably entering InvE. Through educational institutions and leisure activities, adolescents spend most of their time interacting with and being influenced by people who are their own age. Once adolescents advance into young adulthood and most likely onto the job market, the meaningful contact with individuals outside their own age bracket is likely to increase drastically. As a consequence, the wish to, and the need for adapting to adult linguistic norms may arise and they might find themselves dropping youth norms, such as TH fronting and L vocalisation, from their linguistic repertoire.

Based on the results in the present thesis, it is not possible to conclude whether TH fronting and L vocalisation are going to become established features in InvE. The only thing that can be said at this point is that these non-traditional features seem to have been introduced amongst the youngest speakers in Inverness. It is an interesting question whether these features are currently part of a national youth norm that will, as the adolescents reach adulthood, fade away and be replaced by linguistic forms that

show conformity with adult norms. This question can hopefully be answered by future research in Inverness or other Scottish cities where TH fronting and L vocalisation have been attested.

6.2 The results in relation to gender

The gender of the speaker has through countless sociolinguistic studies emerged as one of the most important social factors in the quantification of language variation and change. Ideally, there should be an even distribution between male and female speakers in a sample for a sociolinguistic study. The results in the present thesis are based on speech data from ten females and eight males. Table 6.2 below presents an overview of how the non-traditional variants in this thesis are distributed after the results have been quantified according to gender. There are significant gender differences for two of the five variables, (r) and (t). This leaves us with the overall impression that the variables relevant for this thesis behave differently in relation to gendered variation in InvE.

Table 6.2: *Non-traditional variants - percentage scores for gender*

Variants	Females	Males
[ʊ]	6%	4%
[w]	78%	84%
[f]	3%	3%
[ɹ]*	76%	89%
[ʔ]*	68%	85%
All non-traditional forms combined	46%	53%

* = statistically significant results at the .05 level

The overall results for all the non-traditional forms combined show us that the females use non-traditional forms 46% of the time, whereas the males use non-traditional forms 53% of the time, equalling a difference of 7 percentage points. This is in congruence with Labov's first principle, that in a situation where other social factors are equal, women tend to use more standard forms than men. However, the results in this study only point

towards a *tendency* for women preferring SSE forms, the gender results are only significant for two of the variables. A closer look at intraspeaker, stylistic variation could give us valuable information about to what extent the SSE variants are considered prestigious in Inverness (see section 6.4).

For the use of the two innovative features, [f] and [ʊ], the gender differences were not significant. For (th), both the male and the female speakers use the non-traditional, fronted [f] variant 3% of the time. As for (l), the non-traditional [ʊ] variant is used 6% by the female speakers and 4% by the male speakers. The results in table 6.1 above show us that the vocalised and the fronted tokens were primarily produced by the youngest speakers in this study. Concerning the lack of significance for gender differences, this seems to conform to previous findings from studies in Scotland. Both Stuart-Smith, Timmins & Tweedie (2007) and Stuart Smith et al. (2013) found that in Glasgow, gender was not a significant factor for L vocalisation and TH fronting. Interestingly though, this does not mirror the social constraints for these variants in their place of origin. In London, there is a gendered distribution, and [f] and [ʊ] are preferred by working-class male speakers. It was hypothesised in chapter 1 that, in congruence with Labov's second principle, the young female informants would be the most innovative and be the instigators of introducing the non-traditional variants. However, as no significant gender difference was found, the results in this study do not corroborate this hypothesis.

For (wh), the female speakers use the non-traditional variant [w] 78% of the time, whereas the male speakers use [w] 84% of the time. Hence, there is a small preference amongst the women to use the traditional variant, however, these results are not significant. Overall, the level at which the speakers in this sample merge the two variants is rather high. The traditional variant [ɹ] is most likely considered the prestige variant in SSE. Therefore, according to Labov's first principle of expected gender differences where other social factors are stable, a female preference for the prestigious, standard variant would have been expected. This was the distribution Veda (2015) observed; her middle-class female informants used [ɹ] 21% of the time, whereas, her male informants used [ɹ] only 10% of the time. However, in the central belt, both Schützler (2010) and Brato (2007) found that their middle-class female informants were losing the contrast between [w] and [ɹ]. The middle-class females were more likely to be in direct contact with Anglo-English and this has been ascribed as one of the main factors influencing the likelihood to merge the two variants. Since all my informants are rather socially homogenous, I have not been able to make comparative quantifications measuring class differences. Hence, no statements can be made concerning whether or not class is a

contributing factor in predicting the usage of [ɹ] in InvE. However, what we can say with more certainty is that the probable increased contact with different varieties of Anglo-English in Inverness has possibly sparked off what seems to be a rapid and drastic change from a rather substantial use of [ɹ] to a complete merger of [w] and [ɹ].

