"Hooked on Celebri[ɾ]y": Intervocalic /t/ in the Speech and Song of Nina Nesbitt

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T-glottaling in Scotland has been studied as a salient linguistic variable, which has been found to index (in)formality, socio-economic class, and region, among other speaker and situational characteristics. Realisations of /t/ have also been studied in a musical context, where they have been found to be linked to genre and identity. This study examines Scottish singer-songwriter Nina Nesbitt, and her realisations of the intervocalic /t/ variable in both speech and song. She shows high rates of t-glottaling in speech, but within song, her realisations vary; the only significant predictor of /t/ realisations is song genre, where pop and folk pop songs favour [ɾ] realisations and acoustic songs favour the [t] realisation. T-glottaling is uncommon in all genres of her music. I argue that this variability is a strategy employed to create coherent musical identities that situate Nesbitt within the musical marketplaces in which she performs.

1 Introduction

In recent decades, the issue of how musicians employ language to create marketable and public personae in their music has seen growing interest and research. Much of this has explored the way in which non-American performers employ American pronunciations in their music, possibly in order to ensure that they conform to the domination of the music industry by American musicians (Trudgill 1983, 1997, Bell 1984, Simpson 1999, Krause and Smith 2017). Others have investigated the related phenomenon whereby performers include localised variants as a way of indexing their alignment with their local communities or an anti-homogenous standpoint in their music (Krause and Smith 2017, Beale 2009). Finally, recent scholarship has begun to explore the appropriation of African American Language (AAL) in hip hop, rap, and pop, particularly by white performers who do not use AAL in their native English varieties in order to create personae associated with "street cred" (Eberhardt and Freeman 2015, Cutler 2014, Davis 2017).

Despite this burgeoning field of inquiry, however, there has been little examination of the musical performances of Scottish artists. Published research at the time of writing has focused almost entirely on English and American singers (but see Bell and Gibson 2011), ostensibly due to the high concentration of musicians originating from these nations.

I aim to fill this gap in the literature by examining how Scottish singer-songwriter Nina Nesbitt produces word-medial and word-final /t/ in both speech and song. I will begin with a brief overview of the work on t-glottaling and /t/ realisations in music in the current literature, before examining the speech of Nesbitt in order to establish a baseline of /t/ realisations by the singer. I will then compare this baseline to her /t/ realisations in music. I find that Nesbitt has a high-rate of t-glottaling in her speech, but that she drops t-glottaling in her music in favour of the less stigmatised [t] and [ɾ] variants. I propose that this shift functions as a way of constructing coherent musical styles and adhering to supralocal standards.
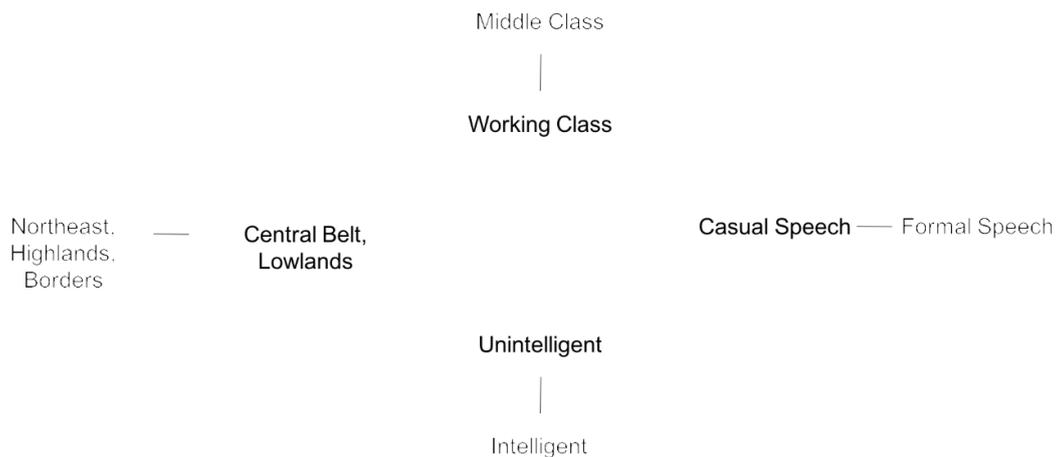
2 Background

2.1 T-Glottaling

T-glottaling, which refers to the replacement of /t/ in word-medial and word-final environments with a glottal stop, has long been stigmatised: it has historically been regarded as "slovenly" and "degenerate" (Wells 1982:409–410) and associated with the British working class (Milroy et al. 1994, Stuart-Smith et al. 2007). Geographically, it is commonly and historically regarded as a feature of London English (Milroy et al. 1994), and within Scotland, as a feature of the Central Belt, coastal, and low midlands' varieties of English (Wells 1982). The feature has long been described as originating within London working class English (Milroy et al. 1994), though recent scholarship has debated this assertion and instead posits a polygenetic origin (Schleef 2013), with roots in both Scotland and England.

