

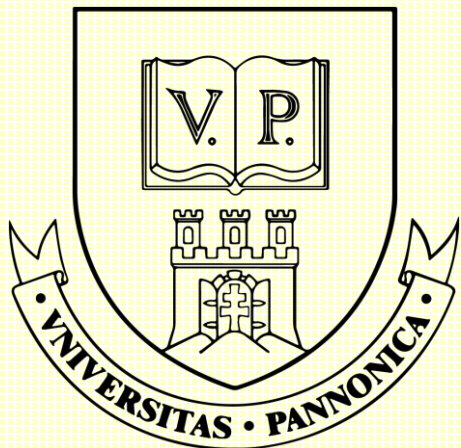
The Sociophonetic Investigation of the Effects of Opposing Forces During the Development of New Zealand English



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Overview

Theoretical background

Hypothesis

Research

Discussion

Conclusion



Theoretical background

- New Zealand English – 1890
- a group of islands, little interaction
- **a relatively homogeneous variety** (Bauer and Warren, 2004)
- slightly different regional and social accents (Hay et al., 2008)
- **3 social (and stylistic) accents:**
 - broad: the most consistent typical NZ pronunciation
 - general
 - cultivated: the closest to RP



<https://www.mapsland.com/oceania/new-zealand/large-detailed-map-of-new-zealand-with-cities>

Theoretical background: Schneider's dynamic model

Phase 1 – Foundation

Dialect mixture

English used on a regular basis – 1840



Theoretical background: Schneider's dynamic model

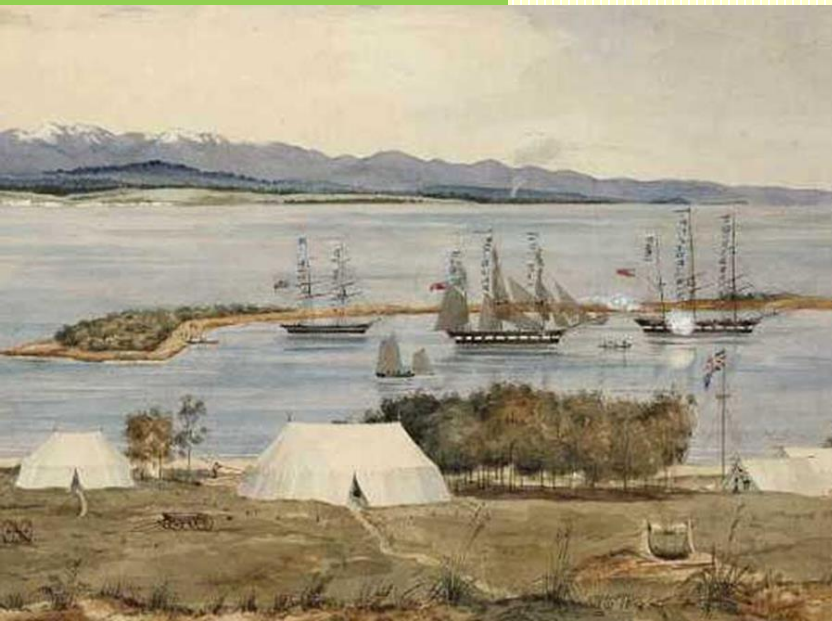
Phase 2 – Exonormative stabilisation

settlers with different backgrounds – different linguistic behaviour

a common conservative linguistic norm orientation towards an external norm

written and spoken British English of educated speakers

the earliest features of local usage in phonology – until the end of the 19th century



Phase 3 - Nativisation

linguistic developments continue

a clash of opinions between conservative and advanced users

insecurity about linguistic norms – the first half of the 20th century

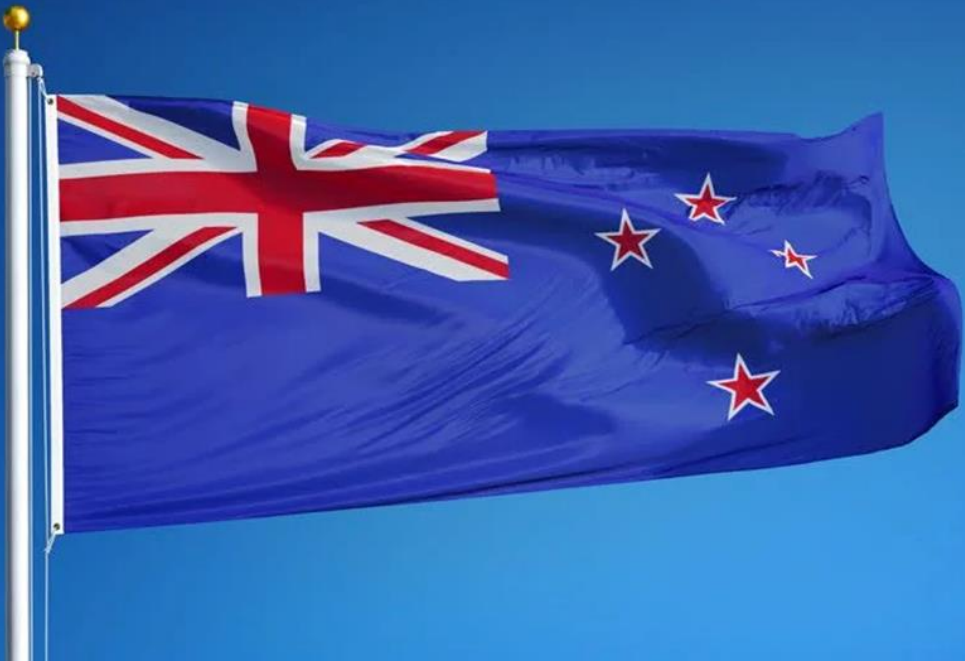
Theoretical background: Schneider's dynamic model

Phase 4 – Endonormative stabilisation

new, local linguistic norm – locally rooted
linguistic self-confidence

a means of expression of the new identity

the new variety is positively evaluated – the
second half of the 20th century



Theoretical background: Schneider's dynamic model

Phase 5 - Differentiation

Regional and social dialects emerge
(Schneider, 2003 and Tuten, 2007)

<https://fineartamerica.com/featured/new-zealand-green-hills-countryside-landscape-gandalfs-land-crystal-calla.html>



<https://www.decodebest.com/index.php/countryoffer/new-zealand/>

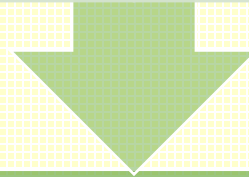


Different forces in new-dialect formation

Levelling throughout the process

External norm

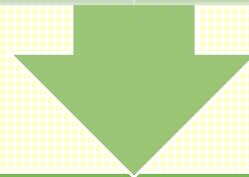
Internal norm



Homogeneity

Constrains language change

Motivates language change



Emergence of new pronunciation features

Negative evaluation

Neutral features

Previous studies

Speakers show positive or neutral attitudes toward new changes, but they show a negative attitude regarding changes that happened earlier (Gordon, 2010).

New features of the early period became social markers with different realisations in the three social dialects but new features of the later period have the same realisation (Hay et al., 2008).

The use of positively valued forms is stable as speakers move to the more formal styles (Wells, 1982).

Hypotheses



1

drukarnia.pl

The difference found between the social dialects can also be detected within the same social class between different registers.



2

The neutral vs stigmatising attitudes cause a similar pattern in style shifting as in the social dialects.

Wells' lexical sets

(50) The standard lexical sets

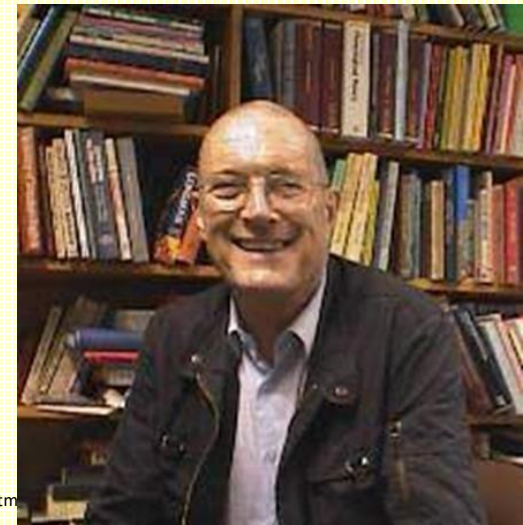
	RP	GenAm	keyword		RP	GenAm	keyword
1.	ɪ	ɪ	KIT	13.	ɔ:	ɔ	THOUGHT
2.	e	e	DRESS	14.	əʊ	o	GOAT
3.	æ	æ	TRAP	15.	u:	u	GOOSE
4.	ɒ	ɑ	LOT	16.	aɪ	aɪ	PRICE
5.	ʌ	ʌ	STRUT	17.	ɔɪ	ɔɪ	CHOICE
6.	ʊ	ʊ	FOOT	18.	aʊ	aʊ	MOUTH
7.	ɑ:	æ	BATH	19.	ɪə ¹	ɪr	NEAR
8.	ɒ	ɔ	CLOTH	20.	ɛə ¹	ɛr	SQUARE
9.	ɜ: ¹	ɜr	NURSE	21.	ɑ: ¹	ɑr	START
10.	i:	i	FLEECE	22.	ɔ: ¹	ɔr	NORTH
11.	eɪ	eɪ	FACE	23.	ɔ: ¹	ɔr	FORCE
12.	ɑ:	ɑ	PALM	24.	ʊə ¹	ʊr	CURE

¹ with /r/ following before a vowel only.

represent how the different phonemes of English are pronounced

one word for each set

e.g., the KIT set represents all the words that have historical short /i/



Sound changes in NZE

early NZE, the end of the 19th century

PRICE and **MOUTH**

Early NZE:

the broad pronunciation of the closing diphthongs

PRICE – **MOUTH** – FACE – GOAT
(Sóskuthy et al., 2017)

20th century – a new pronunciation of the NZE short front vowels

(Bauer and Warren, 2004)

TRAP and DRESS are raised and fronted, **KIT** is centralised

1930s:
diphthongisation of **FLEECE** (Bauer, 1994)

front	central	back	
i ɪ	i	u ʊ	high
e	ə	o	mid
ɛ æ	ɜ	ʌ ɔ	low
a		ɑ	

(Trudgill, 2004)

Sound changes in New Zealand English

PRICE, MOUTH*

1840



external linguistic norm



negative evaluation

KIT, FLEECE

1900s



internal linguistic norm



neutral evaluation

*See Sóskuthy et al., 2017.