For (r) and (t), the results for gender proved statistically significant and for both variables, the male speakers showed an overall preference for the non-traditional variant compared to the female speakers. In Edinburgh, the trend that has been observed in recent years concerning gender-related patterns for /r/ is that middle-class women seem to prefer the non-traditional variant [ɹ], whereas, the working-class male speakers are most likely to retain the traditional [r] or [r] (see 3.4). This pattern is explained with reference to the aspiring middle class' tendency to have more contact with Anglo-English speakers. Since the use of [r] is likely to be associated with the working class, it is also suggested that a shift has occurred in which variant is considered the prestige variant. Traditionally, it was [r] or [r], however, Schützler (2010) suggests that [ɹ] is now becoming a prestige variant of /r/ in Edinburgh English. The reason why middle-class female speakers in the central belt seem to prefer the non-traditional variant can be arguably be explained by their wish to disassociate themselves from the working class. However, these results contradict the findings from Inverness, where the females showed a slight preference for the traditional variant. As mentioned above, the class differences between the informants in the present study were considered so insignificant that a division into different classes would be meaningless. It is possible that had the sample been more socially stratified, the results might have reflected class differences for the realisation of /r/, possibly confirming the findings from the central belt. Another possibility is that the traditional [r] variant is associated with higher prestige in InvE than in the central belt. If this is indeed the case, it is unlikely that the middle class would avoid the use of it as a way to disassociate themselves from the working class.

T glottaling in intervocalic position has for a long time been a stigmatised feature of urban Scottish English (see 3.5). It seems to be a well-established feature in InvE; [ʔ] is the dominant variant in all age groups. When it comes to patterns of gender variation, it is the male speakers who prefer the non-traditional, glottal stop. In this sample, the male speakers use [ʔ] 85% of the time, whereas the female speakers use [ʔ] 68% of the time. We saw in figure 5.7 that there is also a clear age-related pattern for T glottaling that is relevant for the gender distribution of [ʔ]; the younger the speakers get, the smaller the gender difference becomes. In the oldest age group, there is a percentage point difference of 39% between the genders, whereas, in the youngest age group, the

percentage point difference between the male and the female speakers is only 9%. However, the most interesting thing that emerges from looking at the group results is that a shift seems to have occurred in which gender favours the glottal stop. There has been a development from a situation where the male speakers were the ones who clearly used [ʔ] more frequently, to a situation in which the female speakers are the ones who most frequently utilise [ʔ]. This development for (t) mirrors the development that has been attested in various other locations throughout Britain (see 3.5). However, group scores can have the effect of concealing individual variation, and as it was pointed out in 5.5, speaker 6M's results show particularly low results for T glottaling compared to the other young male speakers. Since this is a rather small scale-study, one individual's score might skew the overall group results. It is likely that speaker 6M's present status as a drama student at UHI and the amount of elocution training he has received there has caused him to make use of more standard variants than expected. If we exclude his results from the calculations, the gendered distribution in the youngest group becomes almost the same; 97% [ʔ] for the boys, versus a 92% frequency for the girls.

Based on the (t) results in this study, we can conclude that [ʔ] is becoming increasingly associated with female speech, when comparing the older adult speakers to the young speakers. Given how the linguistic forms used by women often become associated with prestige, we might suggest that the social connotations of [ʔ] are changing in InvE.

6.3 The results in relation to accent levelling

This section will discuss the phenomenon of accent levelling in light of the quantified results from this study. However, it should be kept in mind that assessing individual and collective motivations behind linguistic change is problematic, and therefore, the interpretations done based on the results in chapter 5 remain inevitably speculative.

Inverness was awarded city status in the year of 2000 and since the turn of the millennium, it has had one of the fastest growing populations in Western Europe. The growing population can, for the most part, be ascribed to the extensive number of people who have moved to Inverness during the last decades. Ever since Inverness was established in the 6th century, it has been an important port, and today, it is the administrative centre for the Highland Council area and the main service centre for the Scottish Highland region. When asked about Inverness, how it is to live there and how the city has changed in the last decades, all of the informants mentioned the changing

demographic characteristics of the city. According to speaker 7F, one only needs to go back 20 years to find a situation where ‘everyone’ in Inverness was Invernesians.