Despite the aforementioned negative associations with the working class and a lack of education, however, contemporary investigations have indicated that t-glottaling is becoming more common across the UK. For example, Smith and Holmes-Elliot (2017) found t-glottaling rates among older generations in Buckie, Scotland, varied based on extralinguistic factors such as age and t-glottaling rates of interlocutors, but that these effects were neutralised in younger generations, resulting in higher, more stable rates of t-glottaling across said factors. Similarly, Stuart-Smith et al. (2007) found that t-glottaling rates were higher among younger Glaswegians than

older ones. South of the border, Fabricius (2002) claims that t-glottaling is finding increased usage and acceptance in Received Pronunciation. These findings taken together indicate a general shift towards glottal replacement in the UK.

T-glottaling has also been examined as a feature of intraspeaker variation, for example by Kirkham and Moore (2016), who found that former Labour leader Ed Miliband variably employed [t] and [ʔ] realisations in different speeches as a way of indexing alignment with different audiences. Such indexical uses are linked to the various associations speakers and listeners have with t-glottaling, as outlined below. Also in the vein of intraspeaker variation, previous research into the topic has indicated that rates of t-glottaling decrease in careful speech (such as read words) when compared to conversational speech (Schleef 2013, Stuart-Smith et al. 2007). Contrastingly, Miller (2019) reports no significant variation in /t/ realisations in the speech of Scottish television host Lorraine Kelley when only social factors are concerned, though she does find linguistic-internal factors to be significant. She posits that Kelley is "controlling her speech style" across interview contexts (Miller 2019:21).

Figure 1: Proposed indexical features of word-medial, intervocalic, foot-initial /t/ realisations. The outer characteristics are indexed by the [t] variant, whilst the inner characteristics are indexed by the glottal variant.

The aforementioned social factors and patterning with regard to t-glottaling in Scotland are summarised in the indexical field presented in Figure 1, designed in the style of the indexical fields of Eckert (2008). Those characteristics situated further from the centre (in grey) reflect associations with the supralocal [t] variant, whilst those on the inside are associated with the glottal variant (in black). Note that because the regions highlighted here are Scotland-specific, this field does not necessarily apply for all varieties of British English. Moreover, not all instances of t-glottaling will reflect each of these associations: the field is meant as a visual aid to the possible associations which may occur with t-glottaling or [t]-retention, which may co-occur in any number of combinations.

T-glottaling is also described as being constrained by linguistic-internal factors, though these investigations have been principally concerned with phonological constraints. Previous studies have suggested that t-glottaling is least common and most stigmatised in intervocalic contexts, onsets excluded (Romaine 1975, Stuart-Smith 1999), though some regional variation has been observed. T-glottaling appears to be most common in pre-consonantal positions, followed by pre-pausal and finally pre-vocalic positions (Straw and Patrick 2007), though again some variation is observed (cf. Fabricius 2002, Macaulay 1977, Romaine 1975, Stuart-Smith 1999). Syntactically, Schleef's (2013) examination of t-glottaling in London and Edinburgh indicated that t-glottaling is least common in nouns and adjectives, whilst function words, progressive, and past tense forms favour glottaling. Schleef (2013) also points out that little work has been done into this particular constraint, and that more investigation is needed.

2.2 Realisations of /t/ in Musical Identity

With respect to constructions of identity by British musicians in their sung productions, I draw on the work done by Trudgill (1983, 1997), who posited that British pop singers Americanise phonetic features of their language in

song in order to situate themselves within the canon of the American-dominated music industry. He notes, however, that their implementation of these features may be "variable, irregular, and inconsistent" (Trudgill 1997:257). One such feature is that of foot-initial intervocalic /t/, when preceded by a stressed syllable. This is commonly produced in varieties of British English as either a [t] or [ʔ], but in music it is often realised as a voiced alveolar tap [ɾ] (Trudgill 1997:251). The cause for this modification, he claims, is a desire to align themselves with Americans, who have long dominated the music industry. Trudgill (1997:254) further states that imitation focuses on those "who do it best and who one admires most". These ideas are reiterated by Bell (1984:194), who states that "the Americanization of British rock lyrics bears all the hallmark features of outgroup referee design".