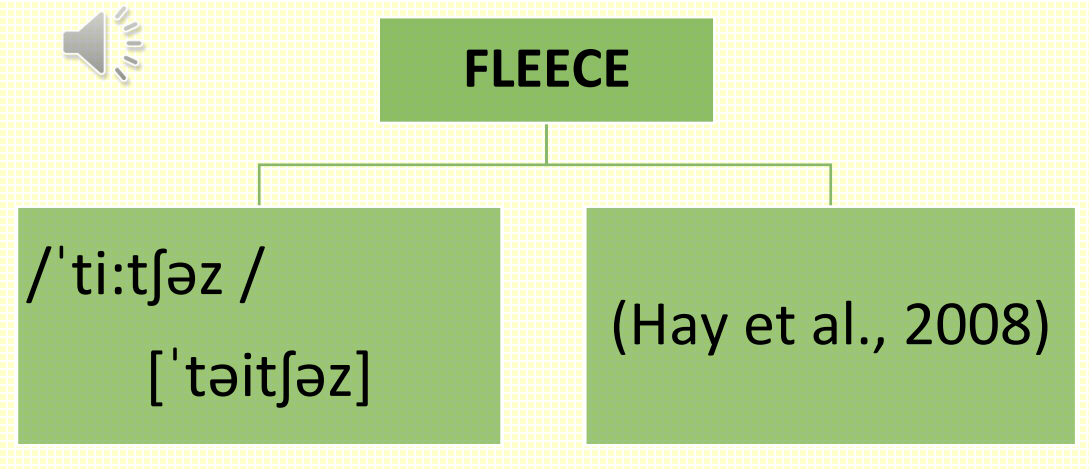
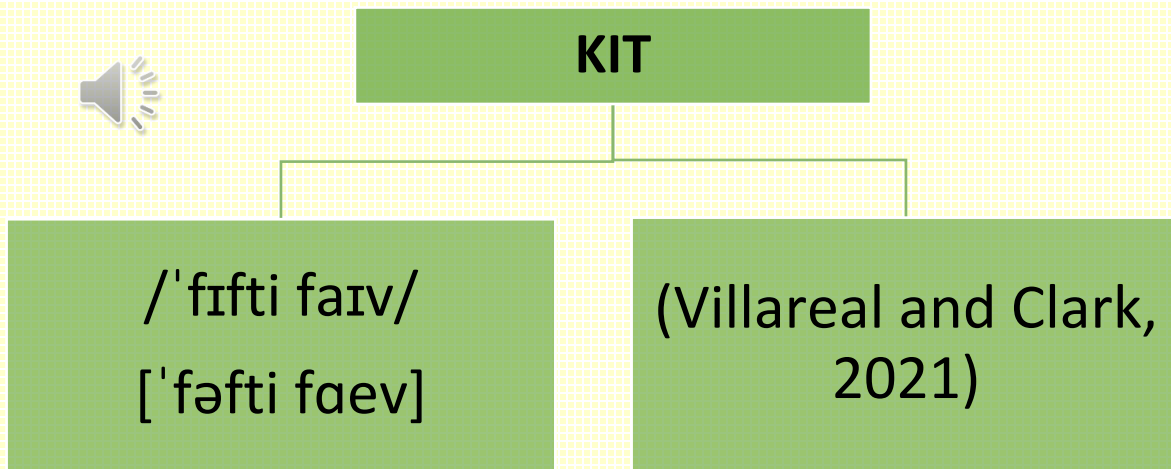
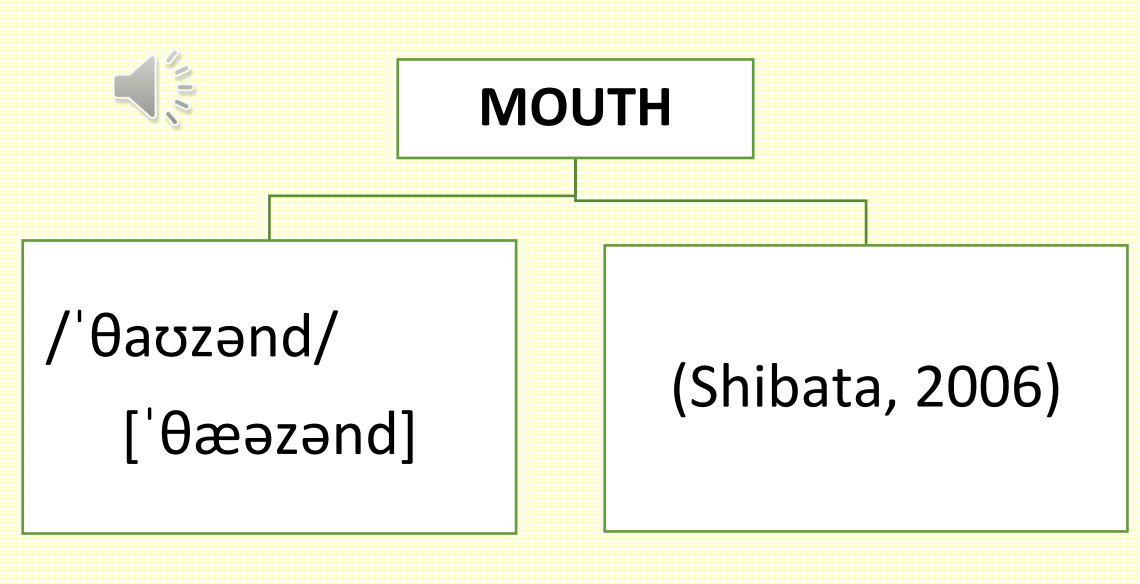
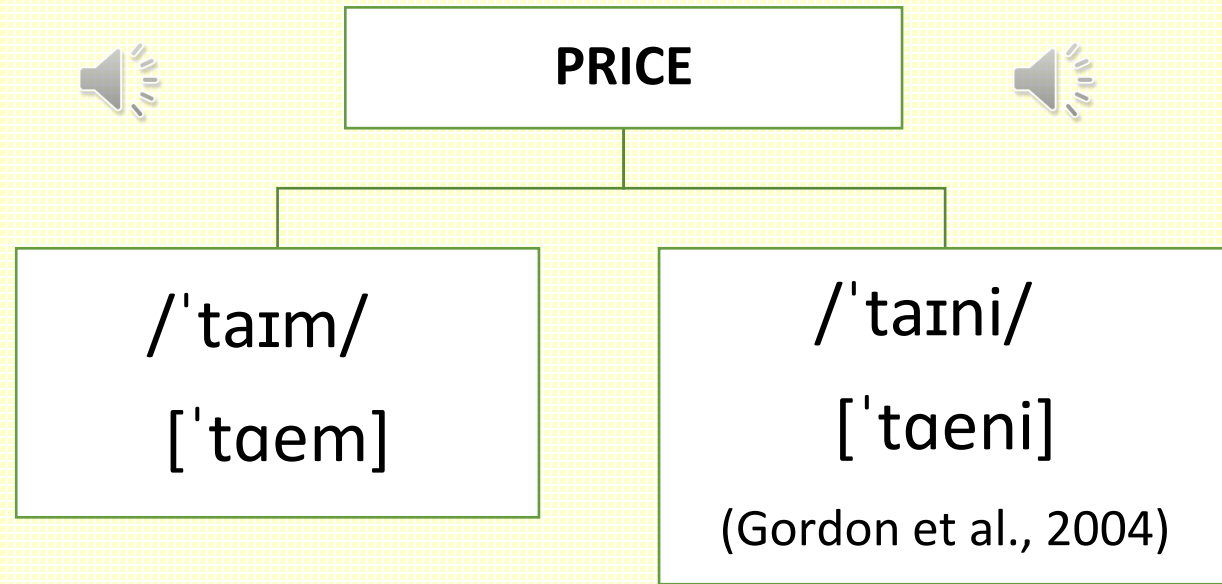


https://podcast.radionz.co.nz/panel/panel-20200220-1647-fewer_school_students_playing_sport-128.mp3

Yesterday, we talked about a big drop in the number of **teachers** able to help out with school sport, coaching and managing. Today, we're going back to the topic but this **time** it's about the sports kids are playing... the sports kids are playing. Excuse me! Figures show our participation in sport has dropped since **2000** for boys has gone from fifty-nine per cent to **fifty-five**, for girls from fifty-five per cent to forty-seven.

