

Phonological merging of front vowel monophthongs and diphthongs in New Zealand English televised media: The case of *Shortland Street*

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Phonological merging of the front-vowel monophthongs [ɛ]/[ɪ] and diphthongs [eə]/[ɪə] is a relatively recent development in the history of New Zealand English (NZE), reaching the level of speakers' awareness only in the past forty to fifty years (Bayard 1995, Gordon et al. 2004, Gordon and Maclagan 2001). Maclagan and Hay (2007) argued that contemporary NZE arose out of general raising in the phonology, such that words like *dress* now sound like [drɪs] and *square*, like [skwɪə]. It has been demonstrated that phonological merging in NZE follows Labov's Principles of Change (c.f. Cheshire 2004), with women on the forefront, using raised variants (merging) more frequently than men (Gordon and Maclagan 2001, Maclagan and Hay 2007, Woods 1997). Since speakers became aware of this aspect of NZE, performers on radio, stage, and television began reducing their use of Received Pronunciation and opted for a more New Zealand vernacular (Bayard 1995). Indeed, as Tagliamonte and Roberts (2005) showed, the use of language on television can accurately reflect concurrent changes in the language of the speech community. Phonological raising in mid-to-high front vowel monophthongs and diphthongs was investigated in the long-running New Zealand medical drama, *Shortland Street*. Approximately 800 tokens (704 monophthongs and 80 diphthongs) from actors Olivia Tennet (b. 1991) and Amanda Billing (b. 1976) were collected from early 2008. The rate of monophthong raising was 6% – a rate significantly less than conversational speech (50-80%) – and all examples of diphthongs were categorically mid-vowels. Although raising is resisted on *Shortland Street*, when compared to Amanda, the younger Olivia raises more frequently. It is argued that Olivia's and Amanda's speech is a product of performance, and hence, the actors must be aware of NZE forms in order to resist them.

Keywords: New Zealand English; Phonological Merging; Phonological Raising; Front-vowels; Televised Media; *Shortland Street*; Goldvarb.

1 Introduction

Gordon and Maclagan (2001: 215) explain that New Zealand undergraduate linguistics students often confuse the transcriptions for word pairs like *fear* and *fair* and *sheer* and *share*. This anecdote highlights the situation of front vowel raising in New Zealand English (NZE), the variety of English spoken in New Zealand. Raising in NZE has been in development since the early 1900's (Bayard 1995, Gordon, Campbell, Hay, Maclagan, Sudbury, and Trudgill 2004 [henceforth, Gordon et al. 2004], Gordon and Maclagan 2001, Maclagan and Hay 2007, Woods 1997). Today, raising embodies the majority of speakers' speech, accounting for 50-80% of their utterances (*ibid.*). Despite the long history of development, speakers and listeners were not aware of front vowel raising until quite recently, approximately 30-40 years ago (Gordon and Maclagan 2001: 216). After the process was recognized, New Zealanders began accepting this unique aspect of their phonology with pride (Bayard 1995, Glass 2007). Most notably, television and radio personalities (i.e. performers and reporters) are increasing their use of NZE, whereas previously, a standardized Received Pronunciation was the norm (cf. Glass 2007).

In this paper, I present the results of the investigation of a sample of front vowel raising in the long-running New Zealand television series, *Shortland Street*. *Shortland Street* is produced and broadcast in New Zealand. Because of its home-grown background and the surge of front vowel raising in NZE, it is expected that speakers on *Shortland Street* will use NZE-characterized speech. On the other hand, *Shortland Street* is a performance, and the actors on the program augment their phonological choices to accomplish various goals. The resulting tension between "real speech" and "performance speech" will be explored. In the end, it appears that the latter wins out.

The development of raising in NZE begins with its history of development (sec. 1) followed by an overview of its phonological features (sec. 2). Next, previous research (sec. 3) and the current study (sec. 4) will be outlined in detail. The methodology (sec. 5) will then be presented. The results section (sec. 6) reviews the distribution of front vowel raising on *Shortland Street* as well as possible conditioning factors. A detailed discussion on "performance speech" (sec. 7) and possible directions of further study (sec. 8) conclude the paper.

The following research questions will be addressed:

- (i) How accurately does New Zealand televised media – specifically, the drama *Shortland Street* – reflect NZE vernacular?
- (ii) What is the rate of front vowel raising, and the status of merging, on *Shortland Street*?

