

Abstract

This study is a sociolinguistic account of one of the increasingly expanding sound changes in British English. Particularly, it assesses the behaviour of the phenomenon of glottal replacement of /t/ in the English variety spoken in the Welsh capital. The analysis of this study captures the fashion in which this innovative feature is making its way into the speech of Cardiff English. Not only that but also it gives us a snapshot of how glottalisation is advancing through both linguistic and extra-linguistic channels.

Namely, this study seeks to account for socially and structurally influenced patterns of this sound change currently in operation in English varieties in the United Kingdom. It also seeks to delineate the correlation between linguistic and social factors hypothesized to be influencing the occurrence of this phenomenon.

This study reports findings of an initial analysis of the phenomenon (i.e. the replacing of /t/ with a glottal stop) in the speech variety of the Welsh capital, Cardiff. Results reveal a gender-based pattern in which the phenomenon appears to be favoured by females more than males. Structurally, results reveal a pattern in which the glottalised forms appear to be occurring more likely in pre-consonantal positions. Alongside the glottalised forms, this study also reports another variant in that the /t/ is completely elided. The study attempts to contextualize the results of this phenomenon in view of the accounts tracking the development of the feature in British varieties.



1. Introduction

A number of studies have reported that glottalisation of /t/is on the increase in the English dialects spoken in the British Isles. Particularly, it was found that instances of glotalling in word-final and word-medial positions are reaching further and further towns and cities in the UK. This largely occurs in a fashion often known in the literature as geographical diffusion (Smith & Holmes-Elliott: 2018). Not only does this phenomenon follow this route but also other phonological changes such as L-vocalisation and TH-fronting,

This study examines the case of t-glotalling in the Welsh capital, Cardiff. It assesses the linguistic and extra-linguistic factors that condition the diffusion and occurrence of this phenomenon. It seeks to provide perspectives based on the results of the analysis conducted on a number of speakers of this locality. In doing so, the study will endeavour to discuss its findings with those obtained by previous accounts on the phenomenon in British English. A word worth mentioning here is that it is well established that glottalisation of /t/ involves two forms: a complete replacement of /t/ by a glottal stop or another variant in which /t/ is reinforced by the glottal plosive. In this study, the former will be the focus rather than the latter.

2. T-glottalisation: an overview

In terms of definition, t-glottalisation is the realisation of /t/ as a glottal stop variant [?]. This innovative sound change has been the focus of many studies tracking its spread in the British Isles. Wells (1990: 6) provides an account of the linguistic contexts in which this phenomenon occurs and states that it is often realised in word-final contexts. T-glottalisation is a form of debuccalization where a glottal form is realised instead of /t/ when it precedes another consonant. For instance 'not here' [np?hie] and apartment [apɑː(J)?mən?]. This also occurs when it precedes a syllabic /n/, as in 'button' ['b Λ ?n])

(Roach, 2004).

In British English, a glottalised form of /t/ is also common in intervocalically when is followed by an unstressed vowel. This realisation is most frequent when flanked by a stressed vowel and a reduced vowel such as (/ə/, /ɪ/).

Early accounts documenting glotalling were done in rural communities and then the investigation of this phenomenon expanded to urban areas across the British Isles. This has resulted in a number of studies investigating towns and cities in England such Norwich (e.g., Trudgill, 1974); Derby and Newcastle (e.g. Foulkes & Docherty, 1999). A number of studies on the phe-



nomenon have also been carried out in Scottish cities such as Edinburgh (e.g. Romaine, 1975 and Reid (1978) as well as Glasgow (e.g. Macaulay, 1977). Mees & Collins (1999) conducted a study on the phenomenon in the Welsh capital of Cardiff. The studies on this phenomenon have discussed a number of mechanisms and routes through which glottalisation has been spreading in the United Kingdom. Andrésen (1968: 18) notes that the earliest instances of t-glotalling date back to 1860 in the western areas of Scotland. It then made inroads into the east of Scotland reaching the north of England afterwards. By 1950s, the phenomenon has established itself as a feature found in most rural dialects spoken in the eastern parts of England. The last four decades of the previous century witnessed a rapid spread of t-glotalling in urban areas of the British Isles (Kerswill 2003: 207). Docherty *et al.* (1997: 277) conclude that, over the last century, it has emerged as a feature on the increase in many British English varieties.