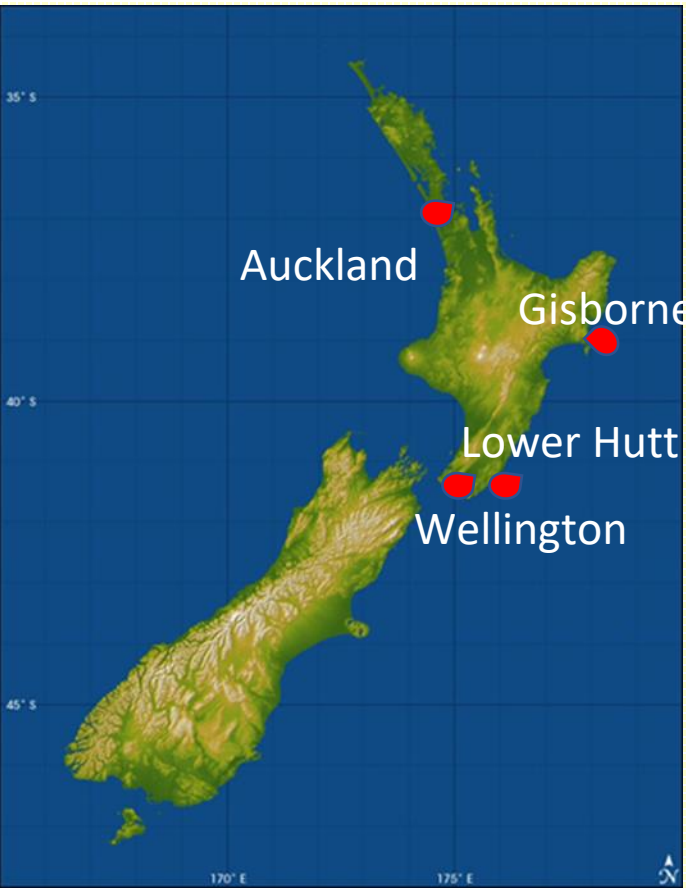
That's a pretty **tiny** drop.

Sound changes in New Zealand English



Data collection

Recordings from contemporary New Zealanders



born in 4 cities on the North Island: Gisborne, Lower Hutt, Wellington and Auckland

7 female and 3 male speakers

born between 1952 and 2003

mean age: 42

educated speakers – cultivated accent

recorded in 2021



Methods



Tokens



- four tokens per speaker
- accented vowels
- variable phonemic context
- vowels before /l/ excluded

Different registers



- spontaneous speech
- text reading
- word list reading



apartment	pyramid	island
building	residential building	ranch
cabin	studio	suburbs
dorm	townhouse	village
farmhouse		woods
house	campus	
houseboat	city	location
log cabin	coast	project
luxury apartment	country	rent
mansion	downtown	

Methods

Spontaneous speech

Unscripted but recorded speech. A random topic.

A few alternatives: childhood memories, hometown, hobby, pastime activities, occupation and pets.

Text reading

COMMA GETS A CURE

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Word list reading

pistol, high, leave, **women**, cow, **lid**, **ambition**, get, reach, seat, proud, head
simple, cry, **position**, **English**, reason, price, **syrup**, **curiosity**, **sin**, loud, dead
set, **skid**, lead, count, **busy**, **plausibility**, least, out, second, **six**, buy, **ship**
linguistic, says, mouth, sheep, **kin**, why, **rhythm**, crowd, **list**, seeks, **irritate**
house, **sit**, **typical**, bough, skied, **rich**, **distinctive**, round, write, **bin**, better
step, **intrinsic**, try, **risen**, bed, ripe, arrive, **live**, time, **big**, **rid**, read, best



Attentional load

Devyani and McCarthy (2018): a mild effect of higher attentional load on speakers' ability to maintain a formal style.

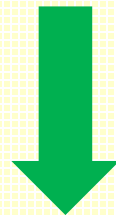
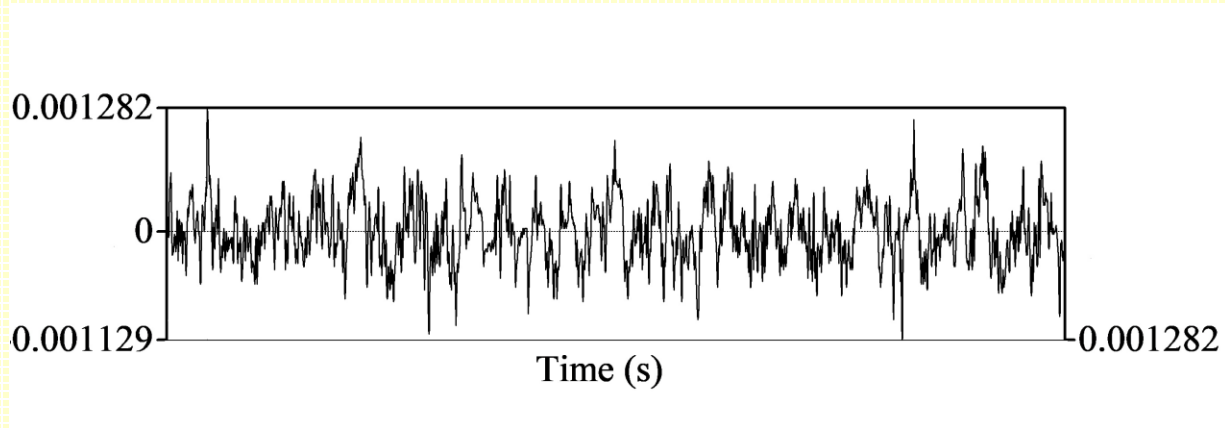
The attentional load is inherently higher in text reading than in word list reading. – The same phenomenon applies.

The formant values were affected when the speakers read out the text.

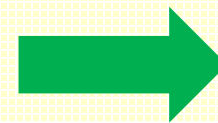
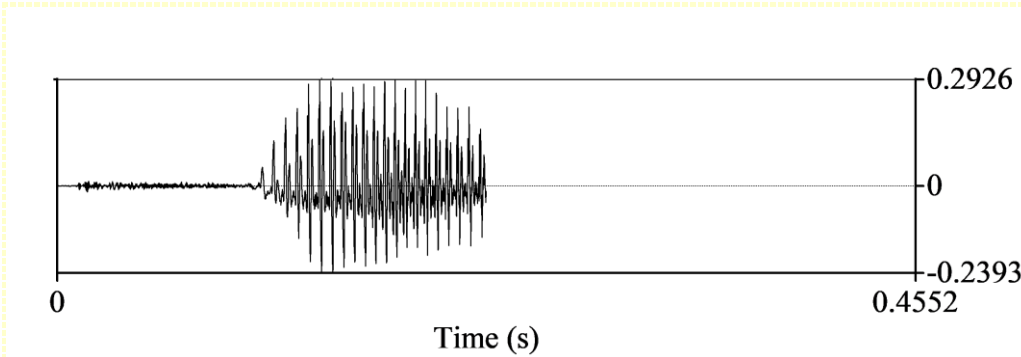
The comparison of spontaneous speech and word list data.

Methods

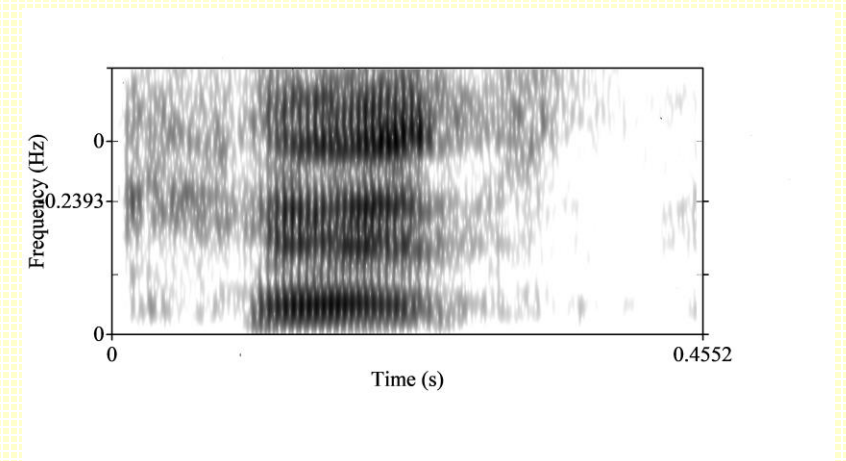
Recordings



Words extracted



F1 and F2 values measured



Static measurements

Dynamic spectral measurements

Euclidean distance

Bark scale (Z1, Z2)