1.1 History of NZE

Many theories have been put forward with regard to the origins of NZE. One of the most enduring of these proposals is that NZE developed from Australian and British English. The historical and linguistic connections that NZE shares with

these varieties are well recognized in both the academic and general communities (cf. Bayard 1995, Gordon et al. 2004: 74). However, the socio-political boundaries between New Zealand and Australia are deeply entrenched, and it is unlikely that New Zealanders would aspire toward Australian favour by adopting their linguistic norms (Bayard 1995; but cf. Gordon et al. 2004: 74). Second, linguists publishing research in the early nineteen-hundreds had suggested that NZE developed from Cockney English (Bayard 1995, Gordon et al. 2004: 71-72). Such assertions may stem from a stigmatized attitude toward, or from ignorance about, New Zealand and NZE. Gordon (Bayard 1995: 43-44) pointed out several embarrassingly obvious observations which contradicted this theory. For example, in order for NZE to have developed from Cockney English, it would need to be the case that the majority of immigrants to New Zealand emigrated from Cockney neighbourhoods in England. On the contrary, immigration to New Zealand was widespread across England and other UK countries, like Ireland and Scotland (Gordon et al. 2004: 40-41). Finally, contemporary research has focused on the origins of NZE as a result of dialect mixing or as a result of formation of a new dialect (Gordon et al. 2004). Dialect mixing differs from the above account in that, in dialect mixing, elements from several dialects converge into a new “mixed” dialect. Evidence for dialect mixing is found in tracing the heritage of linguistic features in NZE to the international communities from which they originated. According to new dialect formation, on the other hand, NZE developed along its own trajectory, subject to its own linguistic and social trends. Identifying these factors is a main occupation of sociolinguistics, an area to which we turn our attention in the following section.

1.2 The linguistic variable

NZE is easily recognizable by its raised front vowels (Bayard 1995, Gordon et al. 2004, Woods 1997). Over time, front vowels have raised into and invaded the phonological space of higher vowels, following a track of [æ] → [ɛ] → [ɪ] → [ɨ] (fig. 1). Examples of front vowel raising are illustrated in (1)-(2):

- (1) a. *Olivia Tennet* on *Shortland Street*, episode 3908:
I wanna stay in one place, to go to school, to have two parents, to have friends.
[fɹɪndz]
- b. *Olivia Tennet* on *Shortland Street*, episode 3903:
She'd be in bed all day getting better.
[bed] [get^hɪŋ] [bet^hə]
- (2) a. *Amanda Billing* on *Shortland Street*, episode 3946:
Not drive and endanger yourself and everyone else on the road.
[ɪvɹiwʌn]

- b. *Amanda Billing* on *Shortland Street*, episode 3903:
 I have said yes.
 [sed] [jɛs]

The sociolinguistic motivation behind raising, its locality of origin within the phonological space of NZE, and whether movement is prompted by a push- or pull-chain (MacLagan and Hay 2007: 2) are issues that are beyond the scope of this article. However, evidence for chain shift appears to point in the direction of a push (*ibid.*) Woods (1997: 107), for example, argues from diachronic evidence (collected from two generations of a New Zealand family) that [æ] raising was in advance of [ɛ] raising; this finding suggests a push-chain. MacLagan and Hay (2007: 20), who show that for many young speakers raising of [e] is in advance of [i], seem to point in the same direction.

The encroaching of lower front vowels into higher front vowels' spaces creates a situation of merging: a phonological change by which sound A becomes indistinguishable from sound B. Examples of NZE mergers are informally referred to as the TRAP/DRESS ([æ]~[ɛ]), FLEECE/DRESS ([i]~[ɛ]), and HERE/HAIR ([iə]~[eə]) mergers, respectively; and movement of [ɪ] into central position, [ɨ], is referred to as the KIT chain. Gordon and MacLagan (2001: 231) describe several types of mergers: approximation, transfer, and expansion. In approximation vs. expansion, the combined phonological space following merging is either smaller or larger, respectively. Merger by approximation takes longer to reach completion than expansion (*ibid.*). However, examples like the HERE/HAIR merger (Gordon and MacLagan 2001, MacLagan and Hay 2007, Woods 1997) appear to suggest that post-merge, NZE is retaining small pockets of distinguishable space, a situation reminiscent of merger by approximation (Gordon and MacLagan 2001: 232).

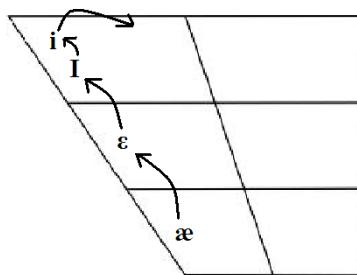


Figure 1. Phonological front-vowel space of NZE.

2 Previous research on NZE

Several trends have emerged from sociolinguistic investigations of NZE. Research has revealed progressive raising of front-mid monophthongs and diphthongs, a situation which is leading toward (and may have already produced) merging between the front-mid and front-high vowels. Furthermore, relationships

have been consistently demonstrated between raising and age, sex, social class, and style. Refer to Bayard 1995 and Gordon et al. 2004 for a review.

