New Zealand English
Its Origins and Evolution

New Zealand English – at just 150 years old – is one of the newest varieties of English, and is unique in that its full history and development are documented in extensive audio recordings. The rich corpus of spoken language provided by New Zealand’s ‘Mobile Disc Recording Unit’ has provided insight into how the earliest New Zealand-born settlers spoke, and consequently, how this new variety of English developed.

On the basis of these recordings, this book examines and analyses the extensive linguistic changes New Zealand English has undergone since it was first spoken in the 1850s. The authors, all experts in phonetics and sociolinguistics, use the data to test previous explanations for new dialect formation, and to challenge current claims about the nature of language change.

The first ever corpus-based study of the evolution of New Zealand English, this book will be welcomed by all those interested in phonetics, sociolinguistics, historical linguistics and dialectology.
STUDIES IN ENGLISH LANGUAGE

General Editor
Merja Kytö (Uppsala University)

Editorial Board
Bas Aarts (University College London), John Algeo (University of Georgia),
Susan Fitzmaurice (Northern Arizona University), Richard Hogg (University
of Manchester), Charles F. Meyer (University of Massachusetts)

New Zealand English
Its Origins and Evolution
STUDIES IN ENGLISH LANGUAGE

The aim of this series is to provide a framework for original work on the English language. All are based securely on empirical research, and represent theoretical and descriptive contributions to our knowledge of notional varieties of English, both written and spoken. The series will cover a broad range of topics in English grammar, vocabulary, discourse, and pragmatics, and is aimed at an international readership.

Already published

Christian Mair
Infinitival complement clauses in English: a study of syntax in discourse

Charles F. Meyer
Apposition in contemporary English

Jan Firbas
Functional sentence perspective in written and spoken communication

Izchak M. Schlesinger
Cognitive space and linguistic case

Katie Wales
Personal pronouns in present-day English

Laura Wright
The development of standard English, 1300–1800: theories, descriptions, conflicts

Charles F. Meyer
English Corpus Linguistics: theory and practice

Stephen J. Nagle and Sara. L. Sanders (eds.)
English in the southern United States

Anne Curzan
Gender shifts in the history of English

Kingsley Bolton
Chinese Englishes

Irma Taavitsainen and Päivi Pahta (eds.)
Medical and Scientific Writing in Late Medieval English

Forthcoming

Raymond Hickey (ed.)
Legacies of Colonial English
New Zealand English
Its Origins and Evolution

ELIZABETH GORDON
University of Canterbury, New Zealand

LYLE CAMPBELL
University of Canterbury, New Zealand

JENNIFER HAY
University of Canterbury, New Zealand

MARGARET MACLAGAN
University of Canterbury, New Zealand

ANDREA SUDBURY
Kings College London

PETER TRUDGILL
University of Fribourg
Contents

List of figures ........................................ page x
List of tables .......................................... xiii
Acknowledgements .................................... xv
List of abbreviations ................................. xviii
Symbols used .......................................... xix

1 Introduction ........................................ 1
   1 Introduction ................................... 1
   2 The Mobile Recording Unit ............... 3
   3 ONZE ........................................... 4

2 Overview and background ...................... 6
   1 Overview of the study of New Zealand English 6
   2 Modern New Zealand English ............ 23
   3 Summary ..................................... 35

3 The historical background .................... 36
   1 Introduction ................................ 36
   2 Historical background: the immigrants .... 36
   3 Historical background: colonial society ... 53