7F: It just suddenly happened, that you start to, you know, hear different languages, different dialects spoken, which you’d never have before. Eh... you know... when I was a child, everybody was white and Scottish, everybody here was from Inverness or the Highlands, and anybody who wasn’t... it was like, “where have you come from?” [Laughs]. Ehm, but yeah, now it’s just like, that much more diversity here than it certainly was when I was a child. Noticeably more, which is quite good in some ways... because, yeah. It is... yeah. It’s just different.

Hence, in the last decades, the level of exposure to other varieties of English has greatly increased in Inverness. It was outlined in section 2.4 that these developments, in addition to things such as a newly established university and a very fast growing economy are elements that are likely to cause increased social mobility and movement of people, by which, the process of accent levelling is facilitated.

The results that were presented in chapter 5 largely support the hypotheses that InvE is currently subject to accent levelling. The changes that indicate accent levelling in Inverness can arguably be divided into two different categories. The first is the introduction of the innovative consonantal features, TH fronting and L vocalisation and arguably also T glottaling, even though the glottal stop is in no way innovative in contemporary Scotland. The other change is a more general process of levelling by which traditional Scottish variants are being replaced by variants associated with Anglo-English, enabling us to talk about a process of anglicisation of Scottish English.

The increased geographical distribution of T glottaling, L vocalisation and TH fronting has often been explained partly by the phenomenon of geographical diffusion from London. Geographical diffusion is one way in which mutually intelligible varieties of a language may become more alike. It was stated in section 2.4 that features subject to geographical diffusion tend to spread out ‘from a populous, economically and culturally dominant centre’ (Kerswill 2003: 223). London is arguably the most populous, economically and culturally dominant centre in Britain, therefore, it is reasonable to assume that, on a national level, London will provide the strongest linguistic influence. It is said that through geographical diffusion, the linguistic innovations spread out in a wave like fashion, affecting nearby cities and towns first. Hence, Inverness’ peripheral location in relation to London could explain why these innovations are only now becoming attested in Inverness and also why they were not present amongst Vedå’s (2015) informants in Inverness. Another possible explanation is that these features are diffusing from Glasgow. In a Scottish perspective, Glasgow is the most populous city and arguably

also the culturally dominant centre. TH fronting and L vocalisation have been attested in Glasgow dating back all the way to the early 1990's. It might be that in terms of linguistic influence, Glasgow is to Scotland, what London is to England and that in a Scottish context, [f], [ʊ] and [ʔ] are perceived of as urban Scottish features.

One highly influential study on levelling is Williams and Kerswill's (1999) dialect levelling project, which compares the linguistic situation and recent developments in Milton Keynes, Reading and Hull. In this study, it is evidenced that TH fronting is present in all three cities, despite their different geographical location and network structures. Williams and Kerswill (1999) rightfully raise the question of whether or not speech accommodation as the result of face-to-face interaction between speakers of mutually intelligible varieties of English is the main driving force behind accent levelling. They argue that this model may provide sufficient explanatory evidence in places that are in close proximity to London, such as Milton Keynes. This model, however, falls short when it comes to explaining the presence of the same linguistic features in the speech of teenagers in locations far removed from London. In places such as Hull in northern England, any substantial face-to-face interaction between the locals and Londoners is an unlikely scenario and the same holds true for Scottish cities. Williams and Kerswill describe Milton Keynes as very different from Hull in that Milton Keynes is characterised by a much higher degree of social mobility as well as having a population with rather weak network ties. Hull, on the other hand, is characterised by the exact opposite, and additionally, it is geographically much further removed from London. Hence, even though dialect levelling is a national phenomenon and the outcomes of it have been attested in both Milton Keynes and Hull, 'the form it takes and the mechanisms by which it operates will differ according to local demographic and social factors' (Williams & Kerswill 1999: 151). The interesting question that arises is why the same consonantal changes are happening in British cities at the same time, despite such big differences in demographic structure. No sufficient explanation has been provided so far as to why these features are currently making their way into the linguistic repertoire of adolescents all over Britain.

Given Inverness' peripheral location in relation to London, it is unlikely that the presence of TH fronting and L vocalisation can be explained solely by reference to direct contact with Londoners. This is further substantiated by statements from all the young speakers in this study about how none of them had ever visited London, nor did they know anyone from London. Hence, the reason for why southern English features are making their way into InvE must be sought in other places than through speech accommodation as the result of face-to-face interaction with speakers of London English.