Recently, Maclagan and Hay (2007) investigated the phonetics of the NZE front vowels [i] and [e]. Eighty individuals were selected from the Origins of New Zealand English (ONZE) corpus and were grouped according to age, sex, and social class, and thus represent speakers from all combinations of social backgrounds. The authors used speech samples from the Word List component of the ONZE and analyzed individual and group F1/F2 vowel spaces. It was found that young speakers and female speakers had higher [e] frequencies than did older speakers and male speakers. These results neatly follow Labov's principles of change (Cheshire 2004), in that young women are leaders in language change. In some extreme cases (usually involving young women), the frequency for [e] was even higher than [i]! In these situations, diphthongization of [i] was more likely to occur. Furthermore, the authors found that short [i] (i.e. preceding a voiceless consonant) was more likely to be diphthongized. Maclagan and Hay (2007) argue that diphthongization is a response to merging of [i] and [e] within the same vowel space. In order to maintain contrastivity between the two phonemes, speakers are beginning to diphthongize [i]. Diphthongization in the context of short [i] further supports this theory: because short [i] is intricately embedded within the vowel and durational space of [e], it is more likely to be diphthongized than long [i], a response which accords with contrast maintenance. Hence, Maclagan and Hay's (2007) study covers much ground: it demonstrates a sociolinguistic connection between age/sex and raising of [e] and provides evidence that the mid-front and high-front vowels of NZE are merging.

Research on front vowel diphthongs in NZE has uncovered similar results. Gordon and Maclagan (2001) discuss the history of the diphthongs [eə] and [iə], pointing out that although raising of [eə] was present in the 1940's and has increased steadily since, speakers only became aware of this phonological change recently, since the late 1970's (Gordon and Maclagan 2001: 216-217). Such progress is typical of change from below. To determine the character of these changes in real-time, Gordon and Maclagan (2001) conducted a longitudinal study of the diphthongs [eə] and [iə] in the phonology of 14-year-old students. The authors constructed a list of test sentences, each containing an example of each diphthong (e.g. *Come HERE and I'll brush your HAIR*). The list was administered to a sample of students on four occasions, each five years apart, between 1983 and 1998. Over time, variation between the realization of [eə] or [iə] reduced significantly, and in the latest sample, the occurrences of the [eə] variant were nearly negligible. Furthermore, the direction of the merger had clearly shifted from [eə] to [iə]. These results indicate that raising has increased over time and that the change is occurring rapidly. Furthermore, the loss of distinction between the two diphthongs is evidence that they are merging. Like Maclagan and Hay (2007), Gordon and Maclagan (2001) identified an effect of sex, such that the female students began merging the diphthongs, and did so more frequently, before the male students. A small effect of social class was also observed, which the authors attribute to a recent influx of Polynesian students. In

addition, several internal factors were found to contribute to raising of [eə]. For example, when the context is stressed, the realization is more likely to be the raised [iə] variant (Gordon and MacLagan 2001: 229). In all, it appears that the front vowel diphthongs follow the same processes of change and sociolinguistic relationships as the front vowel monophthongs.

3 Current study

The above research paints a comprehensive picture of NZE. However, few studies have investigated the form of NZE in media like television and radio. Although one would assume that programs produced in New Zealand would employ some form of NZE (i.e. either a vernacular or formal style), the situation at hand is in fact more complicated. Radio hosts and news anchors have historically reserved a Received Pronunciation (RP) for broadcasts (Glass 2007). This linguistic style was likely adopted from the long English tradition of using RP, also recognized as the Queen's English, on the BBC. Furthermore, New Zealand imports vast amounts of culture from England, Australia, and America. Bayard points out that, “[o]ur own accent [of NZE] features in only about a quarter of the programmes screened (Bayard 1995: 209).” However, now that phonological changes in NZE have reached the level of awareness, speakers are becoming prouder of their vernacular and more tolerant of the use of NZE on television. For example, news programs are allowing Americanized pronunciations of words like *harassment* (Bayard 1995: 208).

A conflict thus emerges in the use of vernacular versus Standard (i.e. NZE versus RP) on television. Despite increased recognition of and nationalism toward NZE, New Zealanders may still be self-conscious about their speech. Babel (2010) demonstrated that in a repetition task, New Zealanders will use fewer NZE forms if they believe that the speaker holds anti-New Zealand views. These results support Communication Accommodation Theory (cf. Giles et al. 1991), such that New Zealanders will suppress their vernacular depending upon the social context.

When it comes to entertainment programs, on the other hand, the rules are slightly different. Tagliamonte and Roberts (2005) investigated the use of intensifiers (amplifying adverbs such as *so*, *very*, *really*) on the American television comedy, *Friends*. The authors discovered that the frequency of intensifiers closely reflected vernacular speech. Summarizing their results, the authors write, “This evidence leads us to the conclusion that media language actually does reflect what is going on in language... (2005: 296).” This finding is indeed striking, and it opens up the possibility that performers in New Zealand-produced entertainment programs may be using a more vernacular-sounding phonology.

