A Sociophonological Analysis of Mersea Island English:

An investigation of the diphthongs (aʊ), (aɪ) and (ɔɪ)

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Finally, to my dad, Adrian – Thank you for being the most hilarious proof-reader anyone could wish for!

- J.A.

"Is the bottle half-full or half-empty? Neither. There is always something in place of that space where nothing can be seen, whether it be air, or something other. Therefore the bottle is always full, but, like life, it is not always full of what you expect."

- Michelle-Lee Phelan

ABSTRACT

This thesis presents a socio-phonological analysis of three diphthongs in Mersea Island English (MIE). Mersea Island is situated off the North East coast of Essex in South East England. Socio-economically, the Island has seen dramatic change over the past century. Originally quite isolated and economically largely self-sufficient, social and demographic changes have led to significantly greater contact (both social and linguistic) with the mainland. Thus, parallels may be drawn between the developments of Mersea Island and those of, for example, Martha's Vineyard and Ocracoke Island in North America.

The nature of these social changes will be evaluated alongside the analysis of the diphthongs MOUTH, PRICE and CHOICE. As a result, the direction of change and typologies of variation present in the speech of three generations of Mersea Islanders will be established, and the relationship between the dialectological findings and external sociolinguistic factors will be explored.

The results from the sociolinguistic data analysis will then be considered in light of naturalness and phonological theory. Using an approach combining the mechanics of Optimality Theory (OT) and the principles of Dispersion Theory, a three-tiered model will be constructed which effectively represents the interface between internal (linguistic) factors and external (sociolinguistic) influences on language variation and change. It will be seen, through the application of this model to MIE that, while some variation may be generated at the linguistic level, other variation may be attributed to selections based upon sociolinguistic considerations. In addition, the incorporation of variation at each level of the model allows for a distinction to be made between language change, which is

generated through linguistic motivations, and change which is motivated by external sociolinguistic desires.

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INTRODUCTION

"This place is even worse that you could imagine in your wildest dreams. No gas or electric lights. From Sir J.H's house to post office 2 ½ miles. Got down at 4 p.m. Have to go to Colchester this afternoon, thank goodness"

From Jay (2005: article 60)

The above message was written on a postcard sent from East Mersea in 1914. It demonstrates that, less than a century ago, there was a marked difference between city life and country life in England. With no gas, electricity or even running water at this time, together with only infrequent carrier carts as transport between the Island and the mainland, the isolation of the Island community was quite marked. However, even though the community was relatively isolated, the Island itself was a hive of activity and the local oystering industry was developing an almost stereotypical association with Mersea Island.

The following is an excerpt from a news article written in 1895 (see Jay (2005: article 80) for the full text):

"...one can either hire a trap or go by carrier's cart to a little place called West Mersea, about ten miles distant, situate [sic] on the north side of Blackwater Creek, and an island at high tide. The inhabitants are all occupied in Oyster Dredging"

Indeed, oystering is one of the Island's oldest industries and the oyster shed, which is referred to within the full version of the article cited above, still stands and is used by the industry today. Despite this isolation, which sociolinguists such as Milroy (1987) claim would have resulted in very strong dialect-reinforcing social networks, the Island has gradually opened itself up over the last century. The early part of the twentieth century witnessed an increase in public transportation and the occasional private motor vehicle for more wealthy Islanders or visitors.

Throughout the second half of the twentieth century, significant changes had taken place across the Island. Among these were the rebuilding of the Strood (the causeway road which links the Island to the mainland) so that the Island was not cut off by the tides to the same extent that it had been in the past, and the extensive construction of family homes on the West side of the Island. The latter development resulted in a dramatic rise in the population and, as a result of these cumulative factors, Mersea Island was no longer such an isolated community.

In more recent times, West Mersea has been described by the Guardian in 2006 as:

> "where the sea meets the sky and the sky meets the mud. It's a remote, flat, watery end zone of Essex"[1]

In addition, The Telegraph is among the papers which has promoted Island property to their readers with thought provoking sub-headings such as:

> "Is the Island of Mersea the perfect location for commuters in Essex?"[2]

and has described the road which links Mersea to the mainland as "the causeway to heaven"[3].

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[1] http://www.guardian.co.uk/lifeandstyle/2006/dec/16/foodanddrink2?INTCMP=SRCH –December 2006
[2] http://www.telegraph.co.uk/property/3361460/Property-in-Essex-Causeway-to-heaven-a-16th-century-house-with-Essex-appeal.html - May 2008
[3] http://www.telegraph.co.uk/property/3361460/Property-in-Essex-Causeway-to-heaven-a-16th-century-house-with-Essex-appeal.html - May 2008

This type of media coverage raises awareness of the Island for those outside the local area and, as a result, the Island also plays host to a number of short term visitors. A number of these visitors come to savour the produce of the local fishing and oyster industry. Indeed, the Island houses what has become a nationally iconic seafood restaurant, The Company Shed. This is run by a local family who have been working the Mersea waters for eight generations[4] and it is regularly featured in good food guides and newspapers, such as The Guardian's 'Top Places to Eat by the Sea'.

It is this unique geographical setting and social and historical developments which make Mersea Island an ideal community to study dialectologically. Dense multiplex social networks (where network members share the same acquaintances and are linked to them through a range of professional and social activities) are a characteristic of more isolated communities. Through these types of networks, it has been shown that dialect features and linguistic complexities are reinforced and, therefore, innovative variants are less likely to permeate the dialect variety. However, once these networks begin to loosen and their members establish contacts with those of other networks, linguistic innovations may be introduced, accommodated and reinforced. Therefore, the rises in the residential population, and other changes to Mersea's socio-demographic and socio-economic structure would lead us to expect a weakening of social network ties and a vulnerability to innovative linguistic forms.

In situations of dialect contact, it has been observed that koineisation and levelling may lead to the adoption of particular variants, such as those which are considered less marked or those which represent a phonetically intermediate point between two or more input

[4] Information from: www.thecompanyshed.co.uk/about - September 2011

variants. In addition, the process of regional dialect levelling has been shown to lead to a reduction of differences between dialect varieties and, thus, the vernacular speech of a region will gradually homogenise (Kerswill 2004:671).

However, each community will experience different types of contact. With respect to insular communities, such as Martha's Vineyard (Labov 1972, for example) and Ocracoke Island (Wolfram 2008, for example) off the east coast of North America, a significant level of contact comes from those short-term visitors to the Island and those who permanently move to the Island from the mainland. The latter would particularly result in long-term contact and accommodation. In these situations, investigations into community affiliation and attitude have proved insightful. For example, correlations can be found between strong local affiliations and a greater use of local or traditional variants. Conversely, those who are more positive towards the incoming population (whether visitors or permanent residents) are more likely to accommodate to the incoming variants and adopt innovative forms.

However, the communities mentioned above each experience relatively high levels of contact through tourism and mainland travel. Island communities such as St Helena and Tristan de Cunha (Schreier 2010a; 2010b, respectively) represent more extreme isolation. In these communities, the socio-cultural situations are relatively stable (though historically this may not have always been the case) and, therefore, innovations generated through high levels of contact with outsiders is less likely. As a result, we would expect these dialect varieties to remain fairly stable following the initial settlements and processes of contact and koineisation.

The investigation of these varieties, alongside that of Mersea Island English will enable an investigation into whether the varying types of contact and population movements have led to similar linguistic developments across these disparate insular communities, particularly with respect to those whose insular status has been reduced in recent times.

Kerswill (2004) also notes that, with respect to koineisation and levelling processes, "the degree of difference between the input varieties will affect the amount of accommodation individuals will have to engage in" (2004:695). Thus, in a community such as Milton Keynes, where the differences between the contact varieties are sub-phonetic, the focussing towards particular variants is accelerated. This is likely to be the case with respect to contact affecting the Mersea Island dialect, as the surrounding varieties contrast only in linguistically subtle ways. Indeed, Trudgill (1986) notes that, in contact situations, some forms are more likely to be maintained in place of others due to, for example, their relative social saliency or linguistic markedness (where the latter tends to be reduced during contact). For example, the quality of the MOUTH vowel in both Milton Keynes and Reading has been shown to be moving towards a standard-like [au] form, despite these communities having inputs of a [ɛɪ] ~ [ɛʊ̩] nature and contrasting social and historical developments (Cheshire 1999). Taking into account data from communities such as these, which contrast with respect to social history and the quality of input variants during contact, we can assess how typologically similar the emerging dialects are. Thus, if contact is seen to result in phonologically similar forms across dialects, we may then be in a position to propose that the direction of change is being guided by natural phonological desires which would otherwise be inhibited by social isolation.

The representation of natural phonological tendencies may be achieved through the application of phonological theory to sociolinguistic data. For example, a framework such as Dispersion Theory (which uses the basic mechanics of Optimality Theory) presents the optimisation and naturalness of the underlying phonological system as its central driving force. As a result, it aims to evaluate the well-formedness of the phonemic system as opposed to evaluating individual sounds. Therefore, by considering the system as a whole, we can look to explain why certain movements to underlying phonemes may be preferred over others.

These social and linguistic considerations and observations lead to certain questions which must be approached and considered in the sociophonological analysis of MIE:

1. If insular communities, by their very social structure, will act to reinforce and stabilise linguistic features and complexities, what happens when contact with speakers beyond the immediate community becomes established in the long term?

2. When the strong original community structure begins to erode in favour of wider regional allegiances, does the linguistic structure begin to move in the direction of more supralocal dialects, or is it preserved by the community in the form of identity markers?

3. Furthermore, can we simply account for any apparent change through sociolinguistic factors relating to contact, local identity and attitudes, and changes in regional affiliations?

4. Alternatively, in light of variation studies from a range of other disparate insular communities that demonstrate similar outcomes from dialect contact, can any changes be represented through phonological theory and the natural motivations of the underlying linguistic system?

This thesis will aim to answer these questions among others in relation to Mersea Island English, in particular the three variables (aʊ), (aɪ) and (ɔɪ). In order to do this, it is necessary to explore the historical developments that have taken place on the Island, which may have influenced and shaped the community's development over the years. In addition to local history, the current social structure of the Island needs to be explored so that the nature of modern Island life can be ascertained. These matters will be presented and discussed in detail throughout Chapter 1.