The results in chapter 5 and the discussion about the results in relation to the apparent-time hypothesis made clear that the role the adolescents in this study seem to be playing in the process of accent levelling cannot be downplayed. Sociolinguistic research has shown that adolescents tend to be the most linguistically innovative. Through their characteristically tight peer relations, they have the ability to establish *new* linguistic norms (Cheshire et al. 1999: 1). The youngest speakers in this study, the ones that are still adolescents, are indeed the most innovative. It is among the very youngest speakers we find the southern English consonantal innovations and it is the same speakers who show the lowest frequency of the traditional Scottish variants. What this suggests is that the linguistic norms at play in Inverness has changed during the last decades and the linguistic norms that the youngest speakers adhere to are not the same as the ones the older speakers orient towards. One suggested explanation for this might be related to the changing attitudes, network ties and orientations that the population of Inverness expressed in relation to the city's changing character.

The young speakers in this study all expressed quite positive attitudes to the recent and ongoing changes to the city of Inverness. These speakers were born right around the time when Inverness was granted city status. Their post-year-2000 childhood in the Invernesian community has been characterised by a strong increase in population movement, social mobility and opportunities. They all talked about the change towards increased urbanisation as something exclusively positive and all the informants in the youngest age group, except speaker 6M, could see themselves settling in Inverness as adults. As mentioned in 6.1, the young speakers themselves might not be very socially or geographically mobile at their present stage in life. However, they have grown up in an increasingly diverse community, both linguistically and more generally. No assertive statements can be made about which age group has the most contact with, or is exposed most to other varieties of English. However, the stage of life in which this exposure started is of crucial importance in deciding whether or not linguistic change through accent levelling might be the outcome. The young speakers in this study have been exposed to a linguistically diverse community in that period of life when language is acquired, and by implication, when language is most formative. The older informants have seen Inverness develop from a homogenous town with close-knit networks and fewer opportunities for the young, into a multicultural and multidialectal city.

The older informants, on the other hand, expressed quite different emotions related to the changing demographic situation in Inverness. These were feelings of strong local affiliation mixed with nostalgia and regret about the way the city has changed

in recent years. The older speakers all described the Inverness of their childhood as a safe little town where most people knew each other. Hence, it can be assumed that the network ties in Inverness were much stronger 30-40 years ago. Strong network ties usually have the effect of inhibiting language change, whereas weak network ties have the opposite effect; they facilitate language change. The results in chapter 5 of this study seem to confirm these trends. The group of older speakers in this study all show a higher frequency of the traditional Scottish variants compared to the younger speakers.

One other explanation that has been put forward for the spread of the non-traditional features is that they are part of urban, youth norms that are independent of time and space. Williams and Kerswill (1999) point to television, radio and the internet as being important contributing factors in establishing these youth norms. Cultural and entertainment programmes that are directed towards the youth overflow with informal and non-standard registers. Through these media, adolescents all over Britain are exposed to southern British accents, many which emanate from London and the surrounding area. The answer to why these features are currently being adopted by young speakers of InvE could therefore possibly be sought by the youths' wish to appear outward looking and more cosmopolitan. As the city of Inverness is becoming increasingly urbanised, so is its population. This is likely to have linguistic consequences, possibly manifested by the adoption of urban youth norms, including linguistic norms.

6.4 The results in relation to style

In the present study, intraspeaker stylistic variation has been assessed through Labov's axiom of attention paid to speech. As part of the sociolinguistic interview in which the data for this thesis was collected, the informants were given two reading tasks. The overall results from these reading tasks have been quantified and compared to the overall results from the conversations between the informants and the researcher. My hypothesis in relation to stylistic variation was that the linguistic variables would display variation that ranged along a traditional – non-traditional continuum. I also hypothesised that the use of traditional SSE variants would increase with the level of attention paid to speech. Table 6.3 below sums up the overall results for the use of standard variants in the different linguistic styles. We see that the results in chapter 5 largely confirm the hypothesis stated above. The combined results show that 51% standard forms are used in CS, 62% in RS and that this number raises further to 72% in WLS.

Table 6.3: Traditional variants – percentage scores for style

Variants	CS	RS	WLS
[l]	95%	96%	94%
[θ]	97%	96%	99%
[ʍ]*	19%	38%	46%
[r]*	19%	31%	33%
[t]*	24%	50%	86%
All standard forms combined	51%	62%	72%

* = statistically significant results

For the variables that have stereotypical SSE variants, (wh), (r) and (t), there is a gradual increase in the use of the SSE variants. This increase correlates with the level of attention paid to speech and the results for (wh), (r) and (t) are statistically significant. This suggests that the traditional, SSE variants are considered as being prestige variants in InvE.