To explore the character of NZE on televised media, I have investigated the use of NZE on the medical drama *Shortland Street*, a program which is particularly suitable for a sociolinguistic investigation. First, *Shortland Street* began its broadcast history in 1992. Since then, it has become New Zealand's

longest running television program and one of its most popular. Because of its status, *Shortland Street*, like *Friends*, is in a unique position to influence its audience both culturally and linguistically. Second, the premiere of *Shortland Street* coincides with front vowel raising having been largely established and widely recognized. Furthermore, because the performers are much closer to the tail-end of language change – the adult cast being born in the 1970's and the adolescent cast being born even more recently, in the 1990's – front vowel raising should be a prominent feature of their speech. Hence, the use of NZE forms is expected. Third, *Shortland Street* is produced by New Zealanders, for New Zealanders. The majority of the cast was born in New Zealand. As such, the vernacular speech of the Pakeha (non-indigenous) actors is NZE. Fourth, *Shortland Street*'s popularity has expanded beyond New Zealand, finding a market in Australia and the UK. International broadcasting thus gives *Shortland Street* another opportunity to exhibit New Zealand culture and language. Finally, because it is a soap opera, *Shortland Street* aims to achieve a balance between fantasy and reality. Story lines are plausible, albeit occasionally embellished, and the characters are meant to be faithful, although idealized, portrayals of everyday people. As such, the actors' performances should appropriately reflect the age, gender, and social status of the characters they are portraying.

My research questions are thus the following (repeated from above):

- (i) How accurately does New Zealand televised media – specifically, the drama *Shortland Street* – reflect NZE vernacular?
- (ii) What is the rate of front vowel raising, and the status of merging, on *Shortland Street*?

4 Methodology

4.1 Participants

Two female actors, Olivia Tennet (b. 1991, playing *Tuesday Warner*) and Amanda Billing (b. 1976, playing *Dr. Sarah Potts*) were selected for this study. The possibility of following two male actors in addition to the females was considered. However, the phonology of male characters was largely categorical and so was not pursued in this study. Although this observation was not quantified, it will be discussed further in the results section.

Olivia appeared on *Shortland Street* for a brief but memorable run in early 2008 as the niece of the longest-serving and most popular protagonist, *Chris Warner*. For this reason, speech samples from both characters were transcribed from episodes stretching between January and March, 2008.

4.2 Circumscribing the variable context

Following the Principle of Accountability (Feagin 2004) and the methodology of previous studies (Gordon and MacLagan 2001, MacLagan and Hay 2007, Woods 1997), all instances of underlying front-mid monophthongs and front-mid

diphthongs were transcribed. As seen in (3), front-mid monophthongs are realized as the variant [ɛ] and the raised variant [I], and front-mid diphthongs as the variant [eə] and the raised variant [iə].

(3) a. Realizations of /ɛ/:

/ɛ/	Λ	
	[ɛ]	[I]

b. Realizations of /eə/:

/eə/	Λ	
	[eə]	[iə]

All transcriptions were coded impressionistically. When a monophthong was not discernable between [ɛ] or [I], a situation which only occurred in unstressed, reduced environments, the variable was coded as [ə].

Several contexts posed empirical issues for both transcription and analysis and were excluded from the investigation:

- (i) *Post-vocalic [r]*. In the case of monophthongs, not only is this context indiscernible between [ɛ] or [I], but it may be an instance of a different vowel altogether. In fact, the sound appears to be an invariable rhotic schwa.
- (ii) *Contractions*, e.g. *we're*, *we'll*, *he'll*, *they're*, etc. In addition to the fact that these contexts include the excluded post-vocalic [r], it is unclear if some additional phonological effect is occurring. For example, it is possible that the vowel is reduced from [i], and hence, the context would not even be an instance of merging.
- (iii) *Auxiliary 'have'* and (iv) *determiner 'the'*. Even if a phonological effect takes place in unstressed environments, the variable rule would be changing of [a] → [ɛ] in the case of *have* and changing of [ʌ] → [ə] in the case of *the*, which is not the same process as the variable context.
- (v) *Any-X*. The first sound in words such as *anyway*, *anyone*, *again* is categorically [ə]. This position is invariably unstressed, and in the possible case that it is stressed, it would likely be a low mid vowel, neither [ɛ] nor [I].
- (vi) *Syllabic nuclei*, [r, l, n]. Not only is it unclear whether these contexts take a preceding vowel, but the question of a vowel's exact identity in this context is also beyond the scope of this article.