Chapter 2 will focus upon the methodology employed in order to carry out the data collection on Mersea. The nature of the sociolinguistic interviews will be highlighted, as well as a detailed description of the informants used, and relevant social factors will be discussed. In addition to these social considerations, the extraction and coding of the data and the relevant linguistic constraints pertaining to the individual variables will be examined. This will lead to the examination of each variable's unique distributional pattern within the linguistic system. Chapter 2 will close with a brief outline of the historical dialect sources employed throughout the thesis, in order to provide backgrounds to each variable's history.

Chapters 3 and 4 will focus on the variable (aʊ). Chapter 3 will detail the historical development of (aʊ) as well as results from modern variation studies, in order to give an idea of any behavioural patterns with which it is associated. These studies will focus, primarily, upon data from East Anglia and the South East of England in order to set the relevant dialectological scene in relation to Mersea Island. However, this chapter will also include observations from international insular studies (in which British English had an input). This is so that any similarities or differences in (aʊ)'s behaviour can be observed and taken into account in other isolated social environments. The information presented in this chapter will thus provide the basis for the analysis of (aʊ) in MIE, which is presented in Chapter 4. This analysis will include results pertaining to the social factors of age and gender, as well as any applicable linguistic factors.

The structure of these two chapters is replicated in Chapters 5 and 6 and Chapters 7 and 8. The former pair will discuss and analyse the variable (aɪ), while the latter pair will concentrate on the variable (ɔɪ).

In light of the analyses presented in Chapters 4, 6 and 8, Chapter 9 will consider the implications that the results have in light of sociolinguistic theory. The nature of language and dialect change will be discussed, as well as how certain dialect features, which are enregistered and adopted in dialect performances, may act as preservers of traditional features in certain contexts. Included in this discussion will be the distinction between the enregisterment of contextual (or specific) linguistic processes, general linguistic processes and lexically-based processes and how these can be represented in the results from data analysis. Finally, aspects of dialect contact, social mobility, and supra-localisation will be discussed in light of the changes highlighted in the Mersea data.

This discussion will lead to the introduction of 'naturalness' as a motivation in linguistic change, and this will be one of the central themes of Chapter 10. Following a detailed introduction to the central principles of Optimality Theory and Dispersion Theory, Chapter 10 will present the construction of an integrated phonological and sociolinguistic model. This model, which truly represents the socio-phonological interface, will use data patterns highlighted in the previous chapters to demonstrate its application not only to sociolinguistic variation, but also dialect change. Finally, in light of this model, which consists of three separate levels of processing, the mechanics of dialect change and language change will be shown to apply to each level of processing, depending on the type of change which is being modelled (that is, whether the change is instigated and motivated internally or externally).

Chapter 1

Mersea Island – The community: its social history and demographic change

1. MERSEA ISLAND – THE COMMUNITY[5]

This chapter will discuss Mersea Island with respect to its history and socio-demographic make-up and development. From its relative isolation in the late 19th century to its more extensive interconnection with the mainland in the present day, this chapter examines the evidence for social and demographic change that provides the context for the linguistic variation and change that I will investigate later.

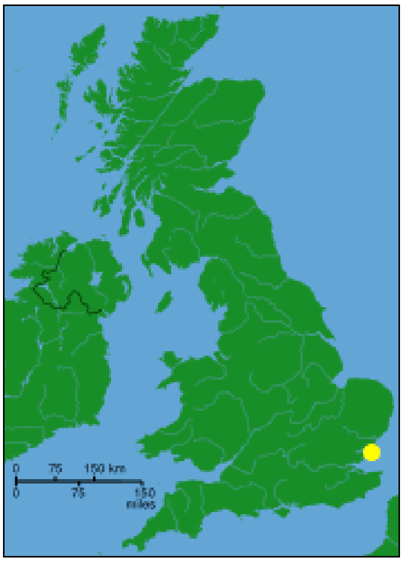
1.1

The Island

Mersea Island is situated amongst the alluvial plains of North East Essex (in South East England) between the estuaries of the River Colne and the River Blackwater. It is the most easterly inhabited island of the British Isles and, at its highest point, sits only twenty-one metres above sea-level. Its museum highlights evidence of Celtic inhabitation as well as their salt panning and ceramic industries. In addition, Karbacz notes that, although Mersea was under early Roman occupation, and is situated very close to the Romans' important urban centre Camulodunum (modern day Colchester), "we still call Mersea by its Saxon name, Meres-ig, the island of the Mere" (1999:14)

[5] Note: All the statistical data presented in this chapter are based on those held on the Office for National Statistics web-site (www.neighbourhood.statistics.gov.uk/dissemination/) unless otherwise stated.

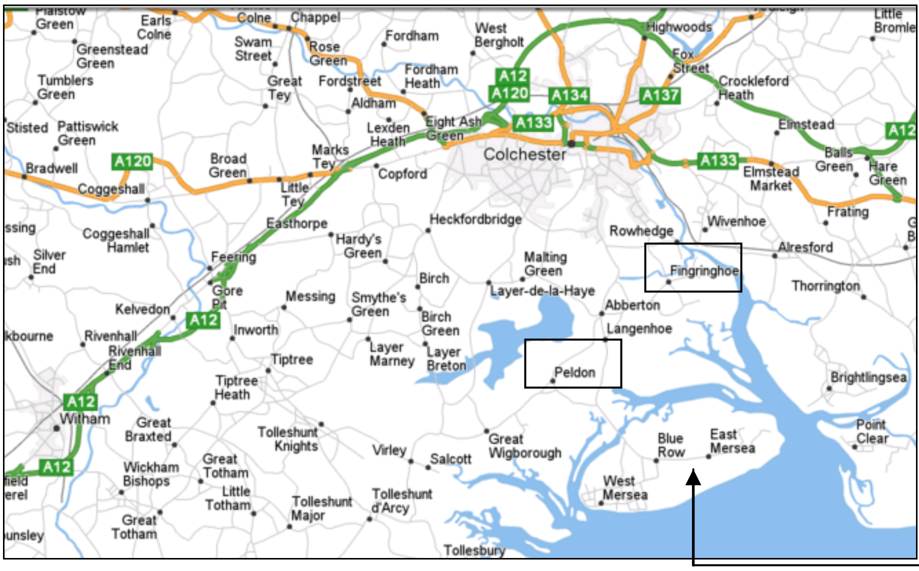
1.1 a) *From: http://en.wikipedia.org/wiki/Mersea_Island*



1.1 b) *From: www.itravel.co.uk/maps/england*

The map in 1.1a shows the location of Mersea Island on the South Eastern coast of England while the map in 1.1b shows the position of the island in relation to the coast of Essex. The following maps, (1.1c) and (1.1d) zoom in on this geographical area so that the Island and the surrounding locations can be seen in more detail.

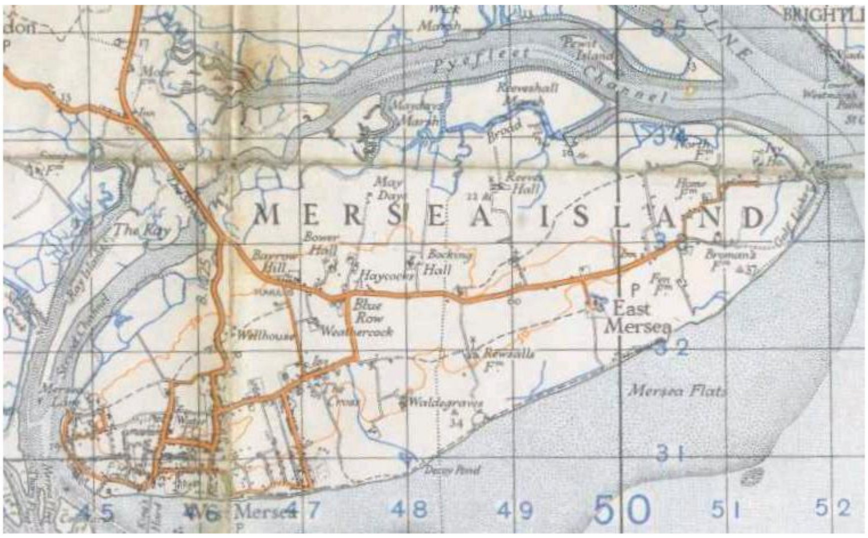
1.1 c) *From http://www.multimap.com/maps/#t=l&map=51.84169,0.86927|12|4*



Mersea Island

With respect to the Island itself, the population of West Mersea is much denser than the population of East Mersea and this is highlighted in 1.1d by the denser road grid on the western side.

1.1 d) *From http://en.wikipedia.org/wiki/Image:Mersea_islandmap.jpg*



1.2

Access

The Island is not permanently accessible from the mainland. Travel to and from the Island is hindered by the lunar tides which routinely flood the only access road, the Strood (from the Saxon *strod* meaning 'marshy land'). Morant notes in his book *A Short History of Essex* (cited in Karbacz (1999:41)) that, in his time (the late 1700s), the Strood was only passable eight hours a day. Even though current native Islanders generally feel that the modern tides are higher than they used to be, such dramatic cut-off times as experienced in Morant's day no longer occur. However, regular travel to the mainland (or indeed simply from West Mersea to East Mersea) was not widely available or usual until twentieth century transport technology was introduced. Thus, many older generation Islanders cannot remember leaving the Island until their late teens or older. Indeed, off-island travel was viewed as an experience and even contributed, in one case, to the allocation of the type of personal nickname so prevalent in this type of small community. In this case, the nickname 'Foreigner' was given to a man who sailed across to Whitstable in Kent to work on their oyster beds for only a short period and was judged to have come back to the Island talking with a different accent.

1.3

The Island's Geographic Development

On many Island maps, Mersea is labelled as consisting of two parts: East Mersea and West Mersea. This is also reflected in the road system since, when you first enter the Island from the Strood, the road branches in each direction. The eastern side remains largely agricultural and has seen little increase in its population over the last 100 years (see figure 1.2 below). Conversely, the western side has witnessed a dramatic increase in its permanent population (660 in 1801 to 6926 in 2001) due to numerous housing developments, and continues to experience a large transient population from increased levels of tourism, especially during the summer months. These tourists include those who only come to the Island for the day, often to visit the popular seafood restaurant, The Company Shed. However, Mersea also has five holiday and caravan parks for those who wish to stay longer, as well as a number of independent bed and breakfast and holiday properties.