For (th), there were not enough tokens in each cell to perform a Chi-square test and for (l), the stylistic differences were not statistically significant. Stuart-Smith et al. (2013) found that in their 2003 data from Glasgow, both TH fronting and L vocalisation were much more frequent in read speech. They attributed this to the way in which the young speakers approached the reading task. The young speakers in their study did not approximate the regional standard when asked to read the sentences. Instead, they put on a performance while laughing and commenting on the words they read. In the present study, this was exactly what happened when speaker 1F performed her reading tasks. As seen in chapter 5, she is the main contributor in producing vocalised variants of //, and she is also the only one who used vocalised variants when reading. Her usage of [ʊ] increased from 50% in CS to 91% in WLS. For the other variables, she showed no signs of monitoring her speech in the direction of the regional standard. Speaker 1F was the only speaker who expressed reluctance towards the task of having to read aloud in the presence of her friend, the researcher and the head teacher, who happened to walk into the room at that point. It is my impression that an explanation for her utilisation of as many non-standard variants as possible in the reading tasks could be sought in her wish to disassociate herself from the formality of the situation. It should also be noted that

none of the other young speakers displayed similar behaviour, and for all the variables, the frequency of non-traditional variants decreased with the level of attention paid to speech. The only exception to this was (wh), which will be discussed below.

As seen in 5.3, a complete merger seems to have happened between [ɹ] and [w] for the young speakers in Inverness. Even in the oldest age group, the informants use the traditional variant slightly less than 50% of the time. Hence, it would seem like the whine-wine merger has been underway in Inverness for quite some time. The most prominent aspect of this variable in InvE is the rapidity in which the change towards [w] seems to have happened. As mentioned above, all the young informants in this study, except speaker 1F, showed an increase in the variants associated with SSE when style-shifting towards more formal speech. The only exception was (wh), where even in WLS, the young group showed a 0% frequency rate for the traditional variant. One possible explanation for this might be related to the young speakers' wish to dissociate themselves from the 'old ways' of Inverness. They might conceive of the overt Scotticism that is the [ɹ] variant, as being old-fashioned and associated with the speech of the older generation. Avoiding the usage of [ɹ], in addition to using innovative, non-standard features such as TH fronting and L vocalisation, might be a way for the young in this changing city to disassociate themselves from the older generations and from previous linguistic norms in Inverness. Another and probably more likely explanation might be that the young speakers do not have [ɹ] in their linguistic repertoire anymore. If this is the case, they are unlikely to be aware of this feature and its traditional usage in words with orthographic *wh*.

Traditionally, [ɹ] has been the prestige variant of (r) in Scotland. However, it has been suggested that in the central belt, [ɹ] is taking over as the prestige variant as it is being increasingly used by middle-class female speakers (Schützler 2010). It was mentioned in 6.2 that the traditional variant, [ɹ], might hold higher prestige in Inverness than in the central belt and that this might explain why there is no female preference for the non-traditional [ɹ]. The results in table 6.3 tentatively support this claim as it is evident that [ɹ] is used 14% more in WLS than in CS.

Concerning T glottaling, the results proved highly significant for stylistic variation. Since T glottaling has been and still is, an overtly stigmatised feature of urban Scottish accents, this does not come as a great surprise. The informants' awareness of this variant's social status was made very explicit in the reading of the word list. The words that were designed to elicit intervocalic /t/ in the interview are given in example [1] below:

[1] *matter, skittle, Scottish, sitting, water, bottle, button*

Speaker 10M and 6M both initially read the line of words in their 'normal', unmonitored speech, that is, with /t/ realised as the glottal stop. They then corrected themselves and said that it is *supposed* to be read with [t] in intervocalic position. Speaker 1F did have one incident where she tried to approximate the regional standard when reading. This happened when reading the line of words eliciting T glottaling. She first read ['mæʔə, 'skɪʔʊ, 'skɒʔɪf, 'sɪʔɪŋ, 'wɔʔə, 'bɒʔʊ, bʌʔn], she then stopped and said

1F: No wait, it's supposed to be ['wɒtə, 'bɒʔʊ, 'bʌʔn].

This statement and the following linguistic behaviour indicate that speaker 1F is aware of how [t] is the standard variant. Her behaviour also indicates that she feels like [t] is the appropriate variant to use in this context. However, it would seem that the glottal stop is such a prominent and established feature in her linguistic repertoire that even when she consciously tries to avoid it, she is only able to uphold this for one word.