4.3 Coding and analysis

Transcriptions were coded for conversion into an input file for Goldvarb X software (Sankoff et al. 2005). The following independent variables were included as possible factors influencing front vowel raising (the dependent variable):

- (i) *Speaker and age.* Both Olivia and Amanda were coded independently. Because Olivia was born closer to the tail-end of change, and since she is younger than Amanda (17 and 32, respectively, at time of filming), it is predicted that Olivia will show more instances of front vowel raising.
- (ii) *Preceding* and (iii) *Following phonological context.* The internal factor of phonological context may condition front vowel raising. It is possible, for example, that raising begins in one context before spreading to others. Such a situation would be evidence for a grammaticalization process (Tagliamonte and Roberts 2005).
- (iv) *Stress.* As discussed above, Gordon and MacLagan (2001) discovered a relationship between stress and raising, which may be relevant for my investigation as well.
- (v) *Listener.* The listener is the character whom Olivia or Amanda is conversing with. Olivia's character, *Tuesday*, takes on many roles over the course of her time on *Shortland Street*: she becomes a matriarch when caring for her drug-addicted father, yet she is torn between these duties and her identity as a teenager. It is possible, then, that Olivia speaks differently depending upon her conversant, who brings out one of her many "roles." The same may be true for Amanda. (Due to the dialogue-based design of soap operas, characters are rarely speaking to more than one person at a time; as such, the listener is always one person.)

5 Results

5.1 Distributional analysis

Approximately 800 tokens in total were collected: 383 from Olivia and 401 from Amanda. In addition to the excluded environments discussed in sec. 5.2, additional contexts removed from analysis included the first syllable in the words *refuse* (V), *results*, *remember*, *prescribed*, *before*, and *behind*, as it was unclear whether the syllable was an instance of raising or an underlying high vowel. Verbs taking epenthetic [ə] when forming the past tense (e.g. *voted treated*, *unwarranted*, *teleported*) and *pretty* were excluded as well, since these vowels are (likely) invariably reduced. On the other hand, words ending in *-ment* or *-ent* were not excluded as they constituted a variable context.

Tokens containing a raised variant are listed for each speaker in (4):

- (4) a. *Olivia's* tokens containing raising ([ɪ]): *yes, then, let's, accident, best, everything(/'s), everyone, parents, friends, yesterday, different, hundred, exercise, honestly, government, argument, whatever, meant, message, checked, planet, instruments, then, never, get, sense, perfect.*
- b. *Amanda's* tokens containing raising ([ɪ]): *sickness, arrangements, attempt, teleported, everyone, parenting, sense.*

Against expectation, all tokens in the case of diphthongs were categorical. Conversely, a modest variation was found for the sample of monophthongs. See summaries in tables 1 and 2.

Monophthongs and diphthongs will be analyzed separately in the next two sections.

Table 1. Overall frequencies of variation in front vowel monophthongs, [ɪ] and [ɛ].

	<i>Olivia</i>	<i>Amanda</i>		
<i>n</i> [ɪ]	33	8		
<i>n</i> [ɛ]	350	393		
<i>N</i>	383	401	<i>N_{tot}</i>	704
% [ɪ]	9.7	2.2	% _{tot} [ɪ]	5.95

Table 2. Overall frequencies of front vowel diphthongs, [iə] and [eə]. (Absence of raising in /eə/ variable contexts is indicated as the proportion of [iə] variants over [eə] variants.)

	<i>Olivia</i>	<i>Amanda</i>		
<i>n</i> [iə]	25	11		
<i>n</i> [eə]	18	26		
<i>N</i>	43	38	<i>N_{tot}</i>	80
% [iə]/[eə]	0	0	% _{tot} [iə]/[eə]	0

5.1.1 Front vowel monophthongs

5.1.1.1 *External variables.* The rate of front monophthong raising was 6%: 9.7% of Olivia's vowels were raised as opposed to 2.2% of Amanda's. Frequency of raising is significantly less than in previous studies, where raising reached levels between 50-60% (Bayard 1995: 71, Gordon et al. 2004, MacLagan and Hay 2007: 2). Indeed, raising is far less than what has been found in conversational speech, and furthermore, than what would be expected for women of the same age and social class. However, it appears that Olivia raises more frequently than Amanda, a finding consistent with previous research (*ibid.*) and with Labov's Principles of Change (Cheshire 2004).

The effect of listener on raising is unclear. Olivia exhibited an instance of raising with all listeners she conversed with, save one. In fig. 2 (and cf. table A1 for numerical values), we see that Olivia's tokens are distributed widely. Amanda, on the other hand, raises sparsely, only raising in conversations with a quarter of her listeners (fig. 3). Even in these cases, there is often only a single raised token (table A1). It may appear, then, that Olivia uses raising with all speakers (as would be expected, given her age and gender), whereas Amanda raises only in the presence of specific speakers. However, due to the paucity of raising in Amanda's speech, her differential use of the variable according to her listener cannot be confirmed.