Trudgill also finds that the English band The Beatles have a marked decrease in intervocalic flapping over time, reflecting a shift away from an American-centric pop music industry and thus from pressure to conform to American standards of music (Trudgill 1983). This is taken as a reflection of the so-called "British Invasion" that occurred in pop music during the years in which The Beatles were active, in part due to the popularity of The Beatles themselves, positioned within Le Page's (1978) notion of a lessened motivational strength. Finally, Trudgill observes a marked difference between the Americanisation of singing style by pop artists and the singing style of "punk-rock" artists, who show less employment of Americanised styles and a greater introduction of features from "low-prestige South of England varieties" (Trudgill 1997:262). This, Trudgill (1997) asserts, is a result of conflicting motivations (Le Page 1978), resulting in a style of music that seeks to both imitate the working class English varieties and appeal to the American-dominated music industry.

Building on this, Simpson (1999:351) takes a critical look at Trudgill's work, commenting on the singing of a variety of British artists whilst incorporating musical and sociological theory. Based on a longitudinal sketch of the ways in which singing styles have changed over the second half of the 20th century, he argues that, in addition to a desire to belong, other factors such as topic of discourse, intended audience, and identity of the singer need to be considered when such variation is observed and analysed. More recently, Beal (2009) looks at the Sheffield indie band Arctic Monkeys, who she claims use Sheffield-specific phonological traits and slang in order to index not only locality but an anti-establishment identity. Using Simpson's (1999) idea of musical multidimensionality, she posits that this is related to the fact that the group does not produce pop music, but "indie-alternative" music, and that these indexical features help distance them from mainstream music. This ties in with Eckert's (2008:464) notion of the indexical field, which she describes as a fluid "constellation of meanings that are ideologically linked". She asserts that a single linguistic variable can index a variety of meanings in combination with other linguistic variables that point the listener to an endpoint construction of identity.

Worth noting here, though not related explicitly to the intervocalic /t/ variable at the centre of the present study, are the findings of Krause and Smith (2017), who examined the relationship between genre, conceptions of Scottishness, and the realisations of postvocalic /r/ in the music of two Glaswegian indie bands. This work found that for one singer, there was a higher incidence of rhoticity in his music when compared to his speech, though the same was not true for the other singer examined.

2.3 Nina Nesbitt

This study looks at Nina Nesbitt, a Scottish singer from Edinburgh born in 1994. She grew up in Livingston and Balerno as a member of the working class: her father was an electrician and her mother was a Swedish immigrant, who worked in childcare (Edinburgh News 2018). This background is something she openly discusses in both her music and interviews. She rose to fame in the early 2010s after performing alongside Ed Sheeran on his European tour, and her status as an international pop singer has raised her into the New Middle Class (Dickson and Hall-Lew 2017). Musically, Nesbitt's discography spans the continuum between acoustic and pop music, with her earlier work being more acoustic and her more recent work being contemporary pop (see Section 3.2 for a fuller discussion of her genres). It is crucial to make these distinctions if we are to examine her music utilising Beal's (2009) claim that genre and sociolinguistic indexicality interact in music.