Although the division between East and West Mersea is not significant in modern Island life, due to advances in motorised transport and loss of the East's primary school around the middle of the last century, this has not always been the case. Sourcing the *Anglo Saxon Chronicle*, Karbacz (1999) explains that retreating Danish invaders around the ninth century AD settled on Mersea before advancing once again up the Rivers Thames and Lea. During this time, a moated area of approximately six acres is thought to have been constructed around the East Mersea area, effectively enclosing their encampment.

Less than two centuries later, when the Saxon dynasty was restored prior to the Norman Conquest, further reinforcement of the East-West divide took place when the Manor of West Mersea (which included parts of the parish of Peldon and parts of Fingringhoe on the mainland, highlighted in Figure 1.1c) was inherited by the Crown, while the Manor of East Mersea was held privately (Karbacz (1999:16)). This separation is still visually as well as psychologically maintained between the parishes through the Deremy Stone which marks the boundary point between the two.

Another notable effect on the Island's demographic structure came during the sixteenth and seventeenth centuries when many Dutch and French refugees fled Continental Europe and settled across East Anglia. The impact of these migrants is still reflected through a great number of, albeit anglicised, local surnames and it is widely believed that the many Island families bearing the name 'French' are descended from those whose names were beyond the locals' linguistic comprehension and capabilities.

More recently however, with the advent of World War II, Mersea became home to not only a range of military personnel (as with World War I) but was also opened up to many war-time evacuees for varying lengths of time. The origin of the evacuees was quite diverse, although local recollections claim the majority were from London. The extent of contact with the evacuees varied from person to person but their leaving, at the end of World War II, also coincided with the start of the steady population rise on the Island as land was sold and new properties were built that became widely available to native Islanders and Mainlanders alike.

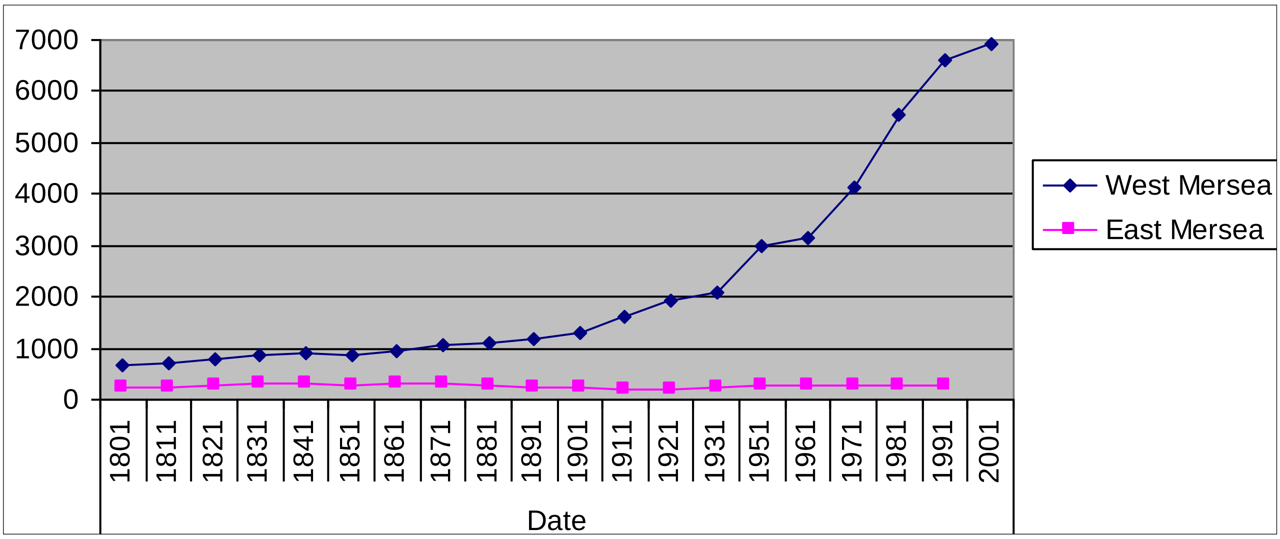
1.4

Modern Mersea

The following graph shows how the population of West Mersea has dramatically increased, especially since 1961[6] with the population in 2001 recorded at 6926. This is in stark contrast to the East Mersea population which, due primarily to building restrictions, never rises above 331, which was its peak in 1841[7].

1.2

The population of Mersea Island, based on Census data from 1801 to 2001



However, it is also important to look at the age group representations of the Island population. The following data show the population breakdown into discrete age groups for West Mersea, Colchester (Mersea's closest large town) and the East of England as a whole:

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[6] Note: the apparent sharp rise pre-1961 is due to there being no records for 1941.
[7] Note: there is no East Mersea data for 2001 due to its reclassification to a separate Census ward.

1.3 The 2001 population breakdown of West Mersea, Colchester and the East of England.

a) The population numbers

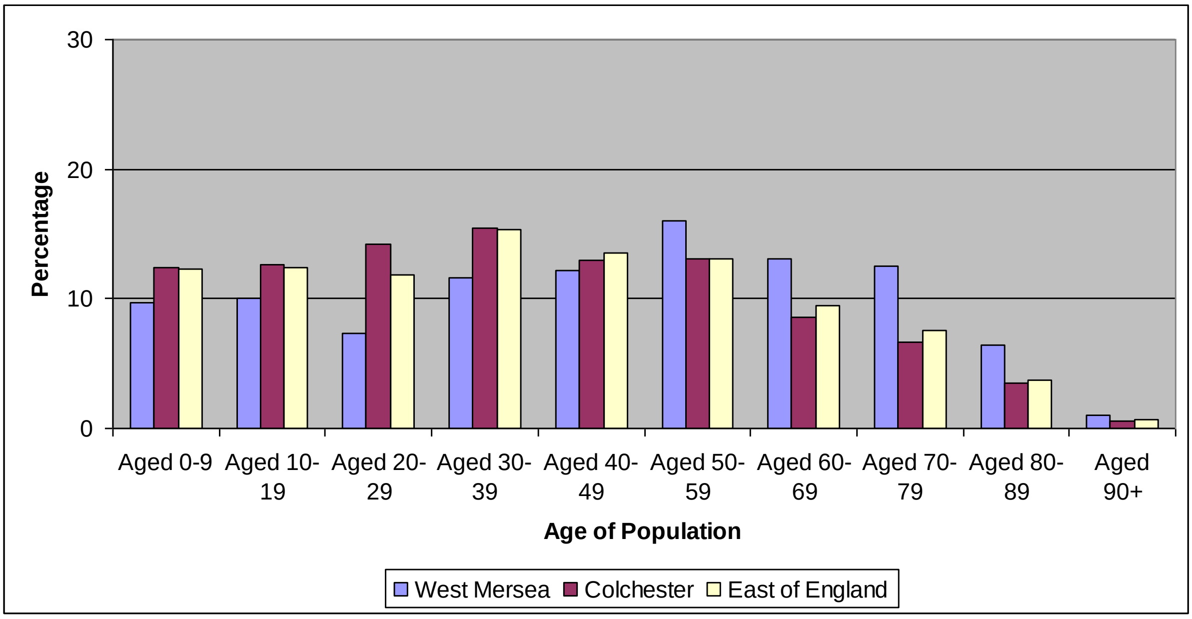
	West Mersea	Colchester	East of England
Aged 0-9	669	19288	665408
Aged 10-19	695	19599	668680
Aged 20-29	510	22072	637383
Aged 30-39	805	24143	827040
Aged 40-49	844	20179	728588
Aged 50-59	1113	20420	707870
Aged 60-69	909	13319	510554
Aged 70-79	864	10434	407903
Aged 80-89	449	5389	198925
Aged 90+	68	953	35789
Total	6926	155796	5388140

b) The 2001 population percentages

	West Mersea	Colchester	East of England
Aged 0-9	9.66	12.38	12.35
Aged 10-19	10.03	12.58	12.41
Aged 20-29	7.36	14.17	11.83
Aged 30-39	11.62	15.50	15.35
Aged 40-49	12.19	12.95	13.52
Aged 50-59	16.07	13.11	13.14
Aged 60-69	13.12	8.55	9.48
Aged 70-79	12.47	6.70	7.57
Aged 80-89	6.48	3.46	3.69
Aged 90+	0.98	0.61	0.66

c)

The 2001 Population of West Mersea, Colchester and the East of England according to the percentage of people within each age group



One aspect which is immediately noticeable is that Mersea has a relatively low population of those under the age of 49 and a higher percentage population for all age groups of 50 years old and above when compared to nearby Colchester and the East of England as a whole. One reason for the lower levels of young adults, especially in the 20-29 age group, could be a result of increases in the number of people able to attend university or training colleges who, as a result, decide to move away from home to their university town or city. It may also reflect the lack of local unemployment and unavailability of many Island homes to first time buyers in this age group. Indeed, it was a common complaint amongst many of my younger informants that house prices on the Island were too high for them to consider moving out of home to another Island property. The loss of Islanders from the younger age brackets can also be seen in the migration figures from previous years.