4 Previous attempts to explain the origins of New Zealand English .... 66
   1 Introduction ................................ 66
   2 Lay theories of the origins of New Zealand English 68
   3 Language contact ................................ 69
   4 The Cockney explanation .................. 71
   5 The ‘New Zealand English as Australian’ hypothesis .... 72
   6 New Zealand English as a transplanted south-east/London dialect .... 75
   7 The mixing bowl (or ‘melting pot’) approach .... 76
   8 New-dialect formation ...................... 77

vii
## Contents

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Determinism in new-dialect formation</td>
</tr>
<tr>
<td>10</td>
<td>Drift</td>
</tr>
<tr>
<td>11</td>
<td>Hypotheses for the origins of Australian English</td>
</tr>
<tr>
<td>12</td>
<td>Conclusion</td>
</tr>
<tr>
<td>5</td>
<td>Methodology</td>
</tr>
<tr>
<td>1</td>
<td>Introduction</td>
</tr>
<tr>
<td>2</td>
<td>Data</td>
</tr>
<tr>
<td>3</td>
<td>Data analysis</td>
</tr>
<tr>
<td>4</td>
<td>Terminology and phonetic symbols</td>
</tr>
<tr>
<td>5</td>
<td>Methodological assumptions</td>
</tr>
<tr>
<td>6</td>
<td>Summary</td>
</tr>
<tr>
<td>6</td>
<td>The variables of early New Zealand English</td>
</tr>
<tr>
<td>1</td>
<td>Introduction</td>
</tr>
<tr>
<td>2</td>
<td>The vowel of the TRAP lexical set</td>
</tr>
<tr>
<td>3</td>
<td>The vowel of the DRESS lexical set</td>
</tr>
<tr>
<td>4</td>
<td>The vowel of the KIT lexical set</td>
</tr>
<tr>
<td>5</td>
<td>The vowel of the START (or START/BATH/PALM) lexical set</td>
</tr>
<tr>
<td>6</td>
<td>The vowel of the STRUT lexical set</td>
</tr>
<tr>
<td>7</td>
<td>The vowel of the FOOT lexical set</td>
</tr>
<tr>
<td>8</td>
<td>The vowel of the FLEECE lexical set</td>
</tr>
<tr>
<td>9</td>
<td>The vowel of the GOOSE lexical set</td>
</tr>
<tr>
<td>10</td>
<td>The vowel of the LOT lexical set</td>
</tr>
<tr>
<td>11</td>
<td>The vowel of the THOUGHT lexical set</td>
</tr>
<tr>
<td>12</td>
<td>Closing diphthongs</td>
</tr>
<tr>
<td>13</td>
<td>Centring diphthongs</td>
</tr>
<tr>
<td>14</td>
<td>The vowel of the NURSE lexical set</td>
</tr>
<tr>
<td>15</td>
<td>Unstressed vowels</td>
</tr>
<tr>
<td>16</td>
<td>The <code>r</code> variable (/r/ in non-prevocalic position)</td>
</tr>
<tr>
<td>17</td>
<td>H-dropping</td>
</tr>
<tr>
<td>18</td>
<td>The /hw/ ~ /w/ merger</td>
</tr>
<tr>
<td>19</td>
<td>L-vocalisation</td>
</tr>
<tr>
<td>20</td>
<td>Interactions between the variables studied</td>
</tr>
<tr>
<td>21</td>
<td>Effects of gender</td>
</tr>
<tr>
<td>22</td>
<td>Social influences</td>
</tr>
<tr>
<td>7</td>
<td>The origins of New Zealand English: reflections from the ONZE data</td>
</tr>
<tr>
<td>1</td>
<td>Introduction</td>
</tr>
<tr>
<td>2</td>
<td>What needs to be explained?</td>
</tr>
<tr>
<td>3</td>
<td>Lay theories and language contact</td>
</tr>
<tr>
<td>4</td>
<td>The Cockney explanation</td>
</tr>
</tbody>
</table>
Contents

5  The ‘New Zealand English as Australian’ hypothesis 224
6  Transplanted dialects and their level of impact on New Zealand English 230
7  The mixing bowl (or ‘melting pot’) approach 235
8  Stages of new-dialect formation 235
9  Determinism in new-dialect formation 239
10 Drift 241
11 The role of children in new-dialect formation 243
12 Founder effects and colonial lag 244
13 Swamping 247
14 Questions about the role of different settlement types 250
15 The impact of standardisation, education, and social factors 252
16 Conclusions 256