2.3.1. The /t/ Variants

Three variants of the intervocalic /t variable are examined in this paper. The first of these is [t], an alveolar stop. Figure 2 provides an example of this variant from Nesbitt's speech. More common than the [t] variant in Nesbitt's speech is the glottal stop variant [ʔ], which involves a complete closure of the glottis. The glottal striations in Figure 3, also taken from Nesbitt's speech, are indicative of such a variant. Finally, we have the [ɾ] variant, known as the alveolar tap. Nesbitt does not produce this variant whilst speaking, but it contrasts distinctly with the other two variants in that it is voiced.
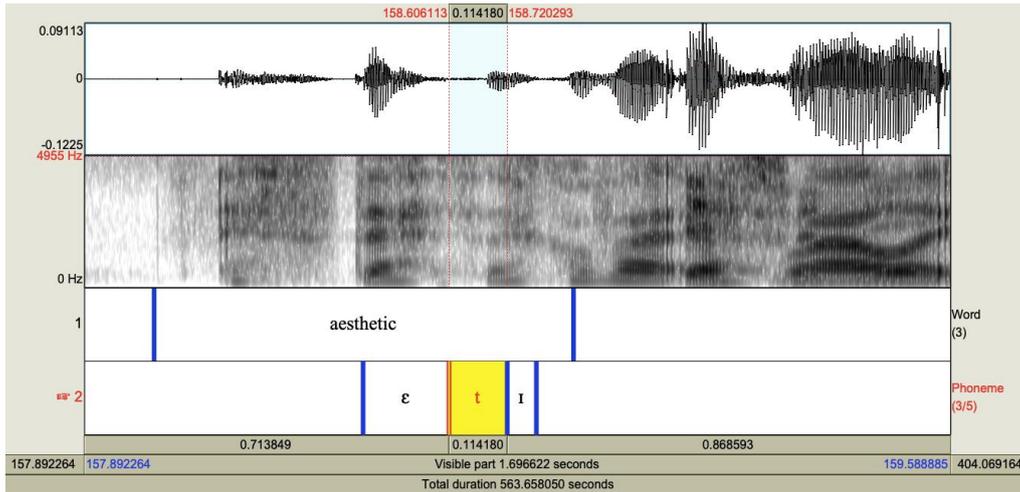
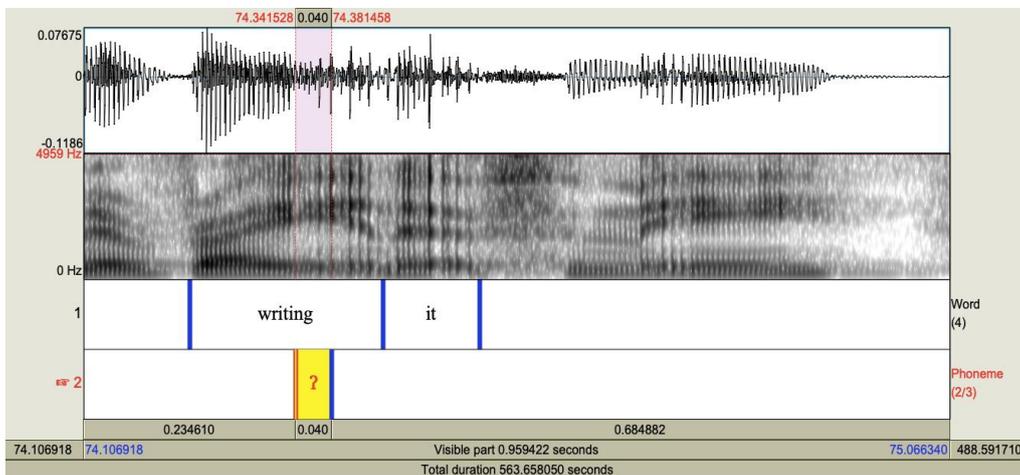**Figure 2:** /t/ as [t], without glottal replacement, in the speech of Nina Nesbitt.

Figure 3: /t/ as [ʔ], with glottal replacement, in the speech of Nina Nesbitt.

3 Methods

3.1 Nesbitt in Speech

Speech data was obtained from four publicly available interviews on YouTube. These interviews were selected for their availability as well as the variety of their interlocutors: one interview was conducted in Scotland by a fellow Scottish woman, one in London by a Southern English woman, and two in the United States by the same American man. The tokens were coded for syntactic category, topic of discussion, interlocutor, and number of syllables. A binary distinction in variants was made between "t" and "glottal" realisations, as taps are not present in her speech. A total of 203 tokens were collected from this data.

Interrater reliability was checked by an initial coding and then a secondary coding of the same data two weeks later by the same author (as in Fabricius 2002), resulting in a 93% agreement between rounds with regards to the /t/ realisations. Disagreements were resolved by bringing in a second coder, who was also a student linguist.

3.2 Nesbitt in Song

For the analysis of Nina Nesbitt's /t/ realisations in music, almost the entirety of Nesbitt's discography available on the UK Spotify music service as of June 1st 2019 was coded. Where songs were re-released across multiple years (without changes in the mix), only the first chronological release was used. Covers and songs where Nesbitt's vocals are layered on top of other artists were excluded, due to the difficulties in analysis that they presented. This resulted in 38 songs being analysed.