1.4 The Net Migration Statistics, from the 2001 Census, for the 15-24 year old age group in the West Mersea

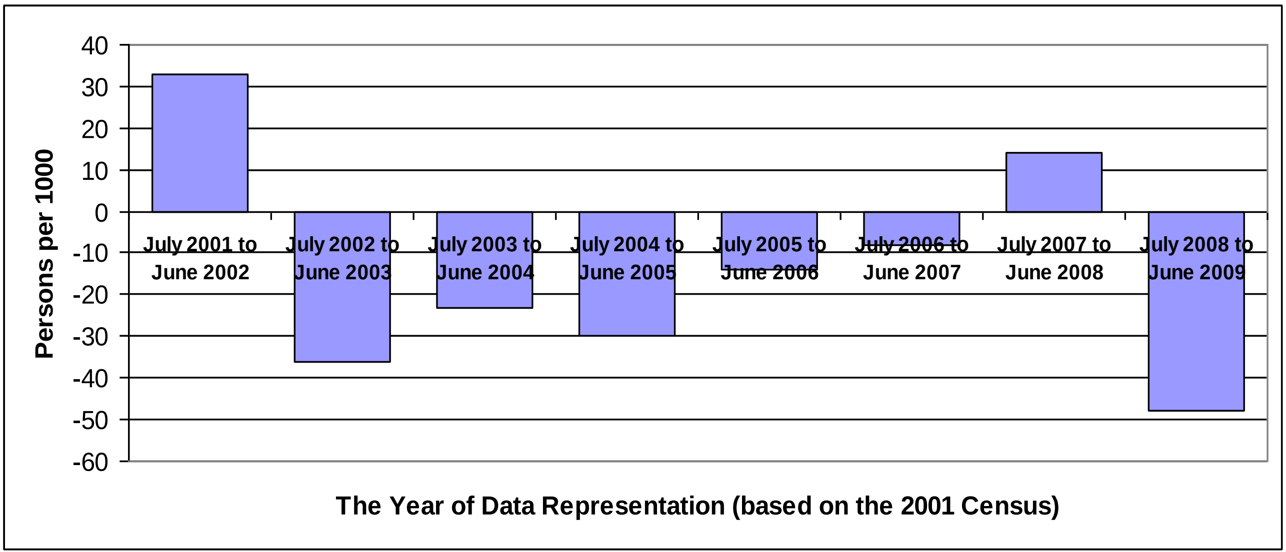
a)

Population Turnover Rates
Net Change; Aged 15-24

	Persons per 1000
	West Mersea
July 2001 to June 2002	33
July 2002 to June 2003	-36
July 2003 to June 2004	-23
July 2004 to June 2005	-30
July 2005 to June 2006	-14
July 2006 to June 2007	-8
July 2007 to June 2008	14
July 2008 to June 2009	-48

b)

Graph to show the net population change in Islander numbers aged 15-24 between July 2001 and June 2009



It can be seen how the net figures for the 15-24 year old age group (calculated by subtracting outflow numbers from inflow numbers) show quite significant negative values, which peak in the 2008-2009 period, giving a difference of -48 persons per 1,000.

This indicates that the loss of Islanders before the age of 25 is a regular occurrence, contributing to the lower population figures for these age groups. This is in direct contrast to the migration figures for those in the next age group up - the 25-44 year olds. The net figures for this group demonstrate consistently positive figures between 2005 and 2009, which suggests that, even though the Island is losing its population below the age of 25, it is gaining through in-migration with those aged over 25. However, it is uncertain how many of these residents are employed on the Island or indeed how many children of original mainland families attend West Mersea school.

1.5 The Net Migration Statistics, from the 2001 Census, for the 25-44 year old age group

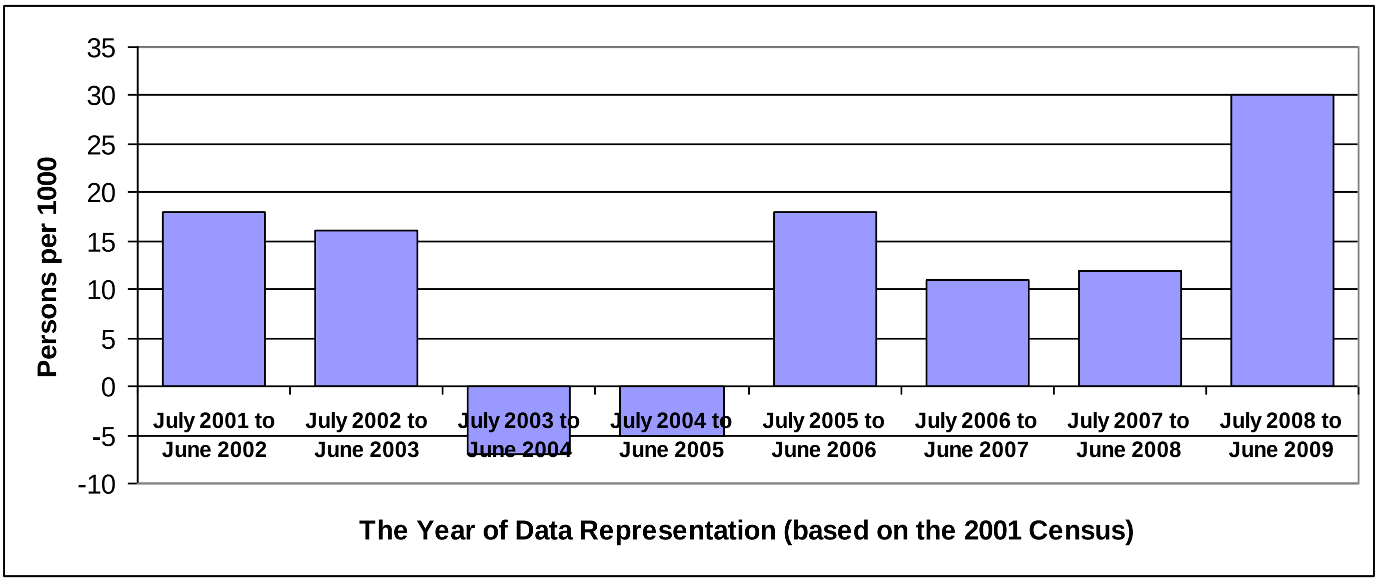
a)

Population Turnover Rates
Net Change; Aged 25-44

	Persons per 1000
	West Mersea
July 2001 to June 2002	18
July 2002 to June 2003	16
July 2003 to June 2004	-7
July 2004 to June 2005	-5
July 2005 to June 2006	18
July 2006 to June 2007	11
July 2007 to June 2008	12
July 2008 to June 2009	30

b)

Graph to show the net population change for Islanders aged 25-44 between July 2001 and June 2009



The loss of Islanders from younger age groups may be facilitated, at least in part, by the greater number of opportunities available to modern Islanders to expand their social networks beyond the Island from an early age. In contrast to older generations (who were educated to the ages of 14 or 15 in the local school on the Island), the introduction of compulsory schooling to the age of 16 has lead to Islanders leaving Mersea for their secondary education, as Mersea school only provides primary education. In addition, if tertiary education is sought, this too must be completed off the Island. This automatically introduces Island children to mainland children and so social network ties can become established across both areas. This in turn provides greater opportunities and motivation for personal geographical mobility.

Another important factor in the socio-economic development of the Island is that of local industry. For those belonging to previous generations, it was unusual for someone to be employed off the Island, especially with respect to their first jobs. Therefore, local Mersea-based jobs were considered the norm and not the exception. However, Jay, writing in 1996, notes that “at the present time, only one local shop remains trading under its family name” (1996:1).

That being said, the following data show that Mersea is still a place for established businesses, even though the original families may no longer be involved in their running.

1.6 Data Demonstrating the Age of Businesses registered in 2010 with a comparison between West Mersea, Colchester and the East of England

a) The total number of businesses

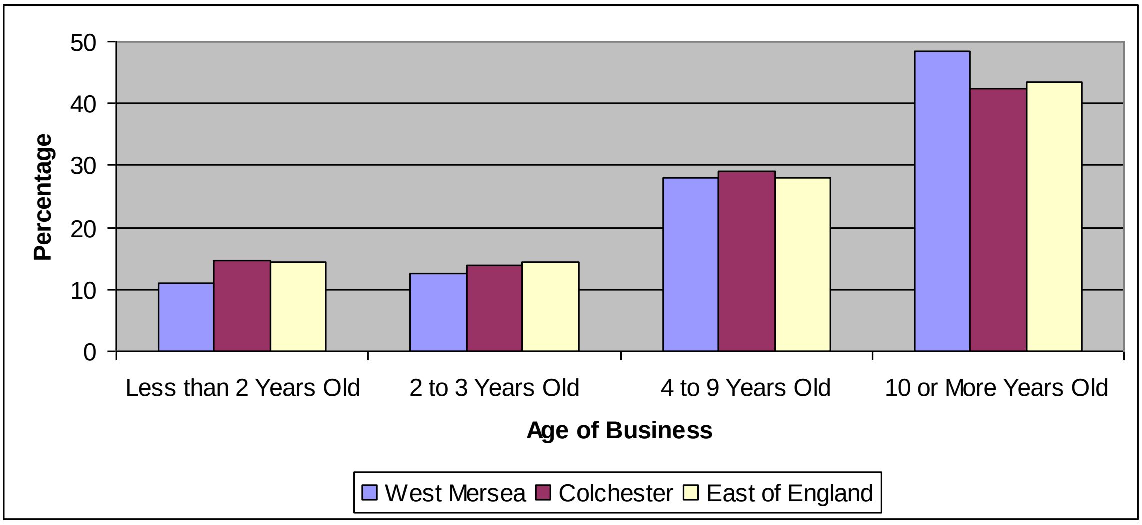
	West Mersea	Colchester	East of England
Less than 2 Years Old	35	875	30890
2 to 3 Years Old	40	840	30480
4 to 9 Years Old	90	1740	59640
10 or More Years Old	155	2535	92630
Total - all VAT and/or PAYE Based Enterprises	320	5990	213640

b) The percentage of businesses by age and statistical region

	West Mersea	Colchester	East of England
Less than 2 Years Old	10.94	14.61	14.46
2 to 3 Years Old	12.50	14.02	14.27
4 to 9 Years Old	28.13	29.05	27.92
10 or More Years Old	48.44	42.32	43.36

c)

The graph showing the percentage of businesses by age and statistical region, based on 2001 Census data



From this 2010 data, we can see that, with respect to ‘new’ business, Mersea is below the percentage for both Colchester and the East of England. Conversely, it is very much leading in the category of businesses over 10 years old. This suggests that, even though traditional families have ceased to be involved in the long-term business which they originally established, there is still relative stability in local trade.

It is also notable that the type of employment has become a lot more diverse within the modern Mersea population. Historically, Mersea’s main trades were associated with the sea and the land, and therefore it was common for Islanders to go into trades associated with fishing (and particularly oyster farming) and agriculture, as well as family trades such as building and plumbing.

