

TH-fronting: the Substitution of f/v for θ/ð in New Zealand English

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1. Purpose

The purpose of this study was to examine the pronunciation of the interdental *th* sounds in the speech of young, non-professional, native New Zealanders. Data held in the Canterbury Corpus in the Linguistics Department at the University of Canterbury (Maclagan & Gordon 1999) was used to examine pronunciation in two different years: 1994 and 2002. The specific point of comparison was the extent to which the interdental *th* sounds, /θ/ or /ð/, were realised by a labiodental /f/ or /v/ (a phonological variable known as TH-fronting). Also considered were the factors which affect the realisation of a *th* sound, and whether or not there was a difference between a read word list and the more casual speech of a recorded conversation in regards to the speaker's realisation of the *th* sounds.¹

2. Introduction

It seems that TH-fronting is a relatively recent development in New Zealand English (NZE). In earlier writings on NZE, there have been no comments on alternative pronunciations of *th*, traditionally pronounced /θ/ or /ð/. In 1939 Arnold Wall included the phonemes [θ] for *thick* and [ð] for *then* in his list of NZE consonants and there is no indication in the List of Words of Doubtful Pronunciation that *th* was realised as /f/ or /v/ (Wall 1939: 24). In 1966 Turner mentioned that the substitution of [f] for [θ] which featured in Cockney speech was not found in Australia or New Zealand (Turner 1966: 104, see also Campbell & Gordon 1996).

There have been some more recent references to the f/v substitution in NZE by sociolinguists and phoneticians. Donn Bayard (1995:201), in a chapter called 'The Linguistic Future: New Zealand in the Twenty-first Century', refers to the 'possible beginnings of a London-style shift of /θ/ to /f/ ('somefing', etc.)'.

It seems that varying pronunciations of the *th* sound are not peculiar to NZE. William Labov (1972:19) in his book 'Language in the Inner City', comments on Philadelphian Inner City American English, 'we find the fricative /θ/ is frequently merged with /f/, and similarly final /ð/ and /v/. Less frequently, /θ/ and /ð/ become /f/ and /v/ in intervocalic position.'

¹ This project was carried out as part of the Stage 3 New Zealand Course at the University of Canterbury in 2002. I should like to thank my lecturers Margaret Maclagan and Jen Hay for their direction of the initial study, and Margaret Maclagan for her assistance in preparing this report. Although it had been hoped to include some of the older Canterbury Corpus speakers in the study, no older speakers in 1994 produced any TH-fronted tokens in the word lists and only two fronted word list tokens were produced by one older male non-professional speaker in 2002. Because of time restrictions their casual speech was not analysed.

3. Methodology

In order to determine whether or not *f/v* substitution is becoming more or less prevalent in NZE, recordings from two different years held in the Canterbury Corpus were listened to. The Canterbury Corpus consists of recordings made by the New Zealand English class every year since 1994. The speakers fit into one of eight categories determined by three parameters: gender, age and social class (defined here as professional or non-professional). For each speaker there is about 30 minutes of casual speech, of which about 10 minutes is transcribed, and a recording of a set word list. Listening to the word lists of four speakers from each of the eight categories from both 1994 and 2002 had shown that older, especially professional speakers were unlikely to exhibit any TH-fronting in the word lists. In order to restrict the number of categories of speakers it was decided that only categories of young non-professional speakers would be examined. Labov (1994) has shown that sound changes almost always begin with a change in the speech of young people. Therefore, it was decided that examining the speech of young non-professional speakers would be most likely to give an idea of the extent to which TH-fronting is occurring in NZE today, and would also provide an indication of the direction in which this sound change is headed. It must be noted however that this methodology may underestimate TH-fronting in the casual speech of the other speaker categories as a speaker is more likely to exhibit TH-fronting in casual speech than in the formal style of the word list.

The year 1994 was chosen to be the first year of comparison as it is the first year recorded as part of the Canterbury Corpus. 2002 provided the most up-to-date information available. The categories of speakers for this study are given in Table 1.