It has been mentioned several times throughout this thesis that the status and social connotations of the glottal stop is subject to change in contemporary Britain. It is becoming more and more associated with the speech of young, female middle-class speakers. In Inverness, the results are somewhat ambiguous. It was discussed in 6.3 that [ʔ] is indeed becoming more used by the female speakers in this bordering middle-class sample. However, the impression we are left with after having had a closer look at the results for stylistic variation is that the more formal the speech, the more the glottal stop is avoided. In order to see more clearly whether there is an ongoing change in the different generations' assessment of the glottal stop, calculations were made that investigated how these variables correlate. These results showed quite clearly that the young speakers use [ʔ] much more than the two older groups in RS, whereas, in WLS, the numbers even out and all age groups favour the use of [t] and use it to a fairly equal extent. These results suggest that the status of the glottal stop might be subject to change in Inverness. [ʔ] might no longer be as stigmatised as it used to be and this is supported by the fact that the young speakers do not make an effort to avoid [ʔ] in RS.

Overall, we can conclude that, when style-shifting to more formal styles, the speakers in this study approximate SSE and the traditional variants in this study are associated with SSE and hold overt prestige.

6.5 Other phonological observations

When conducting the fieldwork for this thesis, and through revisiting Inverness on several occasions during the last year, some observations were made about other linguistic variables that unfortunately could not be included in the quantitative analysis. One of the variables that did not make the cut was the realisation of the vowel in words belonging to the lexical set TRAP. Since Macaulay's (1977) study in Glasgow, this variable has not been given much attention in sociolinguistic studies on Scottish English. Macaulay found that a front variant [a~æ] of TRAP was associated with higher status and prestige, whereas a back variant [ɑ] was associated with low status and prestige. His results also showed that overall, age and gender differences were much less clearly marked for this variable than the social class differences (1977: 43). It was clear from the recordings made in Inverness that this variable is subject to variation and possibly also change in InvE. My overall impression is that the backed variant is much more prevalent amongst the older generation. However, due to time and space restrictions for the present thesis, this variable was not included. It is, however, believed that some interesting results would come from a sociolinguistic investigation of TRAP in Inverness.

After the initial fieldwork for this study was completed, the researcher returned to Inverness and spent several months there while completing this thesis. This resulted in substantial interaction with four children of my acquaintances in Inverness. These girls are all between the ages of 8 and 14 and they are born and raised in Inverness. I interviewed three of the girls with the intention of including the interview in the thesis, however, due to time restrictions, this interview was not analysed and quantified. However, one very interesting observation has been made through interacting with these four girls. They all use TH fronting and L vocalisation, thereby, substantiating the findings made in this paper concerning the presence of these innovative, non-standard features in the linguistic repertoire of young Invernesians. The oldest girl was near categorical use of [f] for [θ]. The three younger girls all display TH fronting, although, not with the same frequency as the oldest girl. All four girls use vocalised variants of postvocalic /l/, albeit sporadically. However, what this does not clarify is whether [f] and [v] are subject to age grading in InvE. Therefore, a study focusing on adolescent speech in Inverness would be very welcomed.

7: CONCLUSION

In this study, the sociolinguistic status of five linguistic variables in Inverness has been investigated. The results in chapter 5 indicate that all these variables are subject to ongoing variation and change. Three of the variables, the whine-wine merger, the realisation of /r/ and T glottaling, seem to have been changing in Inverness for quite some time. The non-traditional variants of these variables are favoured even amongst the oldest speakers in this study. On the other hand, the introduction of the non-traditional variants for the two remaining variables, L vocalisation and TH fronting, seems to be of a very recent nature in InvE. The non-traditional [f] and [ʊ] are only sporadically present amongst a few of the youngest informants.

In chapter 1, four research questions, with four corresponding research hypotheses were presented and these have been thoroughly discussed in chapter 6 above. The concluding remarks below will present the conclusions that can tentatively be drawn for each hypothesis based on the results in this study.

1. All the linguistic variables seem to be subject to ongoing phonological variation and change. The changes that are attested show that marked Scottish features are recessive; there is a significant decrease in the frequency of [r] and [ɹ] from the oldest to the youngest age groups. The young speakers in this study are near categorical in their usage of the non-traditional variants for (wh) and (r). Concerning T glottaling, the frequency of the non-traditional glottal stop is very high in all age groups. However, the results show that the use of [ʔ] is increasing amongst the young speakers. For TH fronting and L vocalisation, the change seems to be of very recent nature; the innovative variants [f] and [ʊ] are found sporadically only amongst the youngest speakers in this study. It was argued that all these changes can be ascribed to the changing nature of Inverness. It was also suggested in the previous chapter that the use of innovative, non-standard features amongst the young speakers in InvE could be a case of age grading. The adolescent speakers may, as they get older, abandon the use of [f] and [ʊ] in order to conform to adult linguistic norms, in which case, (th) and (l) are not necessarily subject to change in InvE.