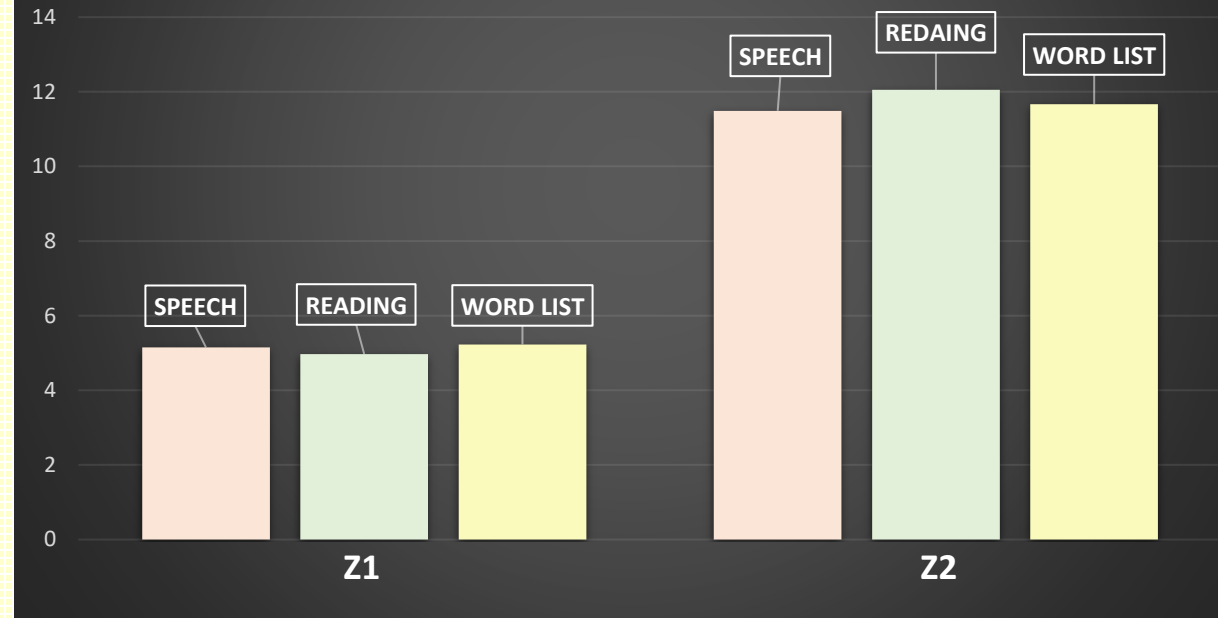


Results

KIT monophthong



Mean values in Bark for spontaneous speech, reading and word list



KIT	Style	Z1 (Bark)	Z2 (Bark)
Overall mean value	Speech	5.15	11.49
	Reading	4.97	12.05
	Word list	5.23	11.67

ns, unpaired t-test

similar formant values

no significant difference

KIT centralisation was not emphasised

Results

FLEECE diphthong

FLEECE nucleus	Style	Z1 (Bark)	Z2 (Bark)
Overall mean value	Speech	4.56	12.46
	Reading	4.54	12.82
	Word list	4.59	12.68

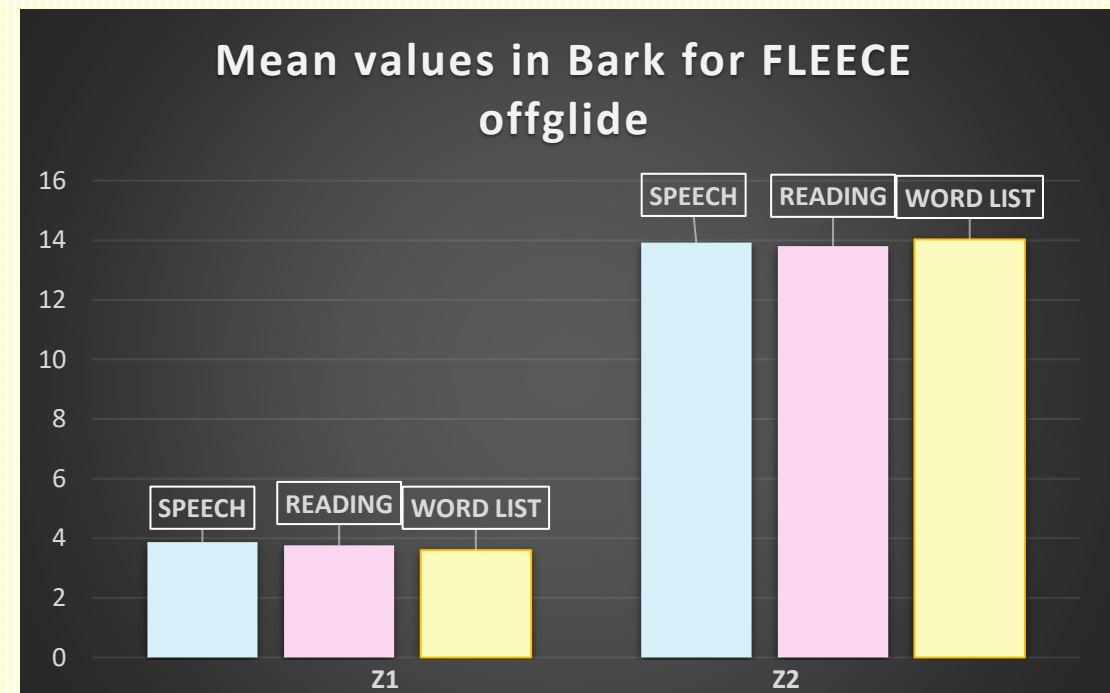
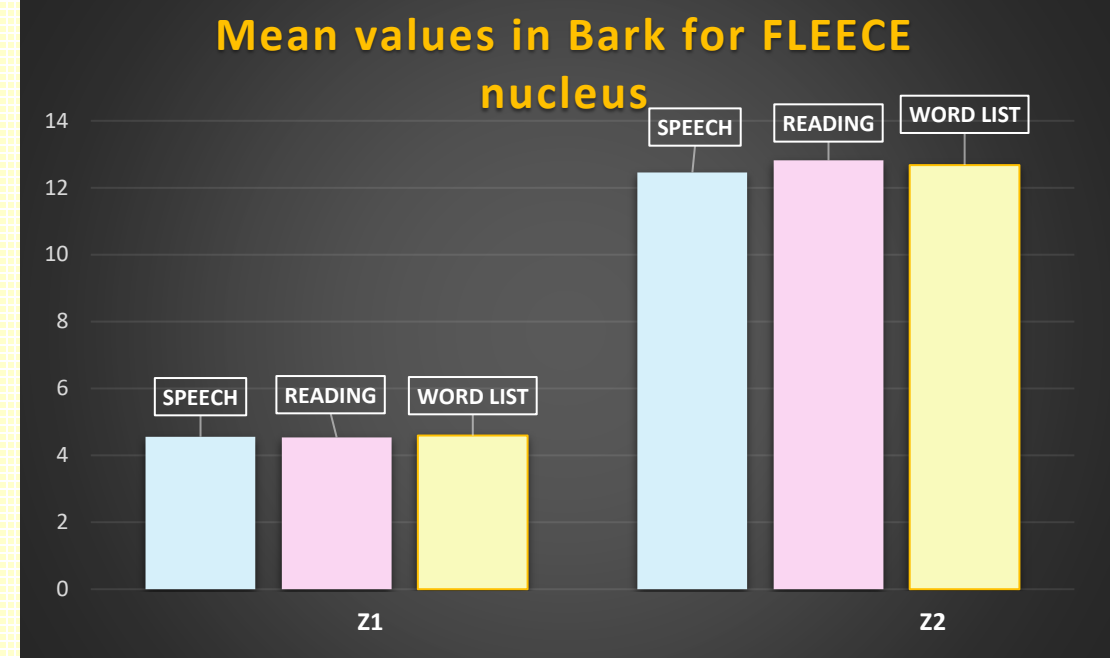
ns, unpaired t-test

FLEECE offglide	Style	Z1 (Bark)	Z2 (Bark)
Overall mean value	Speech	3.87	13.92
	Reading	3.76	13.80
	Word list	3.60	14.03

ns, unpaired t-test

similar formant values

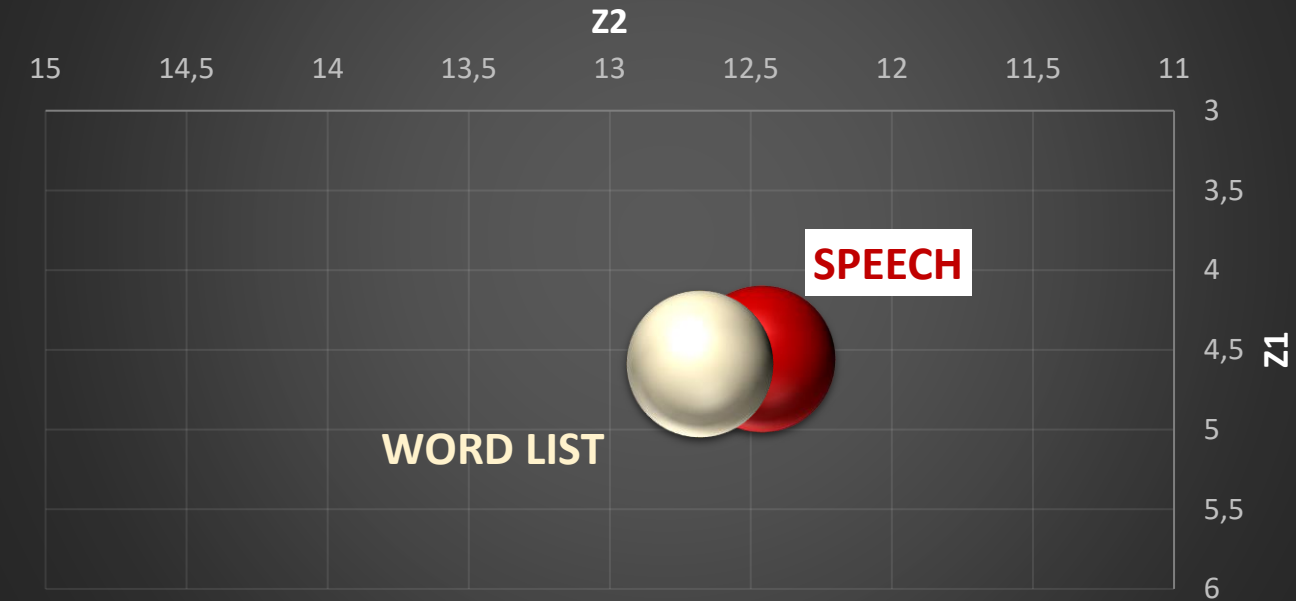
no significant difference



Results

FLEECE diphthong

FLEECE nucleus



FLEECE offglide



Discussion

KIT and FLEECE

The innovative, schwa-like, pronunciation of KIT is maintained in word list reading.