Male Non-professional 1994 4 speakers	Female Non-professional 1994 4 speakers
Male Non-professional 2002 3 speakers	Female Non-professional 2002 3 speakers

Lines 29 and 30 of the NZE word list consist of words containing *th* (see MacLagan & Gordon 1999 for the complete list):

- | | | | | |
|-----|---------|--------|---------|------------|
| 29. | mother | father | nothing | something |
| 30. | think | thin | with | toothbrush |
| | breathe | clothe | beneath | |

For each speaker, lines 29 and 30 of the word list were transcribed, and the 10 pre-transcribed minutes of the casual speech were listened to. All words containing a word-medial or word-final *th* sound were transcribed, noting in particular whether the *th* sound was /θ/, /ð/, /f/ or /v/. The lexical item containing the *th* sound was considered to be important information, as well

as the placement of the *th* sound within the word. It was decided that the transcribed 10 minutes of speech did not provide a sufficient number of *th* tokens, so the whole 30 minutes of speech was analysed for each speaker. If a speaker exhibited TH-fronting word-initially, words containing word-initial *th* sounds were also transcribed for the whole 30 minute interviews. These recordings were listened to again at a later date to check the accuracy of the transcriptions.

All the speakers included in the study produced some tokens of /θ/ and /ð/. Any substitutions of /f/ and /v/ for /θ/ and /ð/ do not therefore represent indications of a speech disorder.

4. Results and analysis

The pronunciation of each *th* word for all 14 speakers is presented in Tables 2-4. The words are separated according to the position of the *th* in the word. A total of 49% of tokens of word-final *th* were fronted, though this is affected by the large number of tokens of the word *with*. 20% of tokens were fronted when *th* was in medial position in the word and 27% of *th* tokens were fronted in word-initial position.

Table 2: Results for *th* in word final position

Word	Interdental		Labiodental	
	θ	ð	f	v
with	48	3	68	
south	2			
Perth	2			
both	5		1	
north	2		3	
worth	1		1	
earth	1		2	
homeopath	4			
sixth	1			
hearth			1	
underneath	2		1	
Plymouth	1			
worth	1		1	
death	1		1	
youth			1	
fourth	2			
Keith			1	
path	1			
commonwealth	1			
month	13		5	
Total	88	3	86	0
Percentage	50%	2%	49%	0%

Table 3: Results for *th* in word medial position

Word	Interdental		Labiodental	
	θ	ð	f	v
months	8		4	
something	35		3	
everything	23		2	
anything	10		4	
nothing	4		4	
homeopathy	3			
together		6		6
brother		5		
mother		3		
father		3		
other		19		3
either		2		
another		18		3
whether		1		
bother(ed)		3		
strengthens	1			
otherwise		1		
healthy			1	
without	1		5	
within			1	
brethren		1		
rather		3		
birthday		1		
pathetic		1		
Total	85	67	24	12
Percentage	45%	36%	13%	6%

Table 4: Results for *th* in word initial position

Word	Interdental		Labiodental	
	θ	ð	f	v
think(s/ing)	19		8	
thing(s)	14		5	
three	15		5	
thirty	3			
thousand	1			
through	9		4	
thought	2		1	
throw(s)	1		1	
Total	64	0	24	0
Percentage	73%	0%	27%	0%

Of the total 14 speakers analysed, only four did not exhibit any TH-fronting in the word list. One of these speakers was a male recorded in 1994, one was a male recorded in 2002, and the other two were females recorded in 2002. Of these four, only one speaker, the male recorded in 1994, continued to pronounce all *th* sounds as /θ/ or /ð/ in casual speech.

For all speakers, except for Speaker 4 outlined above, f/v substitution was more common in casual speech than in the word list. A striking example of this is Speaker 1, who says /wɪθ/ in the word list, but /wɪf/ in all of the 20 times it occurs in casual speech.

Most speakers were not consistent with their f/v substitution. In some instances, a word was pronounced with a /θ/ or a /ð/, and then minutes later was repeated but with an /f/ or a /v/.

- Speaker 13: 'travelling through /θɹu/ time and travelling through /fɹu/ time'
- Speaker 5: 'and it's where you throw /θɹou/ yourself like nobody else throws /fɹouz/ you'

Furthermore, some speakers pronounced a word one way several times, and then switched to an alternative pronunciation for no apparent reason.

5. Discussion

5.1 The 'with' marker

These results show that the word *with* is an obvious marker of TH-fronting. If a speaker is going to TH-front, the word it will most likely occur in is *with*. A speaker who predominantly says /wɪf/ is in general likely to show TH-fronting in other words. However, if *with* as /wɪf/ pronunciation is minimal or non-existent, it is unlikely that there will be many instance of TH-fronting in other words.