2. Two of the variables in this study, (r) and (t), show patterns of linguistic change that correlate with the social variable of gender. For both these variables, the male speakers use the non-traditional variants more than the female speakers and the gender differences are statistically significant. The female preference for the traditional variants suggests that these hold overt prestige and are likely associated with SSE. For the three other linguistic variables, (l), (wh) and (th), no gender differences were found. It was hypothesised in 1.2 that the introduction of the innovative features associated with London English would be led by the youngest female informants. This hypothesis was not corroborated as no significant gender differences were found for L vocalisation or TH fronting. However, it should be kept in mind that L vocalisation and TH fronting were found only sporadically amongst some of the youngest speakers. A larger sample with more tokens would have made more assertive statements possible and might also have yielded different results.
3. For stylistic variation, the results for (wh), (r) and (t) proved statistically significant and the frequency of traditional, SSE variants increased with the level of attention paid to speech. This further substantiates the claim made in bullet point 2 above; the traditional, Scottish variants associated with SSE are more prestigious than the non-traditional variants in InvE.
4. The results from this study suggest that InvE is, to some extent, influenced by the same ongoing consonantal changes that have been attested in urban England and Lowland Scotland. Attestations of TH fronting and L vocalisation are sporadically present amongst the youngest speakers. This indicates that a very recent change may have happened, whereby the youngest speakers in Inverness are adopting linguistic features that have traditionally been associated with London English, or possibly in a Scottish context, with Glasgow English. It is problematic to state with certainty the motivations behind this change. One of the possible motivating factors could be the changing nature of Inverness. The rapid population growth and the probable weakening of network ties are both factors that are likely to render a population more susceptible to language change. Another important factor that might contribute to explain why the young speakers are particularly prone to adopt the innovative features is the establishment of national youth norms that transcend time and space. Increased exposure to other varieties of English through TV and the internet are likely to facilitate the establishment of such norms. A real-time study on

InvE might help to clarify whether TH fronting and L vocalisation are becoming stable features in the linguistic repertoire of Invernesians, throughout their lives.

We can see from point 1 to 4 above that most of the research hypotheses that were presented in 1.2 are corroborated by the results of this study. The only exception is the hypothesis concerning gender-related differences. It was, based on observed gender patterns from previous studies, hypothesised that there would be gender differences for all variables in this study and that the young female speakers would be the instigators of linguistic innovations. However, for only two out of five variables did the gender results prove significant and no female preference for the innovative variants was found.

The findings in this study show that despite Inverness' peripheral position, it is not isolated from the linguistic trends and currents of change that are operating in Britain at present. The overall results of this study indicate that the linguistic trends observed in urban Britain, where marked features are recessive and the young generation are adopting non-local, non-traditional features, seem to be operating in InvE as well. The frequency of traditional Scottish variants are decreasing and are being replaced by variants that show larger geographical distribution. Lastly, Inverness may now arguably be added to the list of cities where TH fronting and L vocalisation are operating as linguistic youth norms.

7.1 Shortcomings

In a study limited by the temporal and spatial restrictions of a master's thesis, there are bound to be certain shortcomings and weaknesses. In the present study, certain compromises that were not ideal had to be made in the sampling process. I wanted to include even older speakers in the oldest age group, and ideally, I wanted the youngest age group to consist exclusively of adolescent speakers. However, data collection is unpredictable at best, and getting in contact with these groups of speakers proved unobtainable.

It was mentioned in 2.2.3 that researchers who want to make comments about how language and society are interrelated need to take the variable of social class into consideration. In the present study, the sample of informants proved too socially homogenous to allow for any meaningful classification. Hence, a comparative analysis of different social classes could not be made. Since many of the variables in this study have shown consistent patterns of linguistic variation correlating with social class, it

would have been ideal to have a more socially stratified sample of both young and older speakers.

7.2 Further research

This study has exclusively focused on consonantal variables. Therefore, a study investigating InvE vowels would be an interesting contribution and especially a study focusing on vowel length. As mentioned in 2.4.1, SSE vowel length abides by what has been termed the SVLR, or Aitken's Law, i.e. vowel length is phonetically determined. In Gaelic, on the other hand, vowel length is phonemic. Since InvE is potentially influenced by both these systems, a study investigating vowel length in Inverness might provide interesting results. As vowel features and vowel change tend to be more regional rather than national, it would be intriguing to see whether stronger Gaelic influence can be found in the InvE vowel system than in its consonant system.

When collecting and analysing data for this study, the researcher was made aware of other, potentially interesting variables in Inverness. TRAP was mentioned in 6.5. Another candidate that could reveal the same decrease in variants associated with SSE as for (wh) and (r) is the potential diphthongisation of the FACE and GOAT vowels. In Scottish English, these vowels have a monophthongal quality, whereas, in southern varieties of Anglo English, the expected realisation is a diphthong.