The quest for tracking this and other phonological phenomena has not come to a halt. Rather, studies have continued to appear with aim of tracking the increasing popularity of the phenomenon in other British English varieties. One of the main studies on t-glotalling in Cardiff is that by Mees & Abdulkareem Yaseen

Collins (1999) which provides a real-time account of the phenomenon in the Welsh capital. Mees & Collins' account provides a benchmark with which I will compare my findings in addition to other studies on t-glottalling in Cardiff such as Mees' (1983), (1987). Also in the literature are some recent accounts carried out by Flyn (2012) and Smith & Holmes-Elliot (2018) which tracked the spread of glottalisation in the UK.

The recent accounts have reinforced the status of this phenomenon as a ubiquitous innovation in the United Kingdom that is now considered as a stereotypical feature in in the speech of British counties. As a result, Smith and Holmes-Elliot (2018:324) note that its presence in the variationist literature on British English has become a" poster child". Thus, t-glotalling is now a better documented feature thanks to the increasing number of studies that track its spread in speech varieties in the British Isles.

The glottalised /t/ has long been considered a stigmatized form that is associated with the working class people. A number of studies found this type of pattern such as Macaulay's (1977) in Glasgow Williams & Kerswill (1999) in Milton Keynes and Flynn (2012) in Nottingham , to name but a few. T-glotalling, is a feature that has long been viewed as a stagmatised phenomenon. However, it has gone further in British Eng-



lish making inroads into the speech of social groups other than working class . Milroy et al. (1994) report that is gaining ground in the speech of middle-class people in Cardiff. They reason that this may have to do with the fact the popularity of glottalised forms in female speech have a role in destagmatising the feature. Milroy et al. also contend that this feature is perceived as prestigious being a feature in the speech of women. Another view by Mees and Collins (1999: 201) who hold that prestige attached to this phenomenon in Cardiff come from being in fashion and a sophisticated way of speech. Romaine (2003: 103) notes that women adopting prestigious forms runs counter to the situation

in most societies where power and prestige are often associated with men.

Previous studies on variation in English have long proved that variation is not a random phenomenon. Rather, it has been proved that it is rather systematic and is influenced by a range of extra-linguistic factors. Chief among these factors have been gender, social class, education and style, to name but a few. In this study, the role of gender in the use of t-glotalling in the speech of Cardiff English is assessed.

3. An brief overview of Cardiff and its dialect

Officially declared as the capital of Wales in 1955, Cardiff is the country's chief centre

in terms administration, commerce and culture. According to National Statistics (ONS) latest release, Cardiff has an estimated population of 484,591. Originally built as a Roman fortress, Cardiff developed over the centuries from a small town into a metropolitan centre particularly in the 19th century with the advent of railway in 1841. This facilitated the flourishing of some industries such as shipbuilding, milling and steel. Cardiff was designated as "city" in 1905. Like other major British cities, Cardiff has seen a visible decline in its traditional industries, which set the stage for new service industries to blossom in the economic scene of the city. English spoken in Cardiff has its

own distinctive features that set it apart from other English varieties in Wales. Cardiff English developed in tandem with the development that Cardiff witnessed in the nineteenth Migratory century. movements are considered one of the chief phenomenon that has had a role in the development of Cardiff English as the city has received swathes of migrants from different parts of the United Kingdom (e.g. Midlands) and Ireland (Collins & Mees: 1990).



Figure (1): Map of Wales displaying the geographic location of the city of Cardiff (Source www.wikimedia.org/)



4. Methodology

In this section, a brief account of the methodological procedures used in this study is given. This includes aspects of collecting and analysing the speech data for this study. In this study, a number of recordings were extracted and analysed for this purpose. The recordings were taken from IViE corpus (Intonational Variation in English, UK ESRC award R000237145). This corpus was compiled by Oxford Phonetic Laboratory and Cambridge Speech Centre (Grabe et al. 2001).

In the current study, twelve speakers of Cardiff English were chosen, equally divided by gender (six speaker per category, males and females). According to Grabe (2002: 343), the recording sessions of these speakers were conducted in the secondary schools of these participants. All the speakers recorded in this study come from a homogeneous background in terms of social class and age, i.e. lower class & young respectively. Recordings were done using a parallel set of tasks in data collection. These ensured obtaining comparable data representing five speaking styles. These involved two formal styles, namely reading list of sentences & reading Cinderella story. The

other three styles are informal ones and included free unstructured conversation where speakers discuss, in pairs, a given topic in a free manner. This is in addition to map task, and retelling a passage of Cinderella.