One suggestion as to why *with* may be so susceptible to TH-fronting is given by MacLagan (2000) who suggests, 'because there is already variation in its pronunciation: /wɪθ/ or /wɪð/, the extra pronunciations may be more readily accepted.' In this study, only one speaker, a female recorded in 2002 had any occurrences of *with* as /wɪð/. But the *with* as /wɪð/ pronunciation can be heard more frequently in the speech of older speakers, who are not included in this study.

5.2 The Effect of Word Placement

Table 5 shows the distribution of TH-fronting across word positions for the individual speakers. A [v] symbol in the cell shows that a speaker has at least one example of TH-fronting for that particular word position. A [-] symbol means there are no occurrences of TH-fronting in that word position. Six speakers have examples of TH-fronting in all three possible word positions, and all four speaker categories are represented by one or two of these six speakers.

From this table it appears that θ/ð→f/v substitution is most likely to occur word-finally. However, this is influenced by the fact that many speakers substitute /θ/ for /ð/ in the word *with*.

Table 5: Distribution of TH-fronting across word positions for the individual speakers.

Speaker	Initial	Medial	Final
1	✓	✓	✓
2	✓	✓	✓
3	✓	-	✓
4	-	-	-
5	✓	✓	✓
6	✓	-	✓
7	-	✓	✓
8	✓	✓	✓
9	✓	✓	✓
10	-	-	✓
11	-	✓	✓
12	-	-	✓
13	✓	✓	✓
14	✓	✓	✓

5.3 Lexical items vs. grammatical words

Words in which $\theta/\delta \rightarrow f/v$ substitution occurred were almost all lexical words – *month, think, brother*, etc. There were no substitutions in grammatical words – *the, this, they, them, there, then*, etc., except for *through* and *with*.

5.4 The Effect of Neighbouring Sounds

There are many examples that seem to indicate the effects of a neighbouring sound on the realisation of a *th* sound, but these examples all appear to contradict each other. Speaker 1 provides us with examples of these contradictions. For some words, there is a neighbouring labiodental sound that could have caused the θ/δ sound to become f/v :

'halfway through' /hafwei fru/

But in other words, the θ/δ sound appears to be unaffected by a neighbouring f/v sound:

- 'um with half a chicken' /ʌm wiθ haf ə tʃɪkən/

Furthermore, some TH-fronting occurred when there was no close labiodental sound, although the *th* sound did follow a labial /m/:

- 'disembowelled or something nasty' /disəmbəʊəd ɔ sʌmfɪŋ nasti/

Therefore the immediate phonetic context does not explain the presence or absence of TH-fronting for the speakers studied.

5.5 TH-fronting and change over time

One of the initial aims of this study was to investigate whether TH-fronting is becoming more or less prevalent in NZE. However, the results of this study do not show conclusively that TH-fronting is becoming more prevalent or less prevalent in NZE, and moreover, no one speaker category shows a marked difference in the amount of TH-fronting. This is most probably a result of the small sample size. It is also probably due to the relatively short time period

covered in this analysis and the recency of the sound change. As indicated by the literature, TH-fronting seems to be a relatively recent change in NZE. None of the speakers from the Mobile Unit archive who were analysed in the Origins of New Zealand English project (ONZE) showed instances of TH-fronting² and word list analysis of the older speakers in the Canterbury Corpus indicates that their usage is also extremely low.

6. Conclusions

Several conclusions can be drawn from the results and analysis of this study.

Firstly, speakers who exhibit f/v substitution do so inconsistently. Of all the thirteen speakers who have occurrences of f/v substitution, none do so in every occurrence of a word containing a *th* sound. Moreover, many of these speakers are inconsistent in their pronunciations of different occurrences of the same word. One extraordinary example is Speaker 13, a young non-professional female recorded in 2002, who gives two different pronunciations of the word *through* even when they occur in the same sentence ('travelling through /θru/ time and travelling through /fru/ time'). Obviously, f/v substitution is not a 'bug' that one catches and that automatically manifests in all situations - there is much more involved than this.

Secondly, *with* acts as a marker of TH-fronting. A speaker's pronunciation of the word *with* tells us how likely a person is to substitute in other words with *th* in them.

Thirdly, six out of the fourteen speakers in this sample have examples of TH-fronting in all three possible word positions. TH-fronting is more common word-finally, however this is probably affected by the high incidence of the word *with*. The same number of speakers had examples of TH-fronting word-initially as word-medially.

Finally, the results do not provide conclusive evidence as to whether or not f/v substitution is becoming more or less prevalent in NZE. A much bigger sample would be needed in order to establish this.

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² Personal communication, Elizabeth Gordon and Margaret MacLagan.