In previous studies, many of the variables included in this study have shown systematic differences that correlate with the social class of the speakers. Therefore, a study including a more socially stratified sample might contribute valuable information. The innovative language use is found almost exclusively amongst the very youngest speakers. Therefore, a study including a larger and more socially stratified sample of young speakers would likely result in interesting findings that would allow more assertive comments to be made about the status of TH fronting and L vocalisation in InvE.

Lastly, this study has concentrated on one specific variety of Highland English. It would be very interesting to see how much phonological variation there is within this vast and sparsely populated region. A study comparing InvE to varieties of English spoken where the influence from the Gaelic substratum has been much more prevalent would provide valuable results.

APENDIX A

List of sentences

There is nothing like spending summer in a cottage by the lake.

One of Scotland's most famous, unsolved mysteries is that of the Loch Ness monster.

I am thirsty, could I please have a small bottle of coke?

My oldest daughter works as a nurse.

The weather has been great lately.

My father's cousin lives in Dochgarroch and he was in the Scottish police force.

Boat trips from the Isle of Skye allow you to experience wildlife including seals and whales.

The mythical kelpie is a supernatural water horse that was said to haunt Scotland's lochs and lonely rivers.

I will write a letter for my brother, Ian McCulloch.

I spilled a carton of milk.

Do you like my new, white purse?

I have just bought my first wheelbarrow.

Earth is the only planet where life is known to exist.

The whisky made in the Scottish Highlands is both smooth, flavourful, smoky and rich.

Our plane leaves from Heathrow at eight, so we'll have to leave home at three.

How old do you think the universe is?

He is a very whimsical person.

The little children were whispering and laughing amongst themselves.

Which Game of Thrones characters do you loathe and which do you like?

I gave birth to my first child in Raigmore Hospital.

List of words

goat, float, go, rope, loaf, rose, noble, grove

face, wave, save, tape, lady, say, mane, paying

matter, skittle, Scottish, sitting, water, bottle, button

course, force, parcel, scarce, persistent, curse,

mother, either, southern, fathom, breathe, bathe, soothe

hill, milk, built, feel, light, settle, fiddle, later, leave, lorry, slender, silk, loose

thick, south, anything, north, breath, thing, thrive, method, southeast

which, witch, whine, wine, whisky, wail, whale, nowhere, when, what, win,

Loch Ness, brought, light, Balloch, knight, Dalneigh, trauchle, sassenach,

sit, lack, carry, tin, penny, car, kit, tame, time, pen

slip, pit, lick, sat, tap, stick, cat, kick

APPENDIX B

Raw numbers – conversational style

Young

Speakers	(l)		(th)		(wh)		(r)		(t)	
	[l]	[ʌ]	[θ]	[f]	[ɹ]	[w]	[r]	[ɹ]	[t]	[ʔ]
1F	5	5	12	8	0	9	5	45	0	15
2F	35	8	30	2	0	19	0	50	2	30
3F	31	0	38	0	0	18	2	54	5	34
4M	31	4	13	5	0	14	4	47	0	31
5M	29	4	30	0	0	13	0	50	2	29
6M	32	1	35	2	0	20	1	52	17	34
Total	163	22	158	17	0	93	12	298	24	173

Adults

Speakers	(l)		(th)		(wh)		(r)		(t)	
	[l]	[ʌ]	[θ]	[f]	[ɹ]	[w]	[r]	[ɹ]	[t]	[ʔ]
7F	30	0	50	0	1	29	8	51	28	22
8F	26	4	34	1	3	7	20	30	4	26
9F	31	0	35	0	2	16	20	30	9	39
10M	30	0	34	0	1	25	4	41	10	41
11M	31	0	30	0	0	19	3	47	14	36
12M	30	0	31	0	4	21	5	45	1	35
Total	178	4	214	1	11	117	60	244	66	199

Older adults

Speakers	(l)		(th)		(wh)		(r)		(t)	
	[l]	[ʌ]	[θ]	[f]	[ɹ]	[w]	[r]	[ɹ]	[t]	[ʔ]
13F	39	1	34	0	8	10	23	27	24	16
14F	35	0	37	1	2	18	17	33	13	32
15F	25	1	37	0	9	1	15	35	0	25
16M	30	0	30	0	12	6	15	35	33	8
17M	30	0	32	0	14	14	16	34	3	35
18M	31	0	30	0	6	7	12	38	2	37
Total	190	2	200	1	51	56	98	202	75	153

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