8 Implications for language change 259
1  Introduction 259
2  Apparent-time versus real-time studies of change in progress 259
3  The role of the family 263
4  Vowel shifting 264
5  Mergers and other linguistic constraints on change 272
6  Gender 276
7  Lexical diffusion 276
8  Can speakers’ choices affect the direction of linguistic change? 283
9  Conclusions 286

Appendix 1 Mobile Unit speakers 287
Appendix 2 The historical background of some settlements visited by the Mobile Unit 296
Appendix 3 Maps 310
Appendix 4 Seven Mobile Unit speakers born outside New Zealand 326
Appendix 5 Acoustic vowel charts for the ten speakers included in the acoustic analysis 328
Appendix 6 Speaker indexes for quantified variables, together with relevant social information 334
References 339
Index 359
Figures

2.1 The monophthongs of modern New Zealand English, non-normalised \hspace{1cm} \textit{page 25}
2.2 The closing diphthongs of modern New Zealand English, non-normalised \hspace{1cm} 27
2.3 \textit{near} and \textit{square} in modern New Zealand English, non-normalised \hspace{1cm} 30
5.1 Distribution of New Zealand-born speakers analysed \hspace{1cm} 88
6.1 CART regression tree predicting individuals’ index scores for raising of \textit{trap} \hspace{1cm} 106
6.2 \textit{trap} raising, by gender and birthdate \hspace{1cm} 107
6.3 \textit{trap} raising, by settlement type and birthdate \hspace{1cm} 107
6.4 CART regression tree predicting percentage of raised \textit{trap} tokens over the entire data set \hspace{1cm} 108
6.5 Normalised vowel spaces for the five men and the five women analysed acoustically \hspace{1cm} 109
6.6 \textit{dress} raising, by origin of parents \hspace{1cm} 112
6.7 \textit{dress} raising, by gender and birthdate \hspace{1cm} 112
6.8 \textit{dress} raising, by settlement type and birthdate \hspace{1cm} 113
6.9 CART regression tree predicting individuals’ index scores for raising of \textit{dress} \hspace{1cm} 113
6.10 CART regression tree predicting percentage of raised \textit{dress} tokens over the entire data set \hspace{1cm} 114
6.11 \textit{kit} centralisation, by origin of parents \hspace{1cm} 118
6.12 \textit{kit} centralisation, by gender and birthdate \hspace{1cm} 119
6.13 \textit{kit} centralisation, by settlement type and birthdate \hspace{1cm} 119
6.14 \textit{kit} raising, by origin of parents \hspace{1cm} 121
6.15 \textit{kit} raising, by settlement type and gender \hspace{1cm} 122
6.16 \textit{kit} raising, by gender and birthdate \hspace{1cm} 122
6.17 \textit{kit} raising, by origin of mother \hspace{1cm} 123
6.18 CART regression tree predicting individual’s index scores for raising of \textit{kit} \hspace{1cm} 124
List of figures xi

6.19 START fronting, by gender 130
6.20 START fronting, by settlement type 131
6.21 START fronting, by birthdate 131
6.22 START fronting, by origin of parents 131
6.23 CART regression tree predicting individuals’ index scores for START fronting 132
6.24 Proportion of short front dance variants, by age and gender 133
6.25 Proportion of short front dance variants, by origin of parents 134
6.26 Proportion of short front bath variants, by gender 135
6.27 Proportion of short front bath variants, by settlement type 135
6.28 Proportion of short front bath variants by origin of parents 136
6.29 Historical movement of strut 137
6.30 Acoustic vowel charts including closing diphthongs for men and women 153
6.31 Unstressed vowel centralisation, by origin of parents 167
6.32 Unstressed vowel centralisation, by birthdate and settlement type 167
6.33 Unstressed vowel centralisation, by birthdate and gender 168
6.34 Unstressed vowel centralisation 168
6.35 Unstressed vowel centralisation, by settlement type and gender 169
6.36 CART regression tree showing percentage of unstressed vowel centralisation of unstressed vowels across all tokens 170
6.37 Average rhoticity by origin of parents 178
6.38 Average rhoticity by settlement type and birthdate 179
6.39 Average rhoticity by gender and birthdate 179
6.40 CART regression tree predicting speakers’ average degree of rhoticity 180
6.41 Average degree of rhoticity, by birthdate and settlement type 180
6.42 Average degree of rhoticity (across tokens), as conditioned by the preceding vowel 181
6.43 Effect of the following prosodic boundary on the realisation of /r/ 182
6.44 Semantic domain as a predictor of production of /r/ 183
6.45 Average h-dropping (%), by gender and birthdate 189
6.46 Average h-dropping (%), by settlement type 190
6.47 CART regression tree predicting individuals’ percentage h-dropping 191
6.48 Percentage /hw/, by gender and birthdate 196
6.49 Change in /hw/ over time 196
6.50 Percentage /hw/, by origin of parents 197
6.51 Percentage /hw/, by settlement type 198
6.52 CART regression tree predicting individuals’ percentage /hw/ 198
6.53 Percentage /hw/ for function/question words and content words 199
List of figures