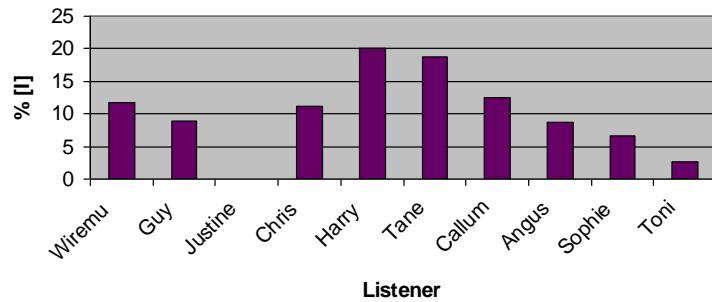


Figure 2. Olivia's proportions of front vowel monophthong [I] (%) by listener. (No bar indicates no [I] variants; see table A1 for numerical values.)

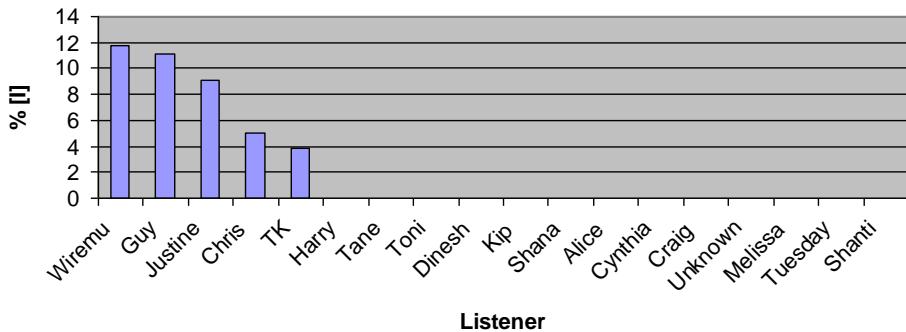


Figure 3. Amanda's proportions of front vowel monophthong [I] (%) by listener. (No bar indicates no [I] variants; see table A1 for numerical values.)

5.1.1.2 Internal variables. Realization of front vowel monophthongs varies across most phonological environments (table 3). Of particular interest is the distribution of preceding [j]. Since this context includes the frequent *yes*, characteristically and (almost) uniformly pronounced as [jɪs] by New Zealanders, it is striking that so few tokens are raised. This observation applies to other frequent words, such as *better*, *best*, and *then*. Of note as well is the categorical distribution of following liquids: both [l] (alveolar) and [ɫ] (palatal, also known as

dark) invariably take preceding [ɛ]. Since 111 tokens of following [l]/[ɫ] appear in the data, this finding is particularly prominent.

Unstressed tokens totalled 287, and stressed tokens totalled 417. Of these, 16 unstressed and 25 stressed tokens of [ɪ] were found, accounting for 5.6% and 6.0% of the data, respectively. This difference is very modest. Tokens are distributed across many words with no single word dominating the distribution. The most instances of [ɪ] occurred in the word *everything* with a frequency of five, all of which were stressed.

Table 3: Overall frequencies of front vowel monophthongs by *preceding* and *following* phonological environment.

<i>Context</i>	<i>Preceding</i>		<i>Following</i>	
	<i>n</i> [ɪ]	<i>n</i> [ɛ]	<i>n</i> [ɪ]	<i>n</i> [ɛ]
<i>Stop/Affr</i>	8	189	9	215
<i>Nasal</i>	12	65	17	185
<i>Vowel</i>	2	16	n/a	n/a
<i>Fricative</i>	6	158	15	146
[h]	0	33	n/a	n/a
<i>Glide</i>	3	110	0	2
[j]	3	26	0	2
<i>Liquid</i>	9	114	0	111
[l]	3	42	0	51
[ɫ]	0	0	0	60
<i>rhotic</i>	6	72	n/a	n/a
<i>Word edge</i>	1	9	0	2

5.1.2 *Front vowel diphthongs*

All instances of mid and high diphthongs were categorically [eə] and [iə], respectively. This finding is atypical, albeit it may be revealing of the underlying use of language on *Shortland Street*. Despite the smaller number of tokens found in the data ($N = 80$; see table 4), the total absence of raising is unlikely, especially given frequencies ranging between 50-80% in other contexts (Bayard 1995: 66, Gordon et al. 2004, Gordon and MacLagan 2001). In addition to the findings above, it appears that raising in mid-vowel diphthongs is being resisted by the speakers. This suggestion will be taken up in detail in the discussion section.

Table 4. Frequency of words containing diphthongs for Olivia (O) and Amanda (A). (Words containing underlying mid diphthongs are highlighted. N = 80.)