To help conducting this study, a preliminary piloting was conducted on the recordings of two speakers. The purpose of this procedure is to form some idea on what could potentially be factored in the investigation in

this study. Specifically, it helped in determining the forms as well as the contexts of t-glotalling in this variety. A preliminary analysis was also useful in ensuring the availability of sufficient amount of measurable tokens of /t/. Thus, the tasks that yielded zero instances of/t/ were ruled out of the analysis accordingly. As part of the analysis, PRAAT (Boersma & Weenink, 2009) was used in examining the audio files of the data. Extensively repetitive tokens such as (it) were not considered as including runs the risk of skewing the results of this study.

It was decided to measure 24 tokens of the variable per speaker. The pool of tokens



totalled 288 tokens for the speakers of both gender categories. The purpose of this is to make uncomplicated statistically-consistent inter-speaker comparisons. In terms of phonological constraints involved in t-glottalling, this study included tokens of /t/ in the following contexts: pre-vocalic, pre-pausal as well as word- final pre-consonantal. Examples of the tokens included in the analysis run as follows: but, bet, that, fat, white, thought, fought, midnight, foot. Mees and Collins (1999: 196) report that word-final /t/ is primarily realised as one of the following variants [t], [?] or [?t]. Another potential variant is an elided form (aka zero realisation). Mees and Collins refer to this variant being produced as a complete elision of /t/ or a weak production of it without a recognizable audible release. This study analyses three variants ([t], [?] and zero realisation) for each and in each context. To help perform a statistical analysis, results were transferred to an Excel spreadsheet.

5. Results

In this section, an outline of the main results of this study is given. It can be noticed from Table (1) and Table (2) below that speakers, regardless of their gender, were in favour of the standard non-glottalised [t]. Males realised this form with a proportion of (59%) 85 out of 144 tokens while feAbdulkareem Yaseen

male speakers had a percentage of 53% of this variant. A possible explanation for this pattern may have to do with the fact that this phenomenon of glottalised /t/ is less frequent with lower socio-economically classes (Mees & Collins 1999:195). As this phenomenon is viewed as a prestigious characteristic in the speech of Cardiff, it is very likely that these informants will have more glottalised forms in their speech by the time they move higher in the social class ladder. To test this result, A chi-square test was run. This revealed that the gender variable was not statistically-significant. The aforementioned tables reveal that female speakers used more glottalised forms

(38%) than male speakers of the sample who had 31% of this form in their speech. The proportion of the elided variant was relatively lower than that of the other two forms of /t/. Male and female informants of the sample had a percentage of 10% and 9% respectively.

Table (1): The use of the three forms by male speakers.

Forms		Percentage	Number of tokens
1	[t]	59%	85
2	[?]	31%	44
3	Elided	10%	15
			144

Table (2): The use of threeforms by female speakers.

Forms		Percentage	Number of tokens	
1	[t]	53%	76	



2	[?]	38%	54
3	ф	9%	14
			144

The glottalised variants accounted for 34% of the instances produced by speakers of both gender categories in both, formal and casual styles of speech. On the other hand, the standard released variant was produced in 56% of their speech. The occurrence of the elided variants accounted for just 10% for all speakers. However, a close look at the results obtained from informal speech data reveals a relatively different picture. Indeed, one can notice that t-glotalling is frequent in this speech style by all speakers. We can see from Figure (2) and Figure (3) below that female speakers had a

percentage of 71%, compared to 50% for their male counterparts.

Figure (2): The use of glottalised and non-glottalised forms by male speakers in informal speech style.

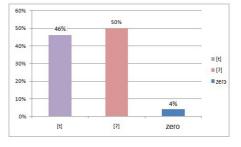
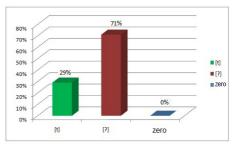


Figure (3): The use of glottalised and non-glottalised forms by female speakers in informal speech style.



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Results also show that /t/ in words such as *get ready* were categorically realised as glottalised. This finding supports Foulkes and Docherty (2007: 61) in their observation that it is now a rare case to hear a variant other than the glottalised one in this particular context.

The literature on the phenomenon in Cardiff, albeit not aplenty, can still provide some insights with which we can compare the results of the current study. Previous accounts (e.g. Mees,1983 & 1987) on glottalling in Cardiff provide such comparative reference points particularly in terms of the speech of lower class people. These studies accounted for three social class categories middle, lower and working class. Thus, this gives us the opportunity to compare the results of the current study particularly as regards lower middle class speakers. The literature has reported that glottalised variants of pre-consonantal /t/ have been more frequently realised by speakers of lower middle class particularly females in interview speech style. This was true given the increase i t had f r o m 30.8% in 1976 around to 47.6% five years later while their realisation of glottalised forms in pre-pausal contexts increased from 25.8% to 62.4% for the same time span. Thus, it can safely be said that glotalling has been a favourite form by females in Cardiff featuring in



an increasing base in their realisation of /t/ in both pre-consonantal and pre-pausal contexts. Moreover, a close look at the glottalised forms produced by males in the casual style shows that it was realised at a higher rate than the non-glottalised one, at 50% for the former and 46% for the latter. This finding indicates that the phenomenon of t-glotalling is making its way into the speech of males in informal contexts although they are still trailing behind their female counterparts. To test this finding statistically, A chi-square test was conducted to examine the gender-related discrepancy in informal style. The test revealed that this difference was not found to be statistically-significant.