The innovative pronunciation of FLEECE, a diphthong with a central nucleus, has been found in all the styles.

Innovative pronunciation.

Results

PRICE diphthong

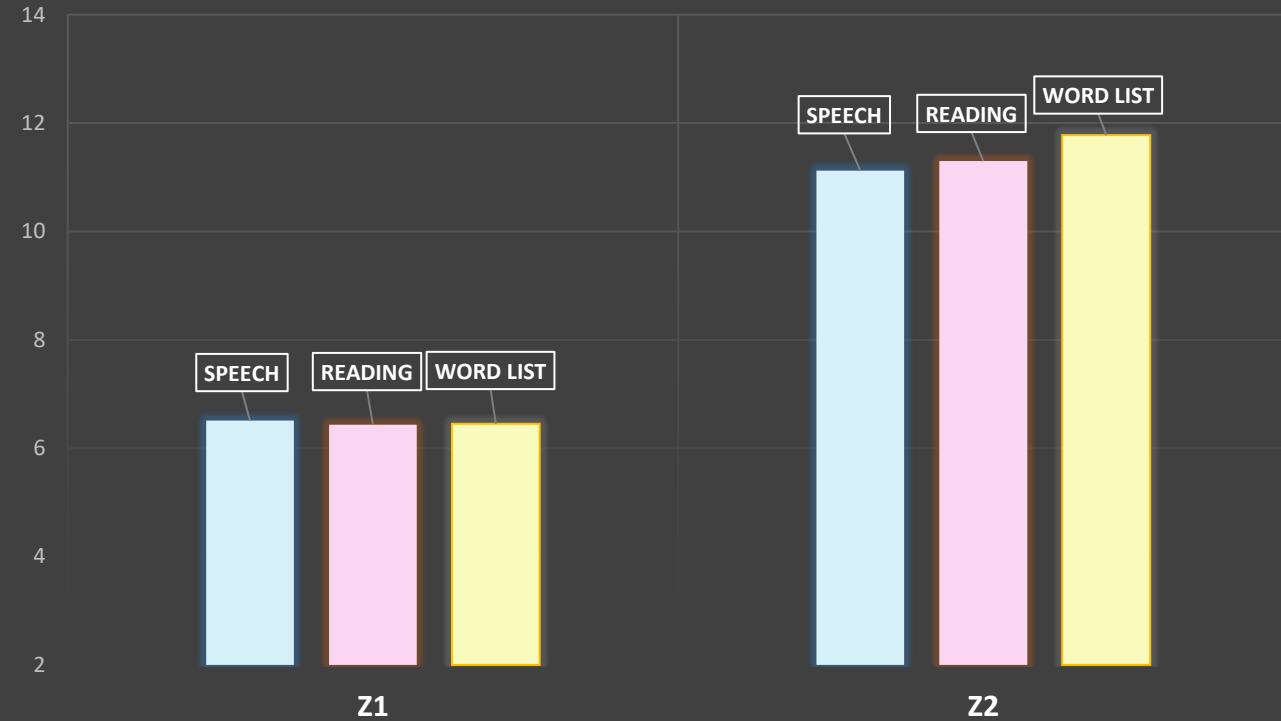
PRICE nucleus	Style	Z1 (Bark)	Z2 (Bark)
Overall mean value	Speech	6.40	9.42
	Reading	6.59	9.57
	Word list	6.77	9.34

ns, unpaired t-test

PRICE offglide	Style	Z1 (Bark)	Z2 (Bark)
Overall mean value	Speech	6.51	11.12
	Reading	6.43	11.30
	Word list	6.45	11.78*

* $p < 0.05$ vs. Speech, Mann-whitney test

Mean values in Bark for PRICE offglide

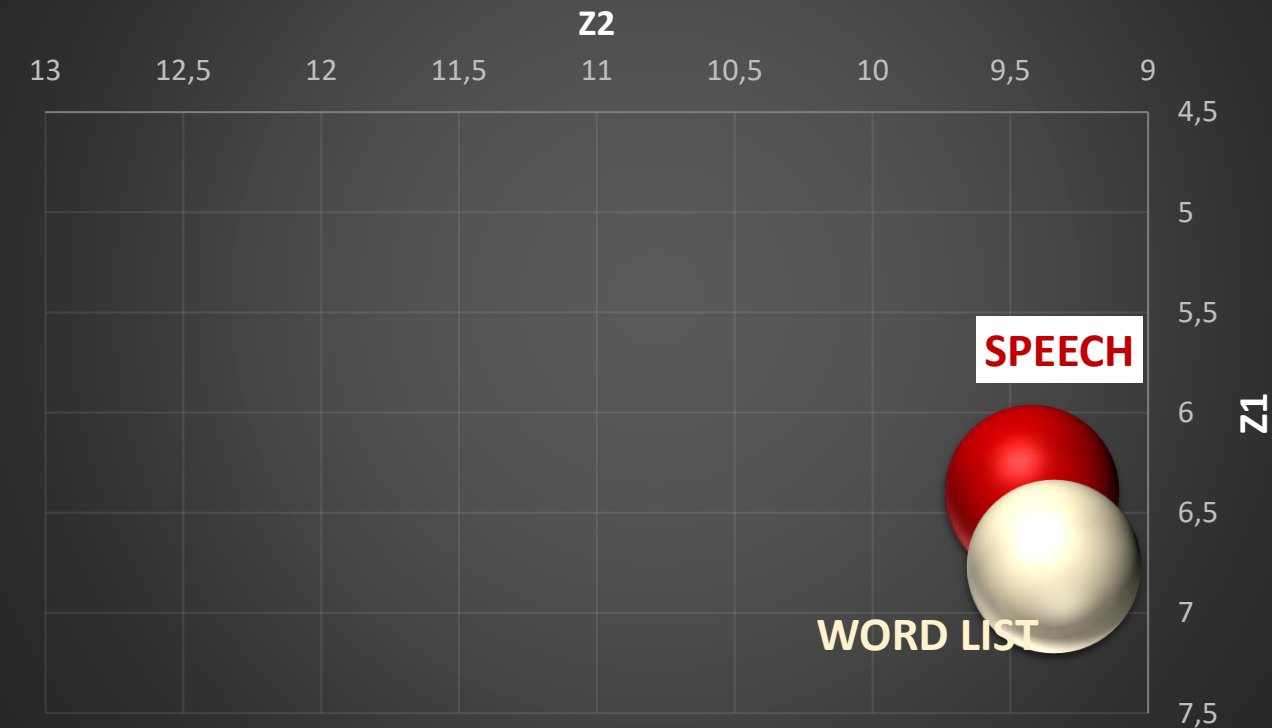


- **Z1**: no significant difference, but a tendency toward a higher value in the formal registers
- **nucleus**: similar formant values for Z1 and Z2
- **offglide**: significant difference in Z2 between spontaneous speech and word list data