For these coded songs, all tokens of word-medial intervocalic /t/ were coded, as this is the environment which Trudgill (1983) points out as being characteristic of British pop singers modifying their speech. This coding was done auditorily. Where lyrics were repeated, for example in choruses, the token was only counted again if there was some indication that the line had been recorded separately from the previous token, for example, if there was a change in melody or an alteration to surrounding lyrics. This provided a total of 80 tokens. These tokens were coded with more specificity than the spoken tokens, given the importance of the flap in the discussion of phonological realisations of /t/ in music. This resulted in a ternary distinction between variants 'glottal', 't', and 'flap'.
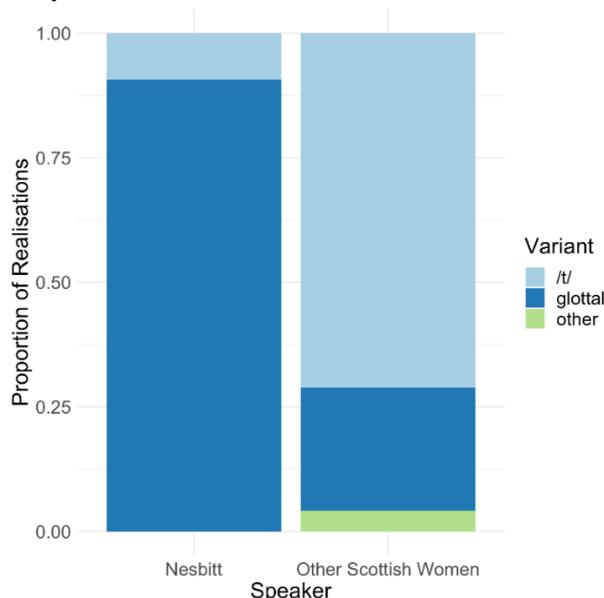
These tokens were also coded for year of release, syntactic category, topic of song, and genre. The latter two variables merit some discussion. Topics were broadly defined as 'love', 'childhood', 'fame', 'self', and 'world', the last two of which refer to music which is introspective without overlapping with any of the other categories, or music that discusses the current state of global affairs, respectively. In the case of genre, a ternary distinction was made between 'acoustic', 'folk pop', and 'pop' songs. The acoustic songs featured only piano or guitar, whilst the folk pop songs incorporated additional instruments (usually drums) and melodies more like those of traditional pop music. When there was an incorporation of digital sounds or electronic production, the songs were deemed 'pop'. Due to the nebulous nature of musical genres, these operationalisations were made by the author with the help of musician consultants.

As with the speech tokens, interrater reliability was checked by an initial coding and then a secondary coding of the same data two weeks later, and this resulted in 98% agreement between rounds. All data for the project was mapped and analysed in R, including graphs and statistical tests (R Core Team 2013).
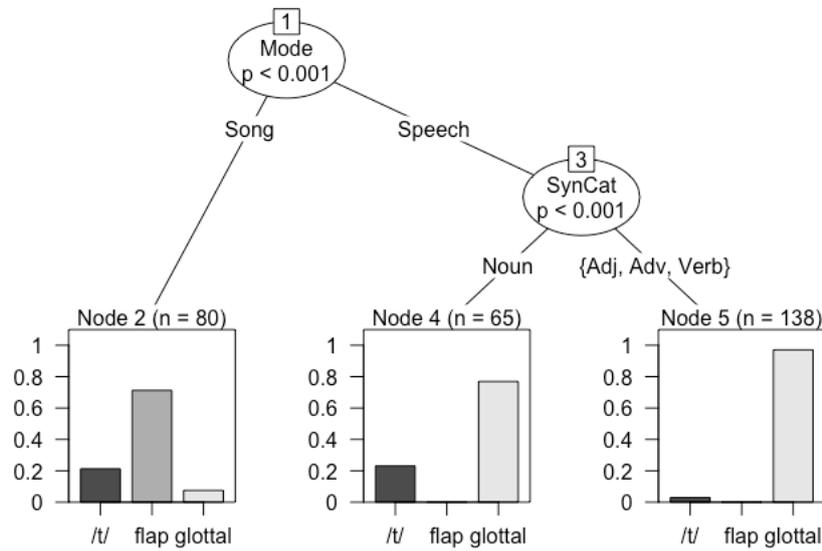
4 Results

4.1 Nesbitt in Speech

Nesbitt's rates of t-glottaling in speech are very high in the word-medial intervocalic position: roughly 91% of these tokens are realised as [ʔ], whilst the remaining 9% are realised as [t] (Figure 4). There are no instances of intervocalic [ɾ] appearing anywhere in her speech, despite its high frequency in her pop music (see Section 4.2). Furthermore, by comparing Nesbitt's rate of intervocalic t-glottaling to the other famous Scottish women examined in Hall-Lew et al. (2019), we can establish Nesbitt as a frequent employer of t-glottaling in this position, even when compared to other women (Figure 4). Only Tunstall and Boyle come close to Nesbitt, t-glottaling more than 75% of the time (75% and 82%, respectively). We can also see that Nesbitt's use of t-glottaling is higher than the average across all the famous Scottish women examined in Hall-Lew et al. (2019), where the average speaker t-glottals intervocalically less than 25% of the time.