However, according to Census data from 2001, only 0.64% of Islanders were involved in the fishing industry, compared with 0.02% across the East of England. In addition, only

1.61% of the working population was registered as being involved with agriculture, hunting and forestry. This results in two of the historically important employment types being in the bottom four employment areas overall, as the table below demonstrates:

1.7 Data representing types of employment for residents of West Mersea, Colchester and the East of England

a)

	West Mersea	Colchester	East of England
Agriculture; hunting; forestry	48	1021	49009
Fishing	19	33	637
Mining & quarrying	7	98	5457
Manufacturing	368	8450	373155
Electricity; gas and water supply	11	392	16223
Construction	304	5843	196461
Wholesale & retail trade; repair of motor vehicles	551	13013	445887
Hotels and catering	112	3160	107418
Transport storage and communication	189	5009	191252
Financial intermediation	175	5159	149883
Real estate; renting and business activities	309	8826	343264
Public administration and defence	120	5750	133066
Education	249	6301	189274
Health and social work	335	8799	249776
Other	183	3272	128616
Total - All people aged 16-74 in employment	2980	75126	2579378

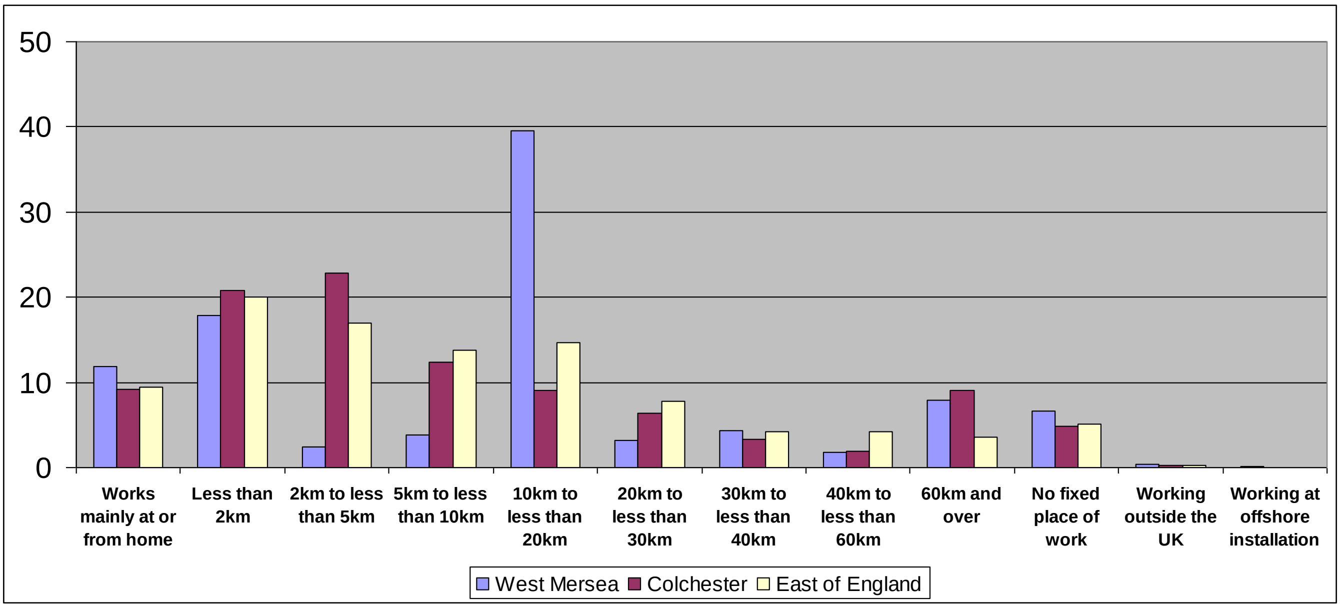
b) Percentages of types of employment, ranked according to the percentages of Mersea residents

	West Mersea	Colchester	East of England
Wholesale & retail trade; repair of motor vehicles	18.49	17.32	17.29
Manufacturing	12.35	11.25	14.47
Health and social work	11.24	11.71	9.68
Real estate; renting and business activities	10.37	11.75	13.31
Construction	10.20	7.78	7.62
Education	8.36	8.39	7.34
Transport storage and communication	6.34	6.67	7.41
Other	6.14	4.36	4.99
Financial intermediation	5.87	6.87	5.81
Public administration and defence	4.03	7.65	5.16
Hotels and catering	3.76	4.21	4.16
Agriculture; hunting; forestry	**1.61**	**1.36**	**1.90**
Fishing	**0.64**	**0.04**	**0.02**
Electricity; gas and water supply	0.37	0.52	0.63
Mining & quarrying	0.23	0.13	0.21

Even though the percentages for the number of people employed in the fishing industry on Mersea is greater than that of Colchester and the East of England, this does not necessarily indicate continued strength in this trade. Colchester is inland and so it would be unusual for people to be employed in such an activity and the data for the East of England region represents an aggregate of all areas, both inland and coastal, the former having greater populations through which the data is influenced. Therefore, it is important when using data such as this that we look at it on a community level and compare similar communities, as opposed to automatically comparing communities in the same geographical regions. For example, the Norfolk district of Great Yarmouth and the Suffolk district of Waveney (which includes Lowestoft) are both historically noted as areas associated with the fishing industry. Data from the 2001 census show that only 0.3% of the 46,001 Waveney population work in fishing while this percentage is reduced to 0.03% of the 37,584 of the Great Yarmouth working population. Therefore, even though the Mersea employment percentages for this occupation are lower than we might expect, they are higher than both Great Yarmouth and Waveney districts.

However, even though we may want to claim that there is a decline in traditional local industry, additional data show that local travel is more common than long distance commuting:

1.8
Percentage of the West Mersea workforce population (aged 16-74) according to distance travelled to work, from the 2001 census



This data set demonstrates the distance travelled to work by Islanders aged 16-74 who are in some type of employment. We can see that 12% of Islanders work from home and 18% travel less than 2km (1.2 miles) to work – this latter group will be working on the Island, travelling around West Mersea. However, the most common distance travelled to work is 10km – 20km (6.2 – 12.4 miles), representing just under 40% of the Island's workforce (39.56%). This is the distance which would represent travel to Colchester and its surrounding areas. Therefore, it seems that Islanders, who are integrated with mainland varieties from an early age through school, remain tied to mainland in their professional activities.

1.5

Summary

The data presented in this chapter suggest a number of influences on the Mersea population. The population figures demonstrate a continuous rise in West Mersea's residential population over the last century, and that over half of this population is now professionally employed off the Island. The migration figures from 2001 to 2009 also suggest that, even though the population is increasing, the main age group which is experiencing diminishing numbers is the 15-24 group which helps promote the elasticity of family ties, as members become more scattered, and lessens the Island's adolescent population. Conversely, the migration statistics for the 25-44 age group suggest that the residential population is being bolstered by in-migrants from this age group. The contact between Islanders and Mainlanders is also promoted through short term visitors, tourists and holiday makers. This transient population, which is at its peak in the summer months, adds to the level of contact between dialect varieties. Thus, dialect contact is being promoted in two ways:

1. Connections with the mainland have become greater and more extensive. As a result, more Islanders are travelling off the Island for education, work, socialising etc.

2. More and more people from the outside are coming to the Island. This is being achieved through tourism and house-moving.

Chapter 2

Methodology

2. METHODOLOGY

This chapter will discuss the methodology used for this study. As previously outlined, this study is concerned with the analysis of the dialect spoken on Mersea Island. There has been no systematic sociolinguistic research carried out on the Island, and it has only been represented by one speaker from East Mersea in the Survey of English Dialects in past dialect surveys. Therefore, in order to study the characteristics of the Mersea dialect, spoken data from Islanders needed to be obtained. In addition, in order to investigate whether phonological change has taken place, and if so what direction has this change taken, data needed to be collected from a range of sources so that both an apparent time and a real time comparison could be made. However, since the focus of this study is the nature of the modern Island dialect, and how contact with dialects from off the Island may have affected the dialect of those on the Island, only native Islanders were considered appropriate for this study.

Therefore, included in this Chapter will be discussions relating to the selection of informants and the interview structure. In addition, processes involved in the analyis of the data with respect to token extraction, coding and phonological distribution of the variables will also be presented.

Finally, this Chapter will provide a brief overview of the primary historical sources which were used to inform the historical development of each variable in the geographical region under study.

2.1

Data Collection

The following sections will outline the steps taken while collecting data of the Mersea Island dialect. This was done through a number of informal, casual conversation interviews (aimed at collecting as relaxed and unmonitored speech as possible) from a range of Mersea Island natives. These informants were chosen to represent two distinct age groups so that different stages of the Island's social and historical development were represented. In doing this, it is not only the dialectal stages which may be reflected, but also any changes in attitudes towards the Island community and historical perspectives or memories (particularly from the oldest speakers) which may not have been recorded elsewhere. Access to the very oldest members of the community, who would have represented the dialect in the early twentieth century, proved nearly impossible. However, with the discovery of an audio archive held by the local museum, a small group of speakers representing this period of Island life became available for analysis. The nature of these recordings will also be discussed in greater detail below.

2.1.1

The Interviews

Approaches to Sociolinguistic data collection have taken a number of forms over the years. These varying methods have included written questionnaires, rapid anonymous surveys, the reading of word lists and pre-constructed written passages, as well as structured and unstructured interviews (see, for example, Milroy and Gordon (2003) for a review of these methods). The method I adopted for the study of Mersea Island English (MIE) was that of casual, unstructured interviews. Thus, the goal of each interview I conducted was to capture the type of spontaneous fluent speech associated with the variety's vernacular. These interviews were always conducted in the informants' households in a room of their choice. Milroy and Gordon (2003:57-58) note that a significant advantage of this approach is that, due to the lack of a predetermined structure, such as that associated with survey questionnaires, the successful interviewer is able to elicit more extended stretches of conversational (and thus unscripted) speech from the informant.

However, as is often the case with interaction of this nature, the sociolinguist's goal of achieving true unmonitored speech on behalf of the informant is subject to the effects of the *observer's paradox*. This is outlined by Labov (1972) with respect to the aims of linguistic research in the community as a means of discovering "how people talk when they are not being observed; yet we can only obtain these data by systematic observation" (1972:209). In addition to diverting an informant's attention from the interview situation through distractions such as telephone conversations, Labov (1972) indicates that the effects of the paradox may be overcome by involving the subject in questions and topics which provoke strong emotions. Even though Labov specifically introduces the notion of the "danger of death" scenario as a prompt for such emotive responses, this approach has not been proved effective or appropriate for other communities under observation. Milroy and Gordon (2003:65-66) note that enquiries of this sort in the context of Belfast interviews elicited quite matter-of-fact accounts of dangerous experiences rather than the emotional responses achieved by Labov. Thus, the lack of a reliable cross-community strategy led Milroy (1987) to write that "direct interviewing, however informal on the part of the field worker, is an uncertain means of gaining access to the vernacular [and] that the interaction between language and situation is too complex and too little understood for an interviewer to be able to manipulate it reliably" (1987:26).