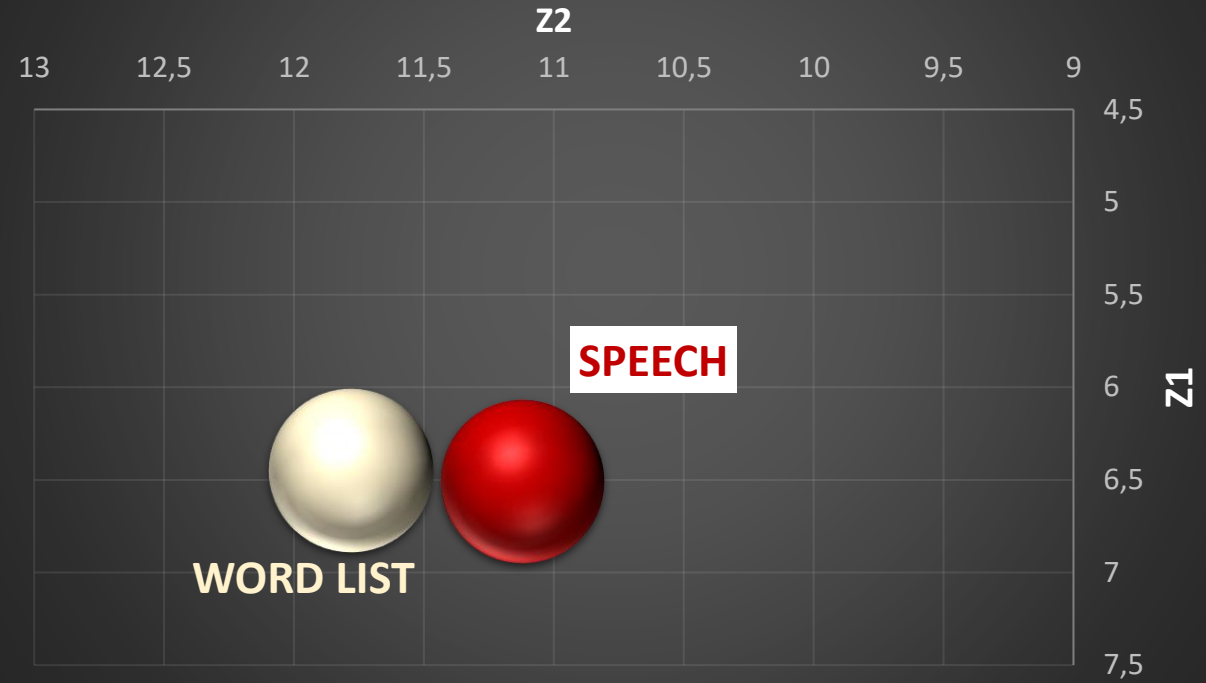
Results

PRICE diphthong

PRICE nucleus



PRICE offglide



Results

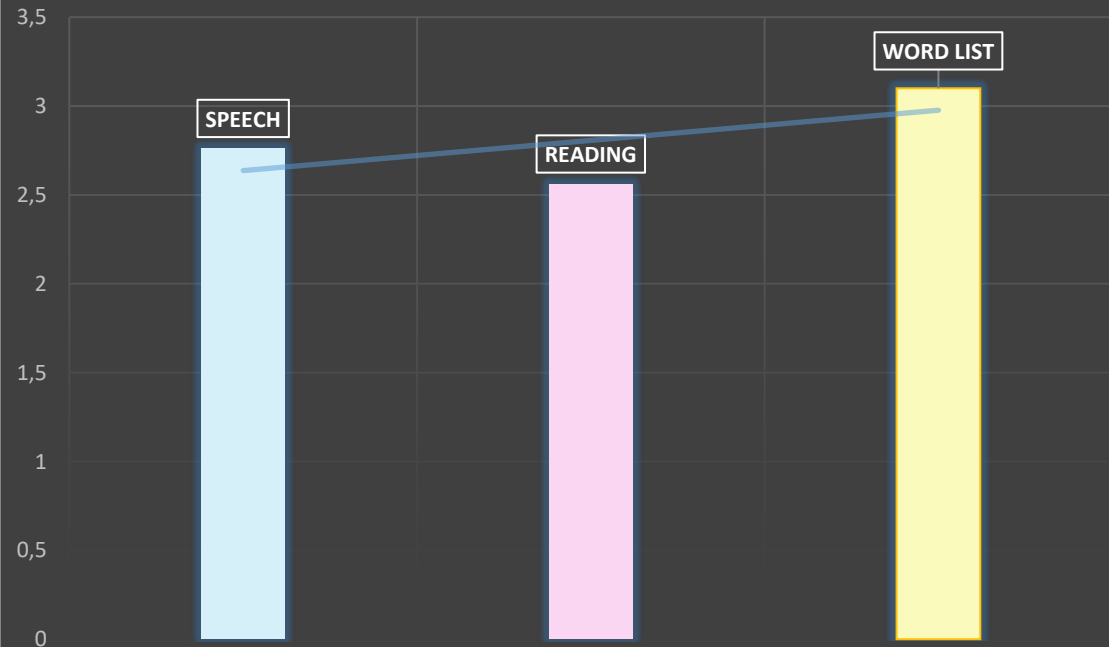
PRICE diphthong

PRICE	Speech	Reading	Word list
Spectral change	2.76	2.56	3.1**

** $p < 0.01$ vs. Speech, Mann-Whitney test



PRICE - spectral change

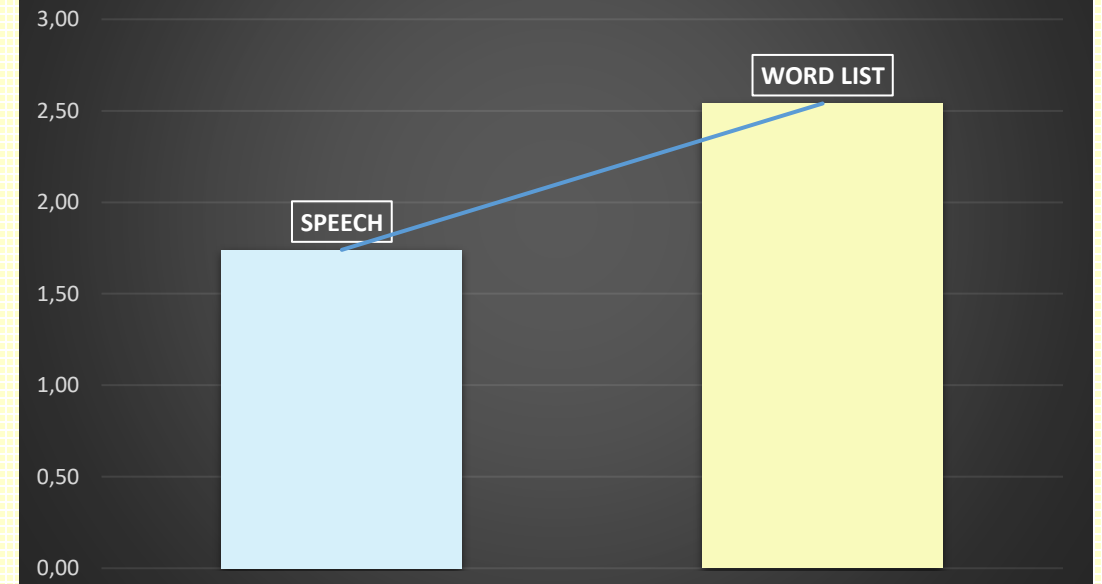


PRICE	Speech	Word list
Euclidean distance	1.74	2.54****

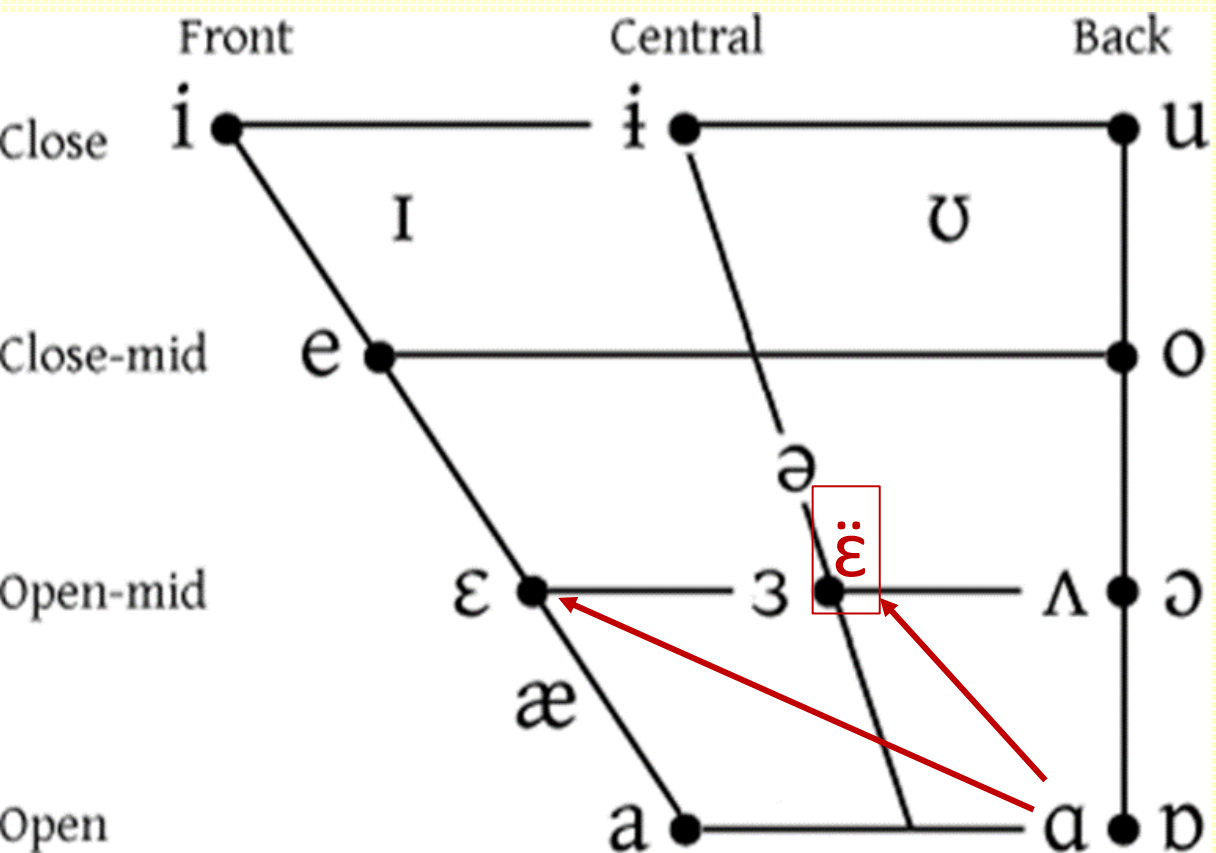
**** $p < 0.0001$ vs. Speech, Mann-Whitney test



Euclidean distance between the nucleus and the offglide - PRICE



Discussion



PRICE

Significant difference between spontaneous speech and word list data for Z2 of the offglide.