Figure 4: Nesbitt's intervocalic /t/ realisations in speech, compared to the women from Hall-Lew et al. (2019).

Recursive inference testing (Hothorn et al. 2006) of linguistic mode, syllable count, and syntactic category reveals that, in addition to a difference between speech and singing, Nesbitt's realisation of /t/ in speech is partially conditioned by the syntactic distribution of the token (Figure 5). Nouns are more likely to resist t-glottaling than
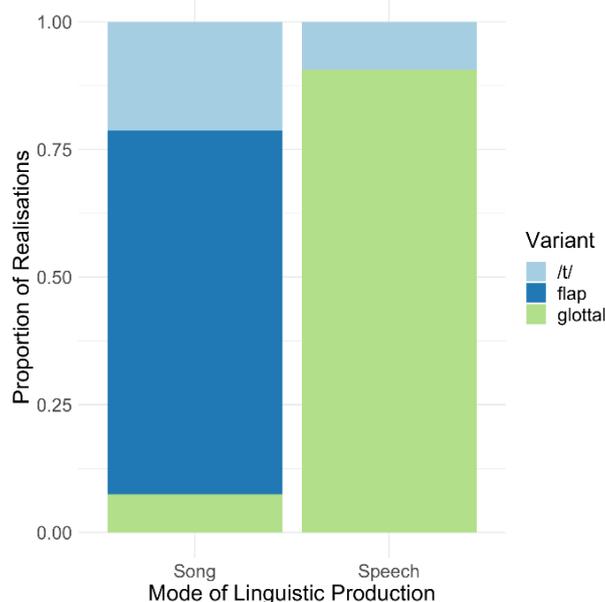
adjectives, adverbs, and prepositions. This is partially consistent with Schleef's (2013) finding that nouns in Edinburgh are less likely to feature t-glottaling, but the high rates of t-glottaling in Nesbitt's adjectives run counter to this.
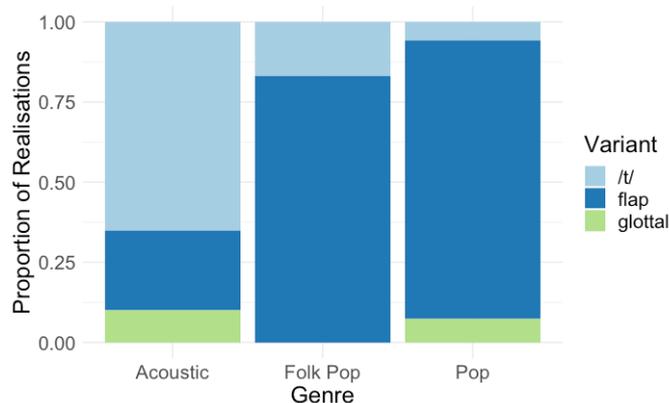

Figure 5: Recursive inference testing revealing influencing factors on Nesbitt's intervocalic /t/ realisations in both speech and song.

4.2 Nesbitt in Music

Turning to Nesbitt's /t/ realisations in her music, an entirely different pattern emerges: one whereby t-glottaling's occurrence is diminished significantly, and where [t] and [ɾ] realisations become more prevalent (Figure 6). There is a large difference in /t/-realisations between Nesbitt's song and speech, and a chi-square test confirms that this difference is statistically significant ($p<0.001$). However, we should note that this data masks an effect of genre (Figure 7), which demonstrates that the [ɾ] variant is most common and most dominant in the 'folk pop' and 'pop' genres. These genres make up the majority of the songs in the dataset.
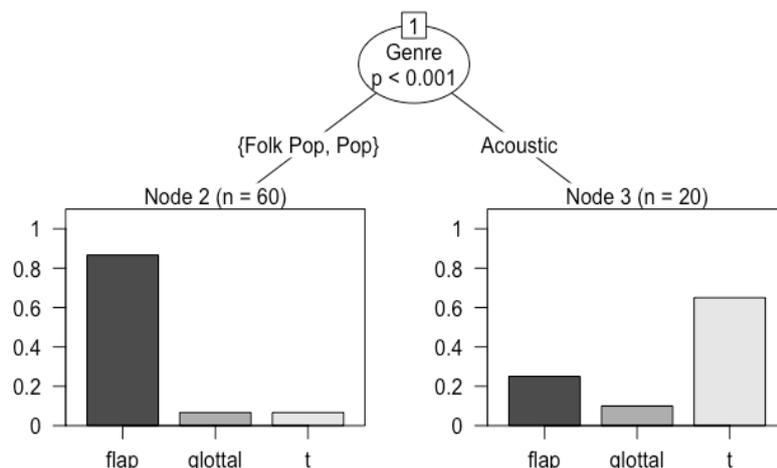

Figure 6: Nesbitt's intervocalic /t/ realisations by mode of production.