6.54 Percentage /hw/ for embedded and non-embedded words 200
6.55 Correlation between percentage /hw/ and rate of h-dropping 204
6.56 START fronting index and TRAP raising index 206
6.57 TRAP raising index and DRESS raising index 207
6.58 KIT centralisation index and DRESS raising index 208
6.59 Vocalic index scores for seven early speakers 210
6.60 Vocalic index scores for seven late speakers 210
Tables

3.1 Birthplace of overseas-born in 1881 ................................................. page 45
3.2 Regional origins of the English immigrants ..................................... 46
3.3 Regional origins of the Scots immigrants ....................................... 48
3.4 Regional origins of the Irish immigrants ....................................... 50
3.5 New Zealand locations of immigrant population, by place of birth (1871) .............................................................................. 51
3.6 New Zealand locations of UK immigrants, by place of birth (1871) .............................................................................. 51
3.7 Occupations of immigrants’ fathers ............................................... 52
3.8 Male and female population figures, 1864–1881 ............................ 54
3.9 New Zealand population aged under 15 ........................................ 54
3.10 New Zealand statistics of school attendance, 1871–86 ................. 56
3.11 Urban-rural distribution of non-Maori population, 1861–1891 .... 56
5.1 Number of speakers analysed quantitatively ................................ 88
5.2 Census information for Milton: example of a Scottish town .......... 96
5.3 Census information for Hamilton: example of an English town ...... 96
5.4 Census information for Lawrence: example of a mixed town ......... 96
6.1 Order of treatment of variables ...................................................... 101
6.2 Distribution of TRAP variants ....................................................... 105
6.3 Averaged index scores for TRAP, by gender ................................. 106
6.4 Linguistic constraints for TRAP raising ....................................... 108
6.5 Distribution of DRESS variants .................................................... 111
6.6 Linguistic constraints on DRESS raising ....................................... 114
6.7 Distribution of KIT variants ........................................................ 117
6.8 Linguistic constraints on KIT centralisation .................................. 120
6.9 Linguistic constraints on KIT raising ............................................ 124
6.10 Distribution of START variants ................................................... 130
6.11 Linguistic constraints on short front dance variants ...................... 134
6.12 Distribution of variants for unstressed vowels .............................. 166
6.13 Linguistic constraints on centralisation of unstressed vowels ....... 169
6.14 Linguistic constraints on h-dropping ............................................ 191

xiii
xiv  List of tables

6.15 Linguistic constraints on /hw/  200
6.16 Spearman's correlation coefficients, showing degree of correlation between vowel index scores for KIT, DRESS, TRAP and START  205
6.17 Proportion of ‘non-shifted’ variants, and patterns of change over time  208
6.18 Population statistics for Milton and Arrowtown  213
7.1 Summary of facilitating factors for quantified variables  217
7.2 New Zealand immigration and emigration figures, 1861–1880  227
7.3 Percentage of tokens and speakers for quantified consonantal variables  241
8.1 Regular sound change versus lexical diffusion  282