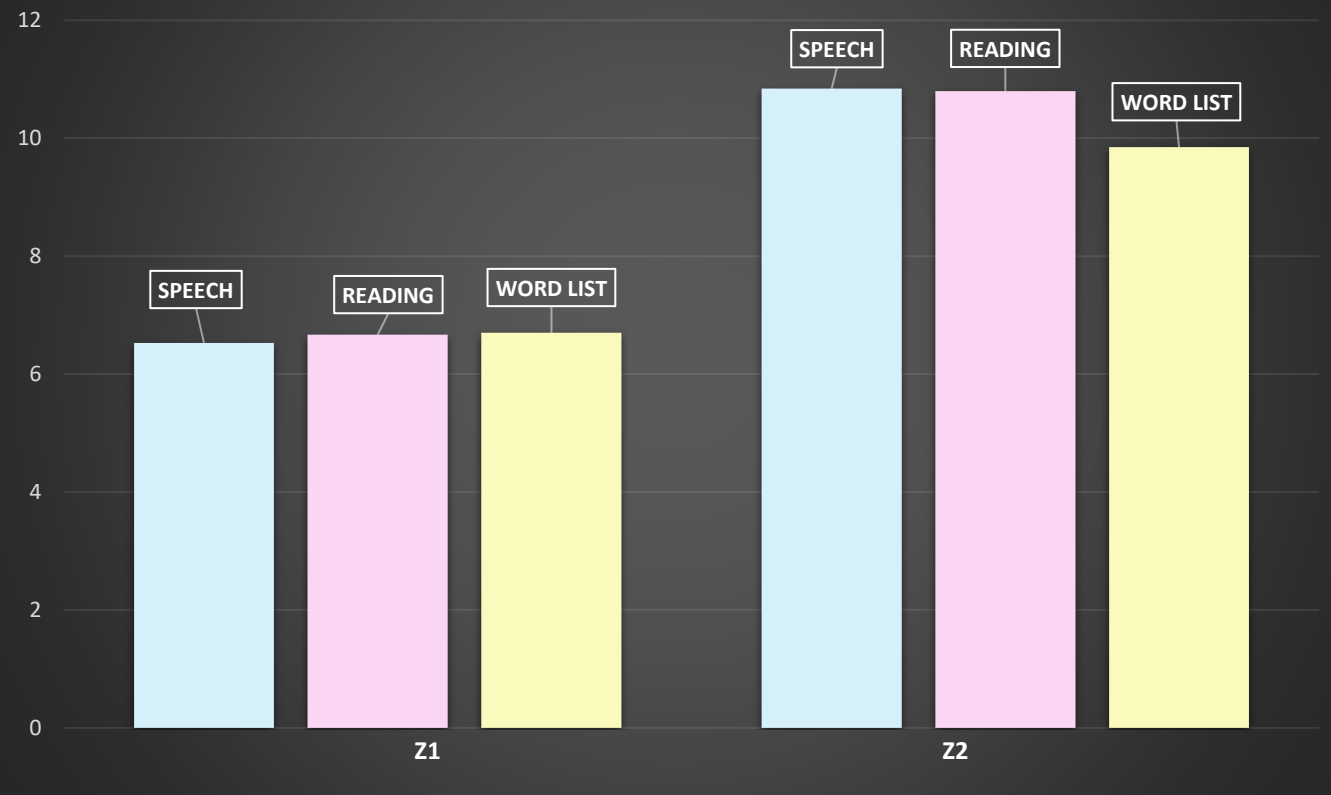
Higher Z2 value in word list reading → the offglide changes from /ɛ/ to /ɜ:/, to a more front vowel.

In the word list reading task, speakers shift to a more conservative pronunciation.

Results

MOUTH diphthong

Mean values in Bark for PRICE offglide



MOUTH nucleus	Style	Z1 (Bark)	Z2 (Bark)
Overall mean value	Speech	6.24	11.90
	Reading	6.36	11.86
	Word list	6.64	12.09

ns, unpaired t-test

MOUTH offglide	Style	Z1 (Bark)	Z2 (Bark)
Overall mean value	Speech	6.53	10.84
	Reading	6.67	10.80
	Word list	6.70	9.85***

**** $p < 0.001$ vs. Speech, Mann-Whitney test*

- **nucleus**: similar formant values for Z1 and Z2
- no significant difference

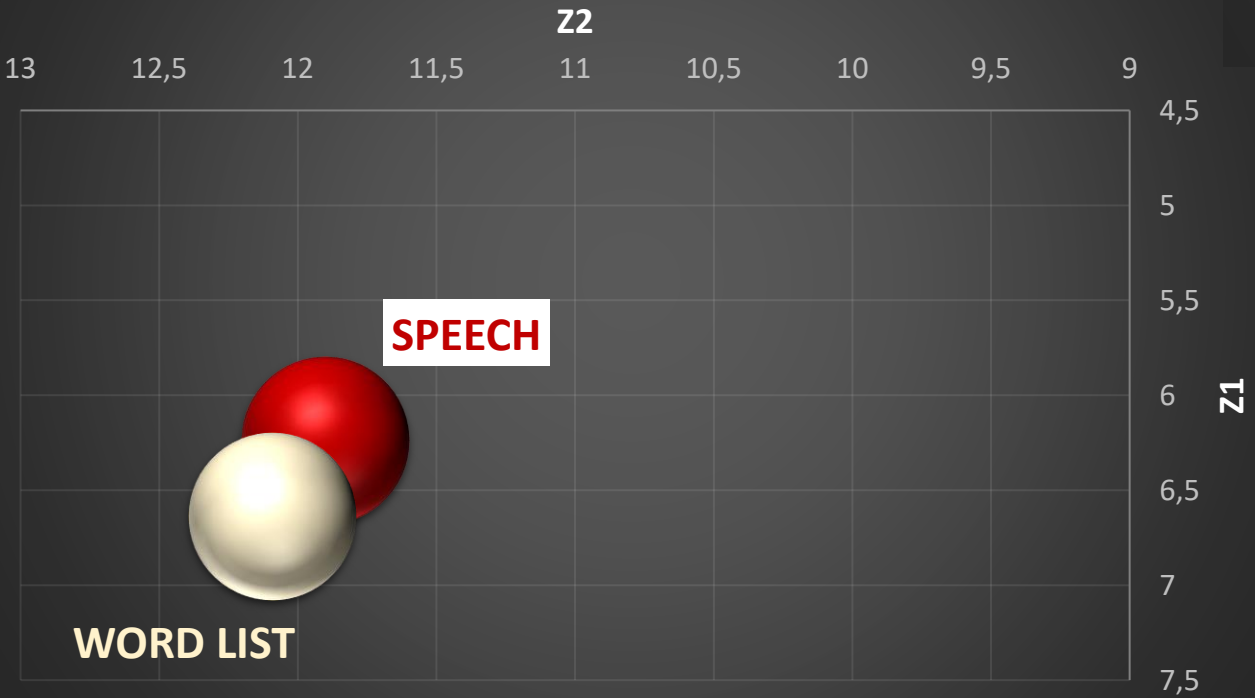
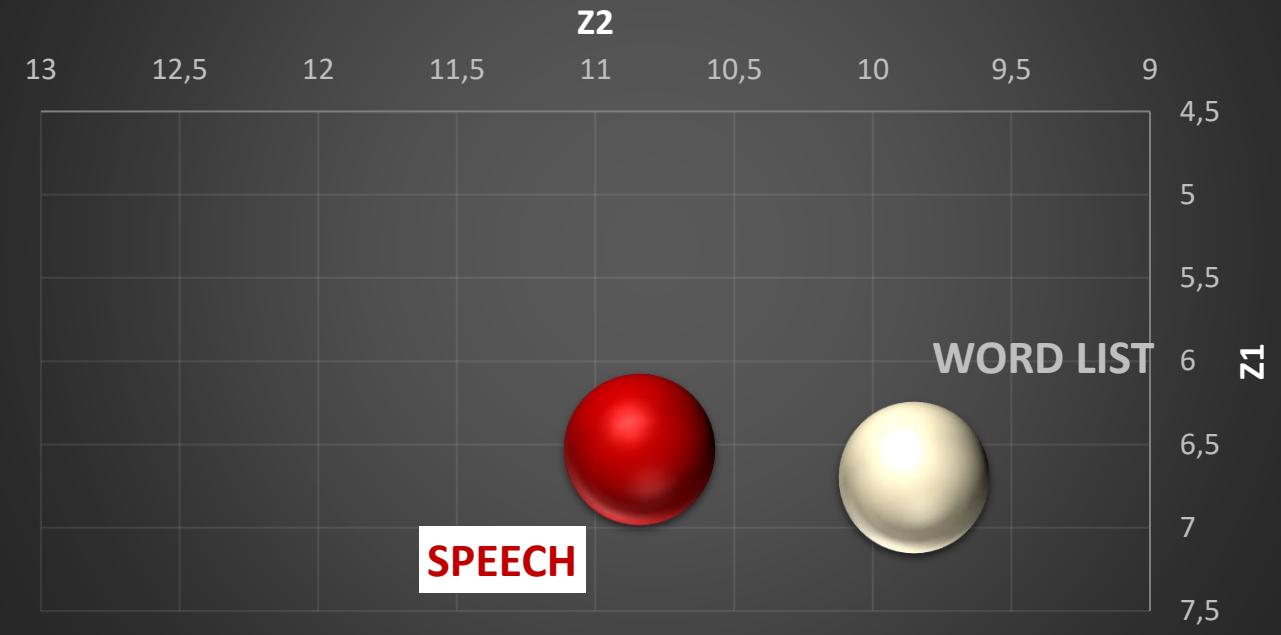
- **offglide**: significant difference in Z2 between spontaneous speech and word list data
- lower Z2 value in word list compared to speech