Figure 7: Nina Nesbitt's production of intervocalic /t/ in music, by genre of song.

Recursive inference testing (Hothorn et al. 2006) which examines syllable count, topic of song, syntactic category, and year of release reveals that the only significant predictor for the realisations of the /t/ variable is in fact genre (Figure 8). This is included to highlight that there are small but insignificant differences in /t/ realisations between pop and folk pop music, as well.

Figure 8: Recursive inference testing revealing influencing factors on Nesbitt's intervocalic /t/ realisations.

5 Discussion

5.1 Nesbitt in Speech

As seen in Section 4.1, Nesbitt makes extensive use of intervocalic t-glottaling in her speech. This is perhaps unsurprising, given her young age and working class upbringing (Stuart-Smith et al. 2007, Smith and Holmes-Elliot 2017). It is possible that Nesbitt is participating in a language change towards t-glottaling that has been observed in both Scotland and in England. This is also suggested by the fact that Nesbitt represents one of the youngest speakers in the Hall-Lew et al. (2019) sample, and that her rate of t-glottaling is significantly higher than the average woman in the dataset.

A more fine-grained analysis of the data is necessary to tease out the relationship between this purported language change and the indexical features of the glottal stop that have been described, but the data suggests that Nesbitt's realisations of the /t/ variable are not significantly affected by external factors such as the nationality or t-glottaling habits of her interlocutors; a Fisher's exact test for the effect of interlocutor nationality shows no significant effect (p=0.27). Moreover, it is unlikely that Nesbitt is indexing herself as unintelligent, another possible indexical value of t-glottaling (as seen in Figure 1). It is possible that her use of t-glottaling is an index of her working class background or comfortable and casual speech styles in the interviews, but given her tendency to resist other forms of linguistic-external factors (i.e., interlocutor t-glottaling rates, nationality of interlocutor, etc.), this seems unlikely.

With this in mind, I argue that Nesbitt is likely firmly situated on the path of the observed language change towards t-glottaling observed in the United Kingdom (Smith and Holmes-Elliot 2017, Stuart-Smith et al. 2007,

Fabricius 2002). For the sake of the present study, however, which is more principally concerned with these realisations in Nesbitt's music, and how they differ from the same realisations in her speech, it will suffice to say that Nesbitt's t-glottaling rates in speech are consistently high, and seemingly unaffected by external factors.

However, it is worth reiterating that Nesbitt's speech makes use of a slightly higher rate of [t] realisations in nouns, consistent with the findings of Schleef (2013). However, more tokens are needed in the smaller syntactic categories (e.g., adverbs) and more granularity in the kind of verb form is needed to draw more extensive conclusions on the role of syntactic category in /t/ realisations.

5.2 Nesbitt in Song

Despite the observations presented in Section 5.1, there is a marked difference between Nesbitt's realisations in speech and song. She uses very little word-medial, intervocalic t-glottaling in her singing, compared to her high rates in speech. She instead opts for the [t] and [ɾ] variants. Variation is also found within Nesbitt's music, in that her production of word-medial, intervocalic /t/ is sensitive to genre effects. Further testing found that her sung productions were not sensitive to other factors such as syntactic category or topic of song.

These genre effects may be explained by turning to a larger look at the international music industry, which has been historically American-dominated in terms of pop music, and whose effects on the sung realisations of British musicians have already been observed by other linguistic inquiries (Simpson 1999, Trudgill 1983). Music is also effectively a form of mass communication, as it is intended not only for the writers and performers, but also for the general public. This makes it susceptible to what Bell (1984:171) terms "the influence of the addressee", in this case the larger audience. If Nesbitt wishes to appeal to a broader audience, it is likely that her language will reflect this, even superseding her tendency to employ t-glottaling in her speech. Nesbitt employs the common American [ɾ] variant, noted by Trudgill (1997) as one of the prime candidates for Americanisation, in her pop and folk pop music. Importantly, she does this within a musical marketplace dominated by American influence, and so is using the [ɾ] variant indexically to establish an identity that is consistent with the mainstream pop music industry.