The figures displayed in Table (3) and Table (4) demonstrate that the averages for glottalling in word-final, pre-consonantal contexts differ from those of the other contexts, i.e. word-final preconsonantal and pre-vocalic contexts. Speakers of both gender categories, males and females, realised the glottalised forms in higher rates in pre- consonantal contexts than in the other two contexts.

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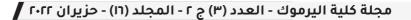
Table (3): Rates of all three variants in three contexts for male speakers.

Context	Non-glottal- ised	Glottalised	No realisation	Number of tokens
Pre-vo- calic	8 (73%)	3 (27%)	0	11
Pre-pausal	34(81%)	8 (19%)	0	42
Pre-conso- nantal	43(48%)	33(36%)	15(16%)	91
Total	85	44	15	144

Table (4): Rates of all three variants in three contexts for male speakers.

Context	Non-glottalised	Glottalised	No realisation	Number of tokens
Pre-vocalic	8 (53%)	7 (47%)	0	15
Pre-pausal	34(81%)	8 (19%)	0	42
Pre-conso- nantal	34(39%)	40(46%)	13 (15%)	87
Total	76	55	13	144

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6. Discussion of the results and some concluding remarks

Taking the results reported in the current study into account does enable us to make some further comments. T-glotalling appears to be a favourite feature more in the speech of females than males. Female young speakers appear to be leading the vanguard of change as regards this phenomenon in Cardiff. This finding lends support to previous studies on t-glotalling in Cardiff such as Mees 1987 and Mees & Collins 1999, which found similar patterns. Another study also had a similar pattern in Sandwell (Mathisen 1999). These accounts have found that t-glotalling is a favourite feature in the speech of female and to greater degree than their male counterparts particularly in urban contexts. In terms of class, Mees (1987) reported that glottalised forms were more frequent in use by middle class speakers than those of working class background. Particularly, Mees reported that this feature is favourite in the speech of young female speaker with middle class background. Taken together, these findings prove the 'change from above' described by Labov (1990: 215) whereby females are above men in welcoming prestigious forms.

What the results of the current study also show is that the patterns it obtained for glotalling in Cardiff are in line Abdulkareem Yaseen

with most previous accounts on the phenomenon which appears to be advanced in use by young generations. However, a caveat is in order here is that the current study did not employ comparable data from other age cohorts, (e g. older age brackets) to render a solid statement in this regard. Therefore, the statements remain, nevertheless, tentative pending more data from other age cohorts from Cardiff.

In terms of linguistic constraints, the current study has found that t-glotalling is most favourite in pre-consonantal contexts. Glottalised forms in this environment were produced in higher rates than in other environments considered in this study such as before a pause or a vowel. This finding provides fresh insights on the phenomenon as it differs from those reported by Mees and Collins (1999: 198) who reported that glottalised forms occur more frequently when preceded by a vowel than other contexts.

The current study can also report another noteworthy finding as regards the forms of /t/ in Cardiff, namely the elided variants. The study found that this variant was realised at a percentage of 10% of the speech of recorded speakers of both gender categories. Elided form was found to be a categorical form certain contexts such as when /t/ is followed by a voiceless bilabial stop /p/ as in *meet* prince.

In a nutshell, this study has



sought to utilise naturally occurring data to assess one of the most advancing phonological innovations in British English. Particularly, it sought to capture the behavioural patterns of t-glottalisation structurally and socially. Results appear to go hand in hand with previous studies in some respects while providing fresh insights in others.

Glottalisation in Cardiff appears to be a feature led by women who find it as prestigious variant of /t/, chiefly in their informal speech. On the structural level, it was found that pre-consonant environments appear to be the favourite context where this innovative form is expected. Although it lends some good support to previous studies on the phenomenon in Cardiff and elsewhere, the current study remains tentative and preliminary in nature given the limitations it had. This necessitates taking the interpretation of the results of this study with caution. The study also provides other researchers with a window into conducting further studies that could track the advancement of this phenomenon in Cardiff as well as other varieties of English in the British Isles.

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