Regarding the interviews used for this study, I attempted to elicit relaxed conversation and thus minimise the effects of the observer's paradox by exploiting both my status as a native Islander and existing community ties, as well as utilising information gained by observing the surrounding environment and information gained from previous interviews with acquaintances. The former allowed me to initiate relevant conversation about local issues or acquaintances we may have had in common (specifically the person or persons through whom I was recommended to them), while setting up the necessary recording equipment in order to help divert attention away from my actions and the presence of the equipment. In many cases, this was not immediately necessary as I was able to set up equipment in relatively inconspicuous places while the informants were making cups of tea. It must be noted at this point that, prior to any equipment activation (usually when I was first admitted to the home), the informants were explicitly asked if they would permit me to record them and thus, I provided them with an opportunity to refuse. I also provided information about my studies and welcomed any questions they had regarding my work. This procedure itself often generated conversational openings such as discussions on technological advances. In addition, each informant was asked at the conclusion of the interview to sign and date the cover of their mini-disk case as evidence of their consent and also if they would like to be informed of any results from my work.

The use of visual information gained through the location of the interview also provided a great source of relevant topical conversation. By observing and commenting on, for example, the type of books in a bookshelf or pictures and paintings on the wall, I was able to unobtrusively enquire about an informant's hobbies and family. By introducing and manipulating conversational topics in this way, I was able to learn which topics appeared to relax an informant or generate enthusiasm on their part and I could then exploit these moments.

The data utilised for this research focussed on the speech of twenty-eight informants. The data for five of the male informants came from cassette tapes held by the local museum and formed part of their archive (see below for more details). These interviews ranged from 20 to 45 minutes and were recorded in 1978/9. The interviews conducted by myself (which account for the data pertaining to both the Older and Younger age groups) ranged from approximately 60 to 165 minutes and were conducted between January 2006 and March 2007. The recording equipment used was a Sony Hi-MD Walkman MZ-RH10 and its appropriate mini-disks. These recordings were then transferred from mini-disk to ordinary CD disks for audio analysis.

2.1.2

The Informants – A General Overview

Designated Age Group	Male	Female
Museum	5	0
Older	7	7
Younger	5	4
		Total - 28

Twenty eight speakers were chosen, based on the criterion that they had lived on Mersea Island for their entire lives. Thus, new in-migrants (that is those residents who had moved to the Island and were not life-long residents) were excluded from this study. Due to the limited nature of data from East Mersea informants in my corpus, and to achieve consistency within and across each data set, all speakers chosen for this study had spent their lives living on the western side of the Island.

Data from the Museum archive was in the form of audio cassette tapes. These were originally produced through the local Lions charity as a means of creating an audio magazine for Islanders. They included news updates and reports on local events as well as interviews with Islanders who spent time either talking about a particular topic or about their life in general as they grew up on the island.

Informants for my own interviews were recruited by one of three methods:

1) THE SNOWBALL METHOD:

This method, as described by Milroy and Gordon (2003:32), takes advantage of the social networks of participants. A particular advantage of this method, where the researcher simply asks informants to recommend others whom they feel would be willing to participate in the study, is a reduction in the likelihood of potential subjects declining to take part. In doing this, the researcher can begin to shed the status of complete outsider for one of a *friend-of-a-friend*, which has been effectively used by, for example, Milroy (1987) in the study of Belfast communities.

2) PERSONAL INTRODUCTION BY A THIRD PARTY:

Many useful contacts were made throughout the older generation within the Mersea community when I was invited to help as a volunteer for a local club which organises activities for those who are partially-sighted. I was introduced to the club members who had been told about my work and I spent some time talking to them and giving them my contact details. Many who were not life-long Islanders were still happy to pass my details on to people they knew.

3) PERSONAL RELATIONSHIP WITH THE RESEARCHER:

These informants make up the smallest group across the Mersea corpus with only 3 informants (all among the younger generation) having a prior relationship with myself.

2.1.2.1

The Museum Speakers

The data-set which has been given the ‘Museum’ classification is named as such since the recordings were sourced from archives held at Mersea Island’s local museum.

Since 1978/9, Mersea Island Lions Club has produced a talking magazine which is distributed on ordinary cassette tapes and aims to provide a combination of local news and event updates, as well as interviews with local people who discuss particular topics (such as the development of local business, transport or simply reminiscences of times past). The interviews, to which I had access, were conducted mainly at the local council offices (though occasionally, due to the age and presumably limited mobility of the participants, they were conducted in the home). Biographical information of those being interviewed was mainly unavailable, and, although an online description of individual tapes is in the process of being constructed, many of the entries only have the order of contents and the name of the interviewee.

Once I was provided with digital copies of the oldest recordings, I methodically went through them in order to judge which speakers were appropriate. During this time, I also made notes on recordings that I did not use, so that I too could work with the museum to update the online site. Therefore, from this period, I chose interviews of five male speakers (there were no female speakers interviewed during this period who were native Islanders) and these speakers were born in the years 1883, 1890, 1910, 1916 and the mid-1920s (- the last of which did not give a specific birth year within the interview but a rough guess could be made, based on the information provided in the dialogue). It could be argued that the dates of birth are too widely spread to be combined within the same speaker group, as there is a difference of around 40 years. However, with limited data available for each speaker, individual speaker analysis would not have elicited enough tokens for a reliable individual comparison.

Each of the five informants was a native Islander. However, due to the time period in which they grew up, each member of this group served at some point in the armed forces and thus travelled away from Mersea. However, each returned after their period of service had ended and returned to Island employment.

2.1.2.2
The Older Generation

Due to the nature of the educational system on Mersea until the mid-1900s, all older speakers were educated on the Island until the age of either 14 or 15, depending on their era, and none received any additional education after this point (with the exception of one female who went on to train as a nurse). After this time, each older male in the sample was employed on the Island in local trade. Conversely, two older women were initially employed off the Island once they had left school but returned to Mersea employment in later life.

2.1.2.3
The Younger Generation

In order to retain some consistency regarding educational location, I attempted to interview those informants of the younger generation who had been schooled at West Mersea primary school. This was achieved for 8 out of 9 informants. The exception to this was one female who attended a local Colchester private school for part of her primary education. In addition, all informants from this data group attended a local secondary school in nearby Monkwick and either the local Sixth Form College or local Institute (both located in central Colchester) for their tertiary education. However, one other female spent years 7 and 8 (thus aged 11-13 years old) in a Sussex boarding school before returning to attend the Monkwick school for the remainder of her secondary education.

2.2
Social Factors

This section includes a brief overview of some theoretical issues involved in the classification and categorisation of informants.

2.2.1
Class

In order to achieve valid comparisons within and across sociolinguistic studies, sociolinguistic factors must remain as consistent as possible. However, maintaining such uniformity across research is not only problematic but unrealistic. By way of illustration, the calculation and constructions of abstract socio-economic class categories through methods such as the social class index utilised by Trudgill (1974) in Norwich, which was designed “to measure objectively the social class and status characteristic of the Norwich sample” (1974:35), may only be applicable to a particular subsection of one society. However, this cannot accommodate factors such as persons of the same class having different statuses if they reside in a location which assigns a different class structure (Milroy and Gordon 2003:44). For example, a builder may hold a different status and be assigned to a different class in two different communities depending on how each community values that profession, or continued family lineage in a particular geographic area may be held in higher or lower esteem depending on the society.

The calculation of class on Mersea Island indeed faces such difficulties, as evaluations appear subjectively dependent upon the subculture to which a person belongs. Thus, it is from my own experience and impressions from those Islanders with whom I have had contact, that Islanders whose families are historically established as native families are held in higher esteem by those from similar local lineage (as opposed to those who have recently moved to the Island). Therefore, it seems that family history is a far more significant marker of higher social status than occupation for these residents. This is perhaps in part due to the perception of professions such as building, shipwrighting and fishing being derived from ‘Old Mersea’ when it was common for sons to adopt the father’s, or family’s profession. This type of evaluation (although not as strongly put forward) was still evident among many of the younger generation of informants, as each showed an awareness and ability to name prominent Island family-names. Therefore, due to the subjectivity of these views and the inherent difficulties with calculations of social class, this was not considered as a social factor for this study. Furthermore, no speaker recorded during the process of data collection was excluded on the basis of their apparent class or social standing. For example, no member of the Older speaker group attended university and all represented similar professions (for example, shipwright, oyster fisherman and builder). In addition, all members of this group were involved in some kind of Island activity, from being a organiser at the Church to a member of one of the local committees.

2.2.2

Age and Gender

Age and gender as social variables lend themselves, on the surface, to straightforward classifications through the categorisation of numerical age and the binary distinction between males and females, respectively. However, age and gender as social constructs have been treated more intricately than simple assignment of arbitrary categories. By way of illustration, Eckert (1998), presenting data from her Belton High sample, posits that gender be treated as a continuum, since the concept of gender appears to be intertwined with additional aspects of social identity. Similarly, Eckert (1997) asserts that age be treated in the form of *life stages*, which primarily distinguishes childhood from adolescence from adulthood and explains that age systems "serve to mark not only an individual's progress in the life trajectory, but the individual's progress in relation to societal norms" (1997:155). Regarding the Mersea sample, informants have been categorised simply as male or female, since a more detailed in-depth analysis of this social construct is beyond the scope of this thesis. Similarly, speakers have simply been assigned to the classification of Older or Younger generation subsets. The Younger generation of speakers range in age from 18 to 26 years, while the Older generation range from 58 to 75 years of age.

2.3

The Variables – Extraction, Analysis and Classification

All interviews were analysed from start to finish resulting in approximately 32 hours of data. The analysis of the variables (au), (aɪ) and (ɔɪ) were conducted as an impressionistic or auditory analysis rather than an instrumental analysis[8]. This was due, in part, to a lack of consistent recording quality across the interviews, especially the interviews of the Museum speakers. Also, the focus of this thesis is the representation of sociolinguistic variation within a phonological model. Therefore, detailed phonetic descriptions would not be as valuable to the model presented in Chapter 10 as the perceived phonological categories of the surface variants. Once tokens were extracted and transcribed, random samples were selected and reanalysed at a later date to ensure consistency with the original transcription. On the odd occasion where the two transcribed forms differed, the token was re-analysed for a third time and the majority form was adopted.