Notable within the song "The Moments I'm Missing" is a particular token of the word *thirteen*, which, whilst not part of the corpus studied here due to not being intervocalic, is unusual in that Nesbitt's realisation of the word contains a flap. This is despite the fact that the /t/ here would not typically be realised this way, even in American English, due to the fact that the /t/ is part of the stressed syllable, excluding this token as a candidate for flapping. This may be an instance of what Trudgill (1997:257) calls "imperfection in imitation", whereby a singer attempts to mimic American pronunciation in their singing, but is "irregular and inconsistent" in their attempts to do so. This seems consistent with the idea that Nesbitt is employing the [ɾ] variant as a way of establishing an American pop musical identity.

On the other hand, the music that has been operationalised as 'acoustic' in this study is markedly less 'pop' in nature, and features high rates of intervocalic /t/ being realised as [t]. This could be a strategy employed to index the music as existing outside of the pop musical marketplace. This is consistent with some findings of other examinations of non-pop music, which have found that regional or non-American features are more likely to be employed in these genres. Beal (2009), for example, on the basis of her analysis of the Artic Monkeys, asserts that non-pop genres such as indie or alternative are more likely to use regional features as a way of indexing an anti-establishment local identity. Similarly, within a particularly Scottish frame of study, Krause and Smith (2017), found that singer James of Glasgow-based indie band *The Twilight Sad* employed heightened rates of the tapped rhotic in postvocalic contexts, associated with working class Scottish speech (Stuart-Smith et al. 2007), in his music when compared to his speech.

Conversely, however, Krause and Smith (2017) also find that singer Craig of another Glasgow-based indie band *The Unwinding Hours* does not show a significant change in his realisations across speech and song with regard to the same variable. Whilst their findings are somewhat inconclusive, our analysis of Nesbitt's music here contributes to the line of inquiry and suggests that perhaps Beal was correct in her assertion that non-pop music, or music which exists outside of the standard pop industry musical marketplace, is more likely to incorporate features of local or regional speech.

This does not, however, explain why Nesbitt chooses to employ the [t] variant instead of her preferred glottal stop in intervocalic positions; rather, it simply provides an explanation for her avoidance of the American-standard [ɾ] variant. I argue that this is because whilst distinctly not pop in genre, Nesbitt's acoustic music is not of a variety that is linked with notions of local identity, such as indie (Beal 2009, Krause and Smith 2017) or hip hop and rap (Eberhardt and Freeman 2015). These genres lend themselves towards constructions of local identity that may be achieved through the use of salient sociolinguistic employments, including, but not limited to, sociophonetic variants that carry indexical meaning. Thus, the employment of the glottal stop is not called upon to assist in the construction of a local identity in this music. Moreover, avoidance of the stigmatised [ʔ] variant may also be a strategy employed to avoid alienating her audience, which is made up of fans from all 65 countries in which music-streaming service Spotify is available (Nesbitt 2018), and to whom the more standard [t] realisation may

be more comfortable or familiar. Similarly, as the glottal stop is stigmatised in a British context, it could be a conscious effort to avoid alienating this audience in particular. More data from more artists and genres, however, along with research into cross-border linguistic attitudes, is necessary to draw any strong conclusions about the relationship between musical genre and the employment of local, supralocal, and international variants.

6 Conclusion

This paper has shown clearly that Nina Nesbitt employs word-medial, intervocalic, foot-initial t-glottaling to a high degree in her speech, producing a glottal stop in more than 90% of such environments. This is also a comparatively high number when compared to the famous Scottish women studied by Hall-Lew et al. (2019), further solidifying Nesbitt's status as a consistent user of the variant. I suggest that Nesbitt's t-glottaling may reflect a wider language change that has been reported in Scotland (Stuart-Smith et al. 1999, Smith and Holmes-Elliot 2017).

In her music, however, Nesbitt's rate of t-glottaling in this environment reduces drastically, and she replaces these glottal stops with [t] and [ɾ] variants. When we examine these realisations in more detail, we find that they are predicted by the genre of the songs in which the token appears: [t] appears in her acoustic music, whilst [ɾ] appears in her pop and pop folk music. With regard to the [ɾ] variant's appearance in pop music, I argue that this is the result of a desire to conform to standards that are present within the pop musical marketplace, which has been historically dominated by American musicians and standards. On the other hand, I posit that Nesbitt's [t] employment in her acoustic music is a strategy used to construct a non-mainstream musical genre, without producing the stigmatised glottal stop in order to avoid negative reception within her British fanbase.

Future research into the relationship between place identity (in particular, Scottishness) and musical genre would do well to examine a range of musicians, variables, and genres, in order to establish whether or not the patterns suggested by the findings of this paper and that of Krause and Smith (2017) hold true when examined on a larger scale.

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