Results

MOUTH diphthong

MOUTH offglide

MOUTH nucleus

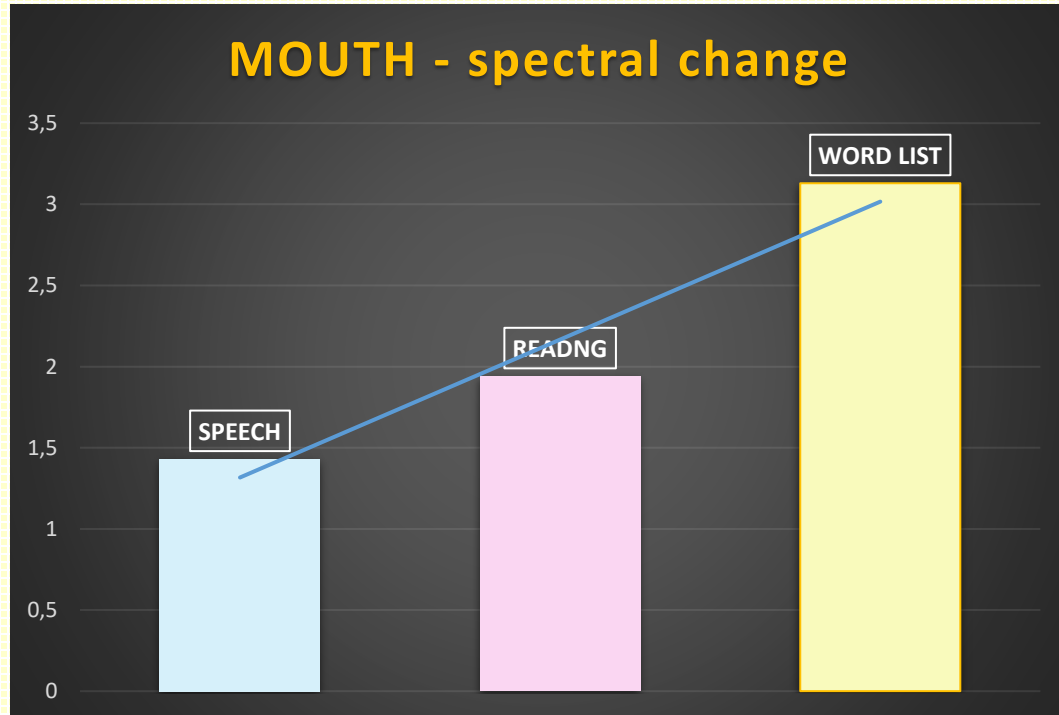


Results

MOUTH diphthong

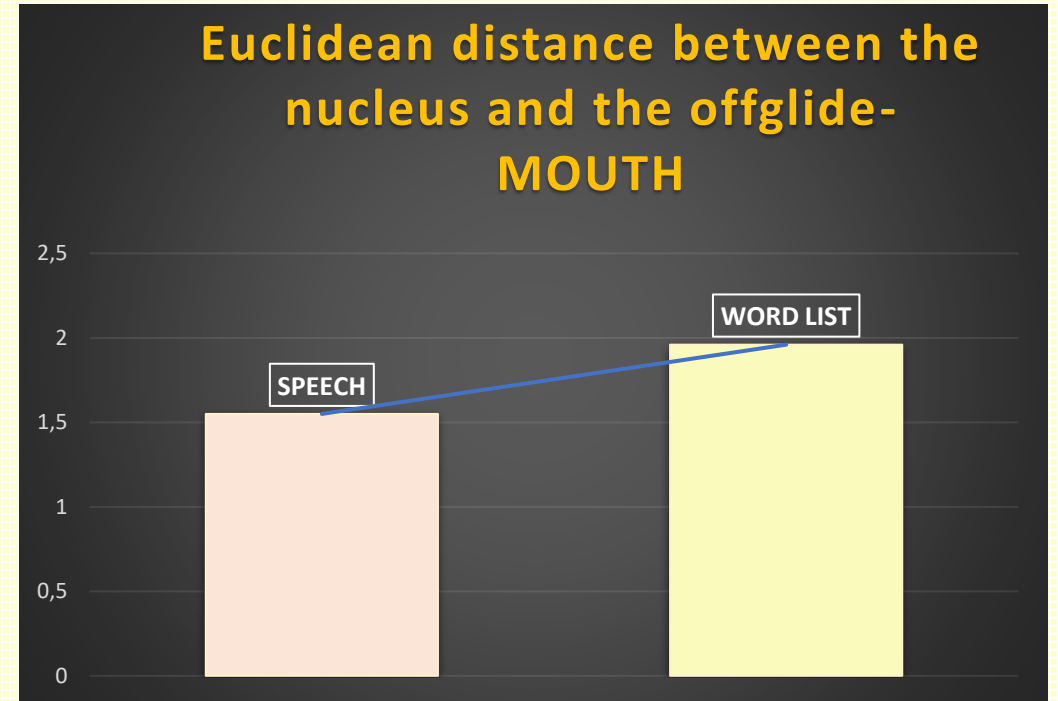
MOUTH	Speech	Reading	Word list
Spectral change	1.43	1.94	3.13**

** $p < 0.01$ vs. Speech, Mann-Whitney test



MOUTH	Speech	Word list
Euclidean distance	1.55	1.96**

** $p < 0.01$ vs. Speech, Mann-Whitney test



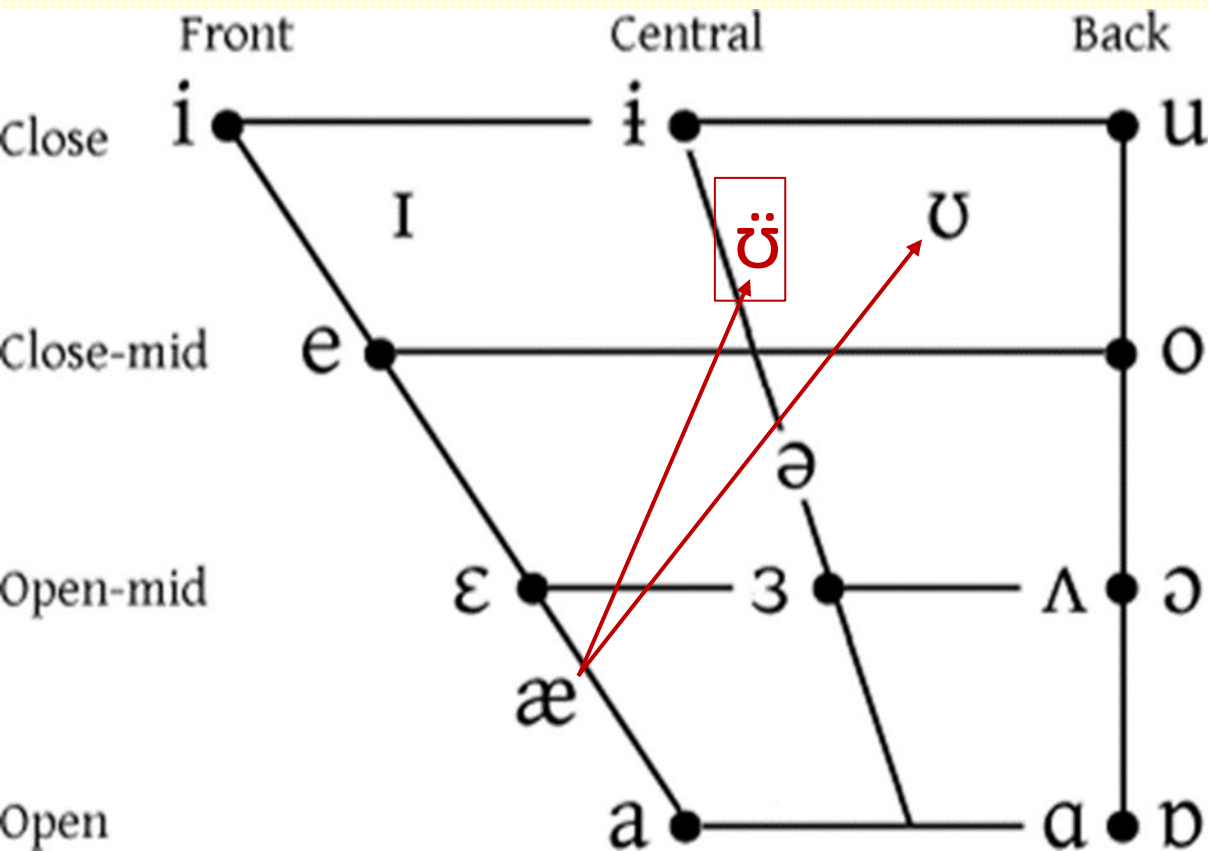
Discussion

MOUTH

Significant difference between spontaneous speech and word list data for Z2 of the offglide.

Lower Z2 value in word list reading → the offglide changes from /*ö*/ to /*ʊ*/, a more back vowel.

In the word list reading task, speakers shift to a more conservative pronunciation.



Conclusion

- It has been demonstrated that two **opposing forces** are at work in colonial situations.
- We chose
 - two vowels, **PRICE and MOUTH**, that changed **under the *external***, and
 - two vowels, **KIT and FLEECE**, that changed **under the *internal linguistic norm***.
- An **acoustic analysis** was carried out to examine their pronunciation **in style-shifting**.

Conclusion

- The pronunciation of **PRICE** and **MOUTH** becomes more conservative in the formal styles
 - because their realisation is **negatively valued**, reflecting the **effect of the conservative linguistic norm**.
- The pronunciation of **KIT** and **FLEECE** remains innovative because their pronunciation **changed under the internal norm**.
 - Therefore, their evaluation is **neutral in NZE** and it is not avoided in careful speech.

Conclusion

- Besides previously documented differences in the social dialects, it has been found that
 - **negatively valued features are avoided** in the formal styles within the same social class **reflecting the norm-enforcing effect of the external norm**, but
 - **neutral features remain the same.**
- This results in **different patterns in the two registers**: the spread of certain innovations to all registers is impeded by stigmatisation.
- Language change (accompanying new-dialect formation) is heavily influenced by patterns of social evaluation.

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Recordings:

<http://tauranga.kete.net.nz/en/site> - <https://digitalnz.org/records?tab=Audio&text=#/> - <https://www.dialectsarchive.com/australia-oceania>

Thank you for your attention!

Accent is the soul of language; it gives to it both feeling and truth.

Jean-Jacques Rousseau

<https://www.travelpulse.com/destinations/pacific/new-zealand.html>



https://www.freepik.com/premium-vector/funny-fat-kiwi-bird-hand-drawn-style_29808703.htm

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