The following sections outline the procedure through which the coding and classification of data was carried out for the purpose of the analysis.

2.3.1

Linguistic Constraints

Linguistic constraints, or linguistic factors, represent any internal factor which may correlate or influence sociolinguistic variation. Therefore, with respect to this study, certain phonological constraints may restrict the distribution of each variable (see below), while aspects such as specific phonological environments may correlate with the

[8] Even though these three variables are the focus of this study, the full (stressed) vowel inventories for two Mersea Island speakers can be found in Appendix E

production of some variables more than others. Thus, all variables were coded according to the same broad phonological categories:

1. Syllable Type
2. Preceding Phonological Environment
3. Following Phonological Environment

while the following linguistic aspects were taken into account:

4. Prosodic Factors – stress
5. Specific Lexical Items – the case of LIKE, ISLAND and BOY (see the relevant chapters for details)

2.3.1.1

Syllable Type

The classification of syllable type was a binary choice between those which were open and those which were closed. Therefore, distinctions such as the following could be made:

Open – Closed

(au)

allow – loud
houses – house

(aɪ)

fly – flight
fighter – slightly

(ɔɪ)

boy – boys
toilet – jointed

2.3.1.2

Phonological Environment

With respect to phonological environment, tokens were coded according to actual, surface pronunciations as opposed to underlying representations. Therefore, by way of illustration, the underlying /t/ in *lighter* could have surfaced (and thus be classified) in one of three ways – [t], [ɾ] or [ʔ], depending on the speaker's pronunciation. Word-initial or word-final tokens were classified as having no preceding or following environments on the word level, respectively, and, in the segmental analysis, are represented by the category 'None'.

However, with respect to following phonological environment, it must be noted that all three variables have distributional restrictions, with not all potential following environments possible in the dialect. These restrictions (following Hammond (1999) who considers the distribution of American English phonemes in mono-morphemic words), together with any additional considerations for each variable, will be discussed in more detail below. However, it is worth noting that Mersea Island English is a non-rhotic dialect[9], so the possibility of following /r/ has been omitted from the discussions.

2.3.1.2.1

The Distribution of /aʊ/

The diphthong /aʊ/ has very restrictive co-occurrence rules with respect to following segments in English. Indeed, Hammond (1999) illustrates how /aʊ/ does not occur before any word-final non-coronal consonant. Thus, /paʊt/ is possible but not */paʊk/, and it is

[9] This is referring to the dialect in the present day. There is evidence of r-colouring in the Survey of English Dialects and in the speech of an East Mersea informant (whose data is not included here since this study focuses on those from West Mersea) who was born in 1917.

only final /st/, /nt/ and /nd/ cluster which are able to follow it word-finally (for example, *joust*, *fount* and *bound*).

With respect to word-medial contexts, Hammond suggests that /aʊ/ can occur before /b/ in *baobab*, before /f/ in *dauphin* and before /ʧ/ in *caoutchouc* (1999:121, 123 and 126, respectively), although these pronunciations seem slightly idiolectal and prone to inter-speaker variation. Thus, word-medial /aʊ/ has greater restrictions, since it is only found preceding /t d z/ and the clusters /st/ and /nt/.

2.3.1.2.2

The Distribution of /aɪ/

The distribution of the diphthong /aɪ/, while having a wider distribution than /aʊ/, remains restricted with respect to which phonological segment can immediately follow it.

The distribution of /aɪ/, in mono-morphemic words, in contrast to /aʊ/, does permit /aɪ/ to occur before non-coronals, such as labial /m/ and velar /k/, for example *climb* and *hike*. However, /aɪ/ does not co-occur with a following /g ʃ ʒ ŋ ʧ/ in word-final position. With respect to clusters, in a similar fashion to /aʊ/, the only clusters which are phonologically permitted to follow /aɪ/ in English are /st/, /nt/ and /nd/ (for example, *heist*, *pint* and *find*). However, /aɪ/ may also precede /ld/ clusters in words such as *wild*.

Regarding medial segments, a similar pattern emerges, with the exception of /aɪg/ medial sequences (such as in *tiger*). A following dorsal /ŋ/ and the palatals /ʒ/ and /ʧ/ are still disallowed, while the only medial cluster permitted to follow /aɪ/ is /st/ (such as the loan word *maestro*).

2.3.1.2.3

The Distribution of /ɔɪ/

The distribution of /ɔɪ/ in monomorphemic words is similar to that already described for /aʊ/. Following Hammond (1999), we can see that, word-finally, /ɔɪ/ can also not appear before non-coronals (though Hammond (1999:111) does suggest *coif* as a possible /ɔɪf/ sequence) and the only final clusters which follow /ɔɪ/ are /st/ and /nt/. However, this does not take into account the colloquial British English word 'oik'[10] which sees /ɔɪ/ preceding a velar consonant.

Word-medially, however, /ɔɪ/ may precede all oral stops (except /g/), only the coronal fricatives /s z/ and the approximant /l/. It is not permitted to precede nasals or affricates in medial position. In addition, it is only following medial /st/ clusters (in words such as *cloister*) which are allowed.

2.3.1.3

Stress

Stress placement was not considered as a linguistic variable as all the tokens appear in stressed syllables. With lexical words however, with respect to /aɪ/, this variable may also appear in the function words *I, my, myself* and *by* in which reduction to [ɐ ~ ə] is common due to their unstressed position in an utterance. For this reason, they have not been included in the current analysis which instead is focussed primarily on a comparison of /aɪ/ variants in lexical words as opposed to function words.

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[10] which is described by the New Penguin English Dictionary as 'a vulgar, loud, or otherwise obnoxious man; a yob." (2000). The New Penguin English Dictionary, Penguin Books.

2.3.1.4

LIKE

A further consideration when analysing /aɪ/ is its presence in the token '*like*'. D'Arcy (2007) identified nine different classifications of *like* under two broader headings relating to whether its function is Grammatical or Discursive in nature (2007:392, see Chapter 5.6 for further details).

Drager (2009) used these classifications as a basis for her analysis of *like* in the speech of female high school students in New Zealand. She found that the function of *like* had a strong correlation with the type of variation produced and, so, the analysis presented here coded the various functions of *like* separately and will also examine the different functions of *like* apart from the main /aɪ/ analysis.

2.4

The Historical Data

This section will briefly look at the historical data sources which were used to gain a historical insight to the past developments of each of the variables.

2.4.1

Ellis (1889)

Throughout the late nineteenth century, Ellis compiled an extensive corpus of 'dialect renderings' from across the Anglophone parts of England, Ireland, Scotland and Wales using a three-part methodology:

I. *Comparative Specimen (cs)* – this involved a reading passage, the purpose of which was to obtain "dia[lect] renderings of familiar words in various connections and some characteristic constructions" (1889:7*).

II. *Dialect Test (dt)* – an additional short passage designed to elicit almost all of the word categories in the classified word list (see below).

III. *Classified Word List (cwl)* – an extensive collection of items, which were subdivided under the headings *Wessex and Norse, English* and *Romance* according to "the vowel of the original language in what corresponds to the accented syllable in received English" (1889:16*).

Ellis allocated Essex to his Eastern Division and describes this division as follows:

> "A closer resemblance to received speech than in any other div[ision]. It is the region from which rec[eived] sp[eech] was taken, and contains the greater part of London. The pron[unciation] is, however, not quite uniform, but the differences are so slight that it has been found extremely difficult to obtain satisfactory information" (Ellis 1889:188).

Within this division, Essex is grouped with Hertfordshire, Bedfordshire, Huntingdonshire (in present day Cambridgeshire) and mid-Northamptonshire to form a Mid Eastern dialect district, whose geographical character is described as long and straggling. He also notes that, even though the differences between the north of Northamptonshire and the south of Essex are marked with little or no connections, "I have found it impossible to divide the district….and have felt it best to consider the different counties involved as forming 'varieties'" (Ellis 1889:196).

As well as a general overview of each division, Ellis gives a description of each county area within that division, highlighting the prominent dialect characteristics across each of the methodological approaches. Therefore, it may not be the case that each county description features the same sociolinguistic variables. Due to this, the assessment of (aʊ), (aɪ) and (ɔɪ) will rely on any descriptions presented as part of the overview of the Essex region. However, since Ellis used a particular palaeotype from transcribing and describing sounds and variants, the translation of these symbols to their equivalent modern IPA symbols by Eustace (1969) will be employed in this thesis.

2.4.2

Wright (1905, reprinted in 1968)

The construction of Wright's dialect grammar aimed to highlight and describe the main characteristic features of all British dialects. To do this, it was originally intended to be based upon non-literary words, as he proposed that their phonological structure would have been less influenced by literary language (Wright 1968:III). However, due to the restricted geographical spread of genuine dialect words, Wright's index of 2,431 items was mainly based upon words which were represented by both the literary language and the spoken dialects themselves. The classification of dialects by Wright follows those of Ellis (discussed above) as he subdivided the Eastern Division into five groups, of which the Mid Eastern group contained most of Essex, while the South Eastern group contained south-west Essex (1968:4-5). However, Wright notes that, even though he had extensive material, "it is often insufficient to enable me to give the exact geographical area over which many grammatical phenomena extend" (1968:1), and thus he states that the boundaries and classification of the dialects is arbitrary. Taking this into account, the grammar is organised in two ways: variant lists according to Old English phonemes and variants listed according to the individual words. However, with respect to the actual description of the dialectal variants demonstrated by informants, Wright does admit that he did not set out to present vowel systems in such minute detail as Ellis, since, he claims, “this grammar would have been of little use to students of English philology” (Wright 1968:11).

2.4.3

Kurath and Lowman (1970)

The focus of this study was only across Southern England and descriptions do not reach dialect areas north of Warwickshire to the west of England and Lincolnshire to the east. A specially designed questionnaire was used to investigate approximately three locations within each of the southern counties. The questionnaire Kurath and Lowman used held nearly 250 items, which were intended to highlight regional differences in phonology, and they used the Middle English phonemic system as their frame of analytic reference when trying to determine the normal development of sounds from the parent phoneme. The corpus of 56 speakers was collected throughout the 1930s and this Kurath and Lowman note “appears to suffice for a general view of the dialect structure of this section of England” (1970:1).