Tables in Appendix 2
1 Birthplaces of the population of Wanganui  298
2 Birthplaces of the population of Thames  301
3 Birthplaces of the population of Arrowtown  302
4 1891 – overseas-born males and females in Arrowtown  303
5 Census returns for religion in Arrowtown  303
6 Birthplaces of the population of Milton  305
7 Census returns for religion in Milton  305
8 Birthplaces of the population of Kaitangata in 1891  307
Acknowledgements

A large number of people have been involved in the preparation of data, research, and writing of this book. In 1989, the University of Canterbury purchased the Mobile Disc Recording Unit archive, and Elizabeth Gordon began work on the recordings in 1990; she was joined by Gillian Lewis in 1993 and Leigh Nurkka in 1994. The Origins of New Zealand English Project (ONZE) was established in 1996 with funding from the New Zealand Public Good Science Fund. At that time, the team was Elizabeth Gordon, Gillian Lewis, Margaret Maclagan, Lyle Campbell, and Peter Trudgill, assisted by Leigh Nurkka, Chris Bartlett, and Sandra Quick. In 2000, Andrea Sudbury and Jennifer Hay joined the team as post-doctoral fellows.

Project managers (without whom this project could not have gone ahead) were Gillian Lewis (1996–9), Stacey Nicholas (1999–2001), and Rachel Rowlands (2001–3). They were responsible for, among other things, the day-to-day running of the project, the organisation of research workers, and, at times, the quest for funding. Emma Parnell of the Linguistics Department also assisted in the administration of financial expenditures.

Acquisition of data: Jim Sullivan, former Chief Archivist of Radio New Zealand Sound Archives, first made us aware of the Mobile Unit recordings; Stephen Riley, of Radio New Zealand Sound Archives in Timaru, organised the copying of the data.

Preparation of data, organisation of recorded material, and transcription: Gillian Lewis and Leigh Nurkka carried out much of this work in the first years of the project. Other research assistants were Chris Bartlett, Te Kahu rangi Blake, Tim Brown, Siobhan Buckingham, Jeremy Carstairs-McCarthy, Michelle Dawe, Dianne Dwyer, Charlotte Gordon, Margaret Gordon, David Joseph, Diana Looser, David Maclagan, Wendy Nuthall, Karrie Schreier, Chris Tait, and Nathan Welham.

Technical assistance was given by Bruce Russell and Geeta Jatania of Radio New Zealand Sound Archives, and Mike Clayton from the Information Technology Department at the University of Canterbury.
xvi Acknowledgements

The database was designed and organised by Gillian Lewis, Chris Bartlett, Jennifer Hay, Stacey Nicholas, and Rachel Rowlands.

Acoustic analysis was the responsibility of Margaret Maclagan who was assisted by David Maclagan, Jennifer Hay, and Chris Bartlett.

Identifying the British historical antecedents of the variables of early New Zealand English was carried out by Peter Trudgill, assisted by Margaret Maclagan and Lyle Campbell.

Research into early written records was done by Elizabeth Gordon, who received advice and assistance from Colin McGeorge and the librarians at the University of Canterbury, the Alexander Turnbull Library Wellington, and the Christchurch Public Library.

The historical research was the responsibility of Elizabeth Gordon. The main historical advisor to the project was Jenny Murray, who carried out the research on the case-study towns, and also gave advice and assisted with the text as a whole. Jock Phillips, former Chief Historian of the Department of Internal Affairs, gave permission to use the historical material and figures on the website http://www.nzhistory.net.nz/gallery/brit-nz/. This material was taken from a major project on the New Zealand immigrants from Britain and Ireland undertaken by the History Group funded by the New Zealand Foundation for Research Science and Technology. (It will be published in book form.) Sandra Quick, involved with historical research in the early part of the ONZE project, went to the towns visited by the Mobile Unit, looking for local sources of genealogical and historical information in museums, libraries, and so on. She also interviewed relatives of some of those interviewed in the 1940s. Nicola Woods, post-doctoral fellow at the University of Canterbury (1993–4), also visited some Otago towns and interviewed members of several generations of the families in the Mobile Unit archive. John Gordon gave advice for some of the historical discussion.