Frequency	Tokens	O	A	Frequency	Tokens	O	A
23	Here	17	6	2	Somewhere	0	1
16	There	7	9	1	Nowhere	0	2
14	Where	7	7	1	Carelessness	0	1
5	Care	3	2	1	Hair	0	1
3	Year	2	1	1	Despair	0	1
3	Nearly	1	2	1	Nightmare	0	1
2	Cheer(/ed)	2	0	1	Fierce	1	0
2	Hear	2	0	1	Ear	0	1
2	Anywhere	1	1	1	Nearest	0	1

5.2 Multi-variate analysis

In order to identify possible phonological patterns, *preceding* and *following phonological environments* were grouped into classes (*stop*, *fricative*, etc.), split between voiced and voiceless. For *following phonological environment*, several sonorants (*liquid*, *nasal*, *glide*) were accompanied by categorical use of the [ɛ] variant, thus rendering a variationist analysis unworkable. Hence, these factors were grouped together under one category, *sonorant*. Narrowing the factor of *preceding environment* to *sonorant* did not change the analysis.

There was a significant difference in raising between Olivia and Amanda (table 5). Note that the reported factor weights express a relative calculation between the two speakers: given a context where raising is possible, Olivia will be inclined to raise 69% of the time, and Amanda, 31% of the time. This result reflects both speakers' age and character, with Olivia (a young female) more likely to raise than Amanda (a female adult).

Table 5: Multi-variate analysis of front vowel monophthong raising (realization of [I]) (N = 702).

Factor	FW	% raising [I]/([I]+[ɛ])	N _{[I]+[ɛ]}	Corrected mean: 0.046
<i>Speaker</i>				
Olivia	0.69	9.7	338	
Amanda	0.31	2.2	364	
<i>Range</i>	38			

When represented in terms of into natural classes, *preceding* and *following phonological environment* do not condition raising. Instead, Olivia's and Amanda's speech appears to resist variation as innovative forms (the raised [I]) are avoided.

Stress was not selected as significant, in contrast to Gordon and MacLagan's (2001: 229) findings. It is interesting to note that preliminary results

suggested that raising is more likely in unstressed position, again contradicting Gordon and Maclagan (*ibid.*) This possibility is explored in the *Discussion*.

Finally, Individual analysis of Olivia's tokens revealed no significant factors conditioning raising. An analysis of Amanda's, on the other hand, revealed an effect of *listener*. However, as discussed above, this finding is likely an effect of the skewed distribution and the few tokens of [I] in Amanda's speech. For instance, in the 82 tokens of conversation with the character *Kip Denton*, no single instance of raising was recorded. This observation is even more striking given that the majority of these exchanges were emotionally charged, a situation which favours vernacular speech. Further evidence is required before concluding that Amanda raises selectively in conversation with these speakers.

6 Discussion

6.1 Overall findings

Sociolinguistic investigations of NZE have quantified the unique characteristics of its phonology and have illuminated the relationships between vowel realization and social variables such as age, sex, and social class. Raising in front mid vowels has increased considerably in the last 30 years such that today, in conversational speech, raising accounts for the majority of speakers' tokens. On the other hand, Olivia Tennet and Amanda Billing, when speaking on the New Zealand television series *Shortland Street*, appear to resist mid vowel raising as much as possible. Off-camera, Olivia speaks a typical NZE¹. It seems unrealistic for her, then, to sound like an adult on *Shortland Street*. Furthermore, it seems unreasonable for both women to resist using NZE forms. This resistance is even more striking in the case of male characters, whose instances of raising are near-negligible. Although Labov's Principles aptly predict that men will raise less frequently than women, the near-absence of raising suggests that some external force is acting upon the linguistic system. What, then, is driving this resistance to raising?

To begin, it should be recognized that the medium of performance is both formal and highly crafted. Accordingly, not only will linguistic forms be close to Standard (Schilling-Estes 2004), but speech will be thoroughly rehearsed. As such, speakers become extremely aware of how they sound, and more importantly, how they are supposed to sound when they take on the role of a character. This dichotomy creates a tension between the use of vernacular "real speech" and formal "performance speech." In the latter context, careful attention to speech is reflected in a speaker's linguistic forms. For example, Olivia is often careful to avoid dark [l] pronunciations, as seen in the high number of alveolar [l] in coda position (table 3). It is probable, then, that Olivia and Amanda are aware

¹ Olivia Tennet – actor in Othello. (2011, April 25). *Youtube*. Retrieved from http://www.youtube.com/watch?v=36Fs-Gk_Pyo.

of raising in NZE and are actively avoiding using raised variants, resisting the vernacular realization as much as possible.

Because speech on *Shortland Street* is conveyed through performance, many possible explanations for resistance to raising can be explored, and others can be ruled out:

- (i) Olivia and Amanda are established actors, and so, it is unlikely that they are avoiding raising for reasons of linguistic security.
- (ii) If the producers of *Shortland Street* were mindful only of a New Zealand audience, it would be unlikely for the performers to use RP for purposes of conveying a standardized, “universally comprehensible” accent, specifically in light of NZE being largely homogeneous (Aside from some regions in the south, e.g. Southland; cf. Bayard 1995: 45).
- (iii) As discussed above, New Zealand media has historically favoured the use of RP (Glass 2007). Apparently, this tradition is embedded so deeply in New Zealand televised media that actors on *Shortland Street* are trained to avoid raising and embody an RP style of speech.
- (iv) Because *Shortland Street* is a drama, the performers will speak formally. Indeed, many of the actors on the series (including Olivia Tennet) have classical training and demonstrate this professional experience in their performance.
- (v) Despite *Shortland Street* being a New Zealand production, it is also marketed and enjoyed internationally. During an interview with Canadian journalist George Stroumboulopoulos, famous Australian actor Hugh Jackman explained that unlike the United States, which exports vast amounts of entertainment media globally, countries like Australia do not have the resources to support such an industry². Even though many blockbusters are filmed in New Zealand (e.g. *The Lord of the Rings* trilogy), the situation for homegrown entertainment is likely the same in New Zealand as it is in Australia. To make the series appealing for an international audience, it is possible that *Shortland Street* actors are pressured into avoiding raising in order to eliminate any possible barriers to communication (or, perhaps, any negative attitudes about NZE).

In all, many forces conspire in pressuring Olivia and Amanda to avoid raising. Even though their speech retains some flavour of NZE, it is heavily modified in order to meet the standards of a dramatic performance and the demands of an international market. In the end, then, it appears that NZE in televised media is not the same as NZE in conversational speech.

6.2 Empirical findings

Because she is a young woman, it is expected that Olivia will push the forefront of change further than Amanda. Furthermore, despite Olivia’s lower frequency of monophthong raising (9.7%) as opposed to the frequencies witnessed elsewhere (50-80%; see above), her probability of raising is higher compared to Amanda’s

² George Tonight: Hugh Jackman. (2011, Oct. 12). *Youtube*. http://www.youtube.com/watch?v=SnFI2y1d7hw&feature=results_main&playnext=1&list=PLEA4C37686FEA2A2E. At 7:40.

(0.69 against 0.31, respectively). This result indicates that, despite the apparent resistance to raising observed in this sample, the amount of raising in Olivia's phonology is still relevant. On the other hand, when taken in isolation, Olivia is not likely to use raised variants. Instead, her phonology comes off as unexpected and inappropriate for her age. Performance style is thus masking Olivia's vernacular.

Gordon and MacLagan (2001: 229) argue that unstressed positions are more likely to take an [ɛ] realization. The authors propose (*ibid.*) that because unstressed positions are more likely to take reduced pronunciation, the realization is more likely to be the open variant, [ɛ]. In the case of Olivia and Amanda, when raising "slips" into speech, one would expect it to occur in a position which takes less focus; specifically, the unstressed position. This behaviour would provide further evidence that speakers on *Shortland Street* are resisting raising and are hyper-aware of their speech. Further investigation is required, however, since (i) it has been shown that performance speech is not the same as vernacular, and since (ii) the proportion of unstressed and stressed [ɪ] tokens is largely the same (see sec. 6.1).

7 Conclusion

In this paper, I investigated the rate of front vowel raising in the speech of Olivia Tennet and Amanda Billing on the television program *Shortland Street*. Because *Shortland Street* is produced in New Zealand and stars New Zealanders, it was possible that Olivia and Amanda's speech would exhibit front vowel raising, a characteristic of NZE which has developed rapidly in the past century. In the end, Olivia and Amanda showed moderate monophthong raising (approximately 6%) and categorical diphthong realization. Hence, *Shortland Street* is not an accurate portrayal of NZE; its unique aspects are actively suppressed in a performance, where many factors pressure a speaker to augment his/her phonological choices. However, the results also suggest that Olivia and Amanda must be hyper-aware of their own vernacular, and that occasionally, differences in each actor's rate of raising can emerge.

It would be revealing to explore how performers sound when reading a script for the first time compared to the final product. From this perspective, the amount of augmentation to speech can be calculated and examined. Furthermore, the results from *Shortland Street* should be compared to the rate of raising found in other broadcast material, such as different genres of television (e.g. comedy, talk show, newscast), stage, and radio (e.g. impromptu call-in programs). Even though phonological merging in NZE has yet to expand into televised media, we have an exciting opportunity to witness this development from the very beginning.

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Appendix A

Table A1: Front vowel monophthong raising by listener. Displayed are the proportion and frequency of [I], the raised variant of the mid-front vowel monophthong. (Complement to fig. 2 and 3)

<i>Listener</i>	<i>Olivia</i>		
	% [I]	N [I]	N _{tot}
Harry	25	1	4
Tane	20	3	15
Callum	16.7	1	6
Wiremu	13.3	2	15
Chris	12.7	8	63
Guy	10	11	99
Angus	9.4	3	32
Sophie	7	2	29
Toni	3	2	67
	33		

<i>Listener</i>	<i>Amanda</i>		
	% [I]	N [I]	N _{tot}
Wiremu	13.6	2	17
Guy	11	1	8
Justine	9.1	1	11
Chris	5	1	20
TK	3.8	3	78
		8	