Statistical analysis was carried out by Jennifer Hay and Margaret Maclagan. John Pilkington also gave advice.

Genealogical searches were carried out by Sandra Quick and Louise Buckingham at the Department of Justice Registry of Births, Deaths, and Marriages in Lower Hutt. We are grateful to E. J. Rowland, Deputy Registrar-General, for allowing us free access to these records.

Preservation of the ONZE data has been carried out with the technical advice of Bruce Russell and Mike Clayton; Chris Tait transferred the data from audio and DAT tapes to CD-R. Max Broadbent and Jeff Palmer arranged for all the ONZE data to be held in the Macmillan Brown Library of the University of Canterbury.

Chris Bartlett assisted with the review of the literature in Chapter 4.

Information about the operations of the Mobile Unit was collected by Sandra Quick and Mike Clayton, who recorded an interview with Ash Lewis, technician on one of the Mobile Unit tours.

The project has been greatly assisted by academic visitors to the University of Canterbury. Daniel Schreier, the Marsden post-doctoral fellow for 2002, was
Acknowledgements xvii

actively involved with ONZE project discussions and gave excellent advice. James and Lesley Milroy's suggestions for studying present-day New Zealand English were adopted for the Canterbury Corpus of New Zealand English. William Labov gave invaluable advice about organising the ONZE project, and suggested methods of analysis. Other visitors to the project who gave assistance and advice were Walt Wolfram, Dennis Preston, Jenny Cheshire, Jean Hannah, John Rickford, Gunnel Melchers, Jack Chambers, Barbara Horvath, and David Gough. Two longer-term visitors to the ONZE project were Erwin la Cruz from the University of the Andes in Venezuela and Yutai Watanabe of Hosei University, Japan. Other scholars who have given input to the project were Ray Hickey, David Britain, and Roger Lass.

The ONZE project was supported by research grants from the University of Canterbury (Grants: U2007, U6456, U6207, U6261, U6318), the Macmillan Brown Bequest, the New Zealand Public Good Science Fund (UOC 607), The Royal Society of New Zealand Marsden Fund (M1039), the New Zealand Lotteries Board Fund (Grant E4834), and the Canterbury History Foundation (for data preservation).

The editing of the book was the work of Gillian Lewis, assisted by Anna Cull and Margaret Maclagan. Tony Trewinnard is to be thanked for producing the maps.

We also thank students from the Linguistics Department at the University of Canterbury who served as listeners for evaluating the accents of some of the Mobile Unit speakers. And, finally, we thank all our other colleagues who, from time to time, offered informal input, as well as moral and intellectual support.

Finally, we gratefully acknowledge the Mobile Unit interviewees and their descendants, without whom this project would not have been possible.
Abbreviations

AJHR
Mobile Unit
NZBS
nzhistory.net
ONZE
SED

Appendices to the Journal of the House of Representatives
Mobile Disc Recording Unit, 1946–8
New Zealand Broadcasting Service
http://www.nzhistory.net.nz/gallery/brit-nz/
Origins of New Zealand English project, University of Canterbury
Survey of English Dialects 1962–71

Abbreviations used on the Maps (Appendix 3)

Ellis
Lowman
Thomas
Trudgill
Wright
Ellis 1889
Lowman’s data, reported in Kurath & Lowman 1970
Thomas 1994
Trudgill 1999d
Wright 1905
Symbols used

Consonants:
- [ŋ] voiced velar nasal
- [r] voiced alveolar tap
- [ʃ] voiced alveolar approximant
- [t] voiceless alveolar trill
- [l] retroflex approximant
- [θ] voiceless dental fricative
- [ʃ] voiceless postalveolar fricative
- [m] voiceless labial-velar fricative

Diacritics:
- [±] raised
- [±] lowered
- [±] fronted
- [±] retracted
- [±] devoiced
- [±] centralised
- [t] velarised – ‘dark /l/’, velarised alveolar lateral approximant

Where symbols appear in pairs, the one to the right represents a rounded vowel.

© Cambridge University Press