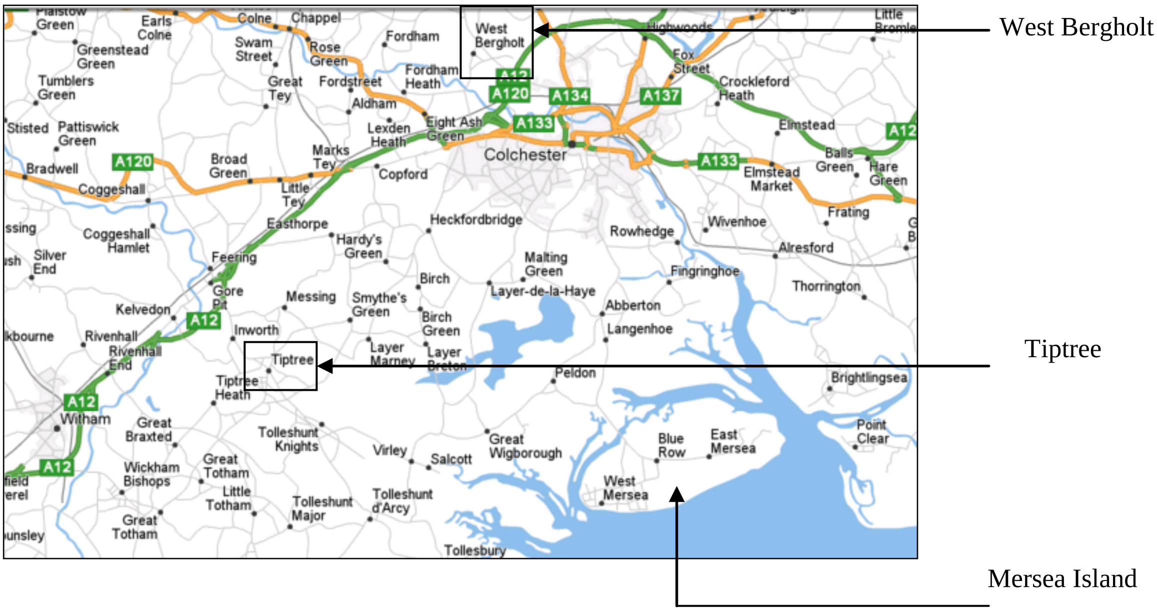
Once the data was collected and analysed, they produced maps highlighting the reflexes or variants of Middle English vowels used by the informants of each location. Thus, the type of variants elicited through the questionnaires are clearly demonstrated across regions, although details of specific places where the data collections took place are not provided.

2.4.4

The Survey of English Dialects (SED)

The ultimate aim of the SED, conducted between 1950 and 1961, is described by Orton as being “the compilation of a linguistic atlas of England” (Orton 1962:14). The methodology involved the completion of an extensive questionnaire (administered by a variety of third parties) by mostly rural male informants over the age of sixty, since these informants were regarded as being more reliable sources of vernacular speech (Orton 1962:15). Included in the survey was a single speaker from East Mersea, as well as a speaker from the nearby villages of Tiptree and West Bergholt, highlighted on the map below. Therefore, it will be these three data sources which will be used to give specific information relating to the linguistic variation appropriate to the location under study in this thesis.

2.1 *From http://www.multimap.com/maps/#t=l&map=51.84169,0.86927|12|4*



2.5

Summary

This section has described the methodology employed during data collection on Mersea Island and its subsequent analysis. In order to extract the most appropriate data for analysis, casual sociolinguistic interviews were conducted with two distinct age groups of native Islanders, thus enabling an apparent time analysis of any linguistic changes. In addition, the discovery of an audio archive held by the local museum allows for a real time study to be conducted, helping to substantiate any claims from the apparent time analysis. This data, unlike that of the historical dialect studies outlined above, such as Ellis (1889), feature conversational data instead of that collected from questionnaires, for example, and will therefore lend a different perspective to the historical data.

In order to prepare these data for statistical analysis, the coding process has been discussed, as well as the particular distributional restrictions for each diphthong in monomorphemes. These distributional restrictions inhibit the data in terms of following phonological environments and so additional domains, such as syllable type and preceding phonological environment, will also be analysed.

Chapter 3
The Historical Derivation and Variation of the Variable (aʊ)

3. THE HISTORICAL DERIVATION AND VARIATION OF THE VARIABLE (aʊ)

The following sections will discuss the derivational history of the present-day diphthong /aʊ/ from Middle English /u:/ as well as identify and discuss past and present variation reported from studies which have examined this variable.

3.1

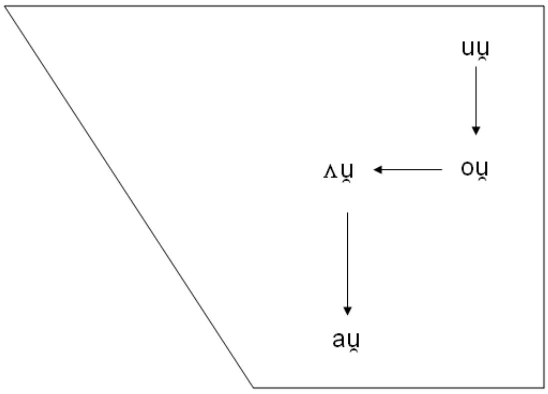
Historical Sources

Wells (1982a) classifies the stressed diphthong /aʊ/ as the MOUTH vowel. It may occur in both open and closed syllables (such as *how* and *hound*), though its distribution is restricted with respect to following phonological environments (see Chapter 2.3.1.2.1 above). The MOUTH lexical set represents the standard stressed diphthong /aʊ/ which is, in almost all cases, the present day derivation (or reflex) of Middle English /u:/, which diphthongised as part of the Great Vowel Shift. The phonological 'event' known as the Great Vowel Shift, which began around the fifteenth century, refers to a phonological change that took place in English, which resulted in the raising of all long vowels and the diphthongisation of the two high vowels /i:/ and /u:/.

However, the path of development from Middle English /u:/ to present day /aʊ/ remains a topic of academic debate. This is also true for the developmental path of the diphthong /aɪ/ which appears to have acted, for the most part, in parallel with /aʊ/ (the path of this diphthong will be discussed in Chapter 5). However, with respect to /aʊ/, the opposite views focus on the relative timing of the centralisation of its nucleus. The first view, supported by, for example, Wells (1982a:185) and Lass (1987), reports that centralisation of the diphthong nucleus followed an initial lowering period. Thus, the route from /u:/ to

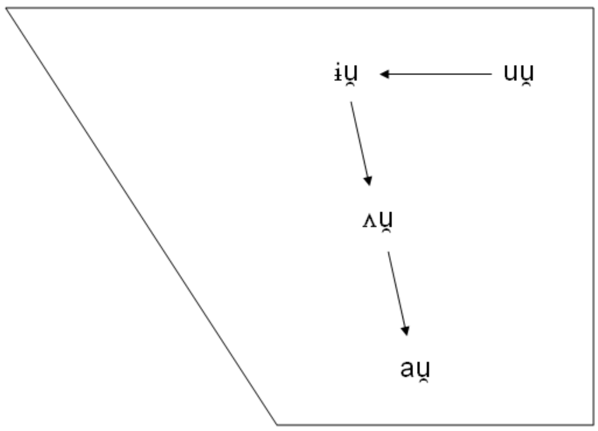
/aʊ/ was one of *lower-centralise-lower*. The following is an illustration of this developmental path:

3.1 The developmental path of /aʊ/ following the *lower-centralise-lower* route (based on Yamada (1984:61))



The alternative approach suggests that the centralisation stage occurred first, before any lowering took place (for example, Stockwell (1975)) and thus, a *centralise-lower-lower* scenario is advanced.

3.2 The developmental path of /aʊ/ following the *centralise-lower-lower* route (based on Yamada (1984:61))

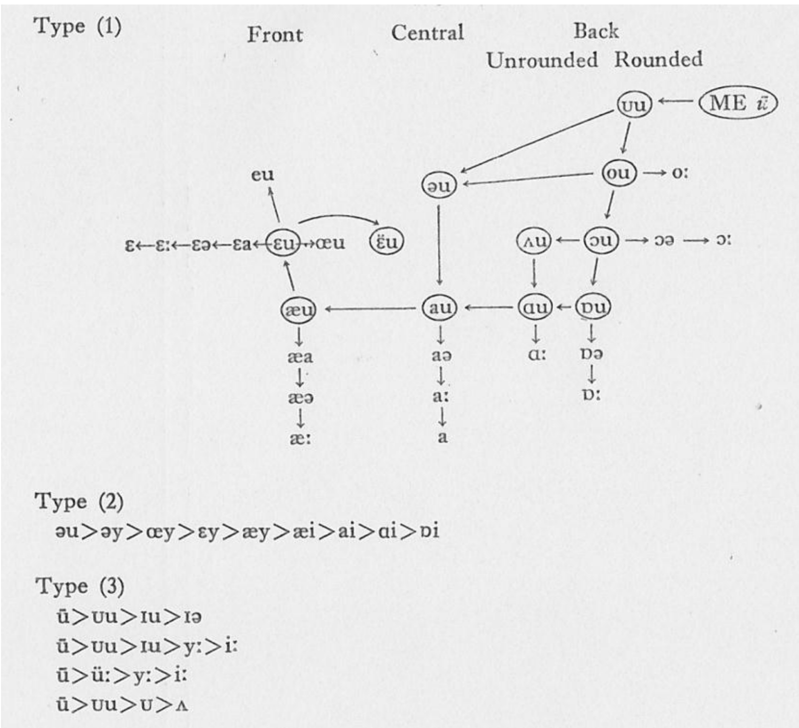


These conflicting accounts of how modern standard /aʊ/ developed have a significant impact on how we may view regional dialects that exhibit variants, which are either found on one of these proposed paths (thus representing conservatism and a standard development), or are not realised in one of these paths at all (thus representing some divergence from the standard).

It shall be seen that common variants of (aʊ) in South Eastern English dialects have a front, half-open /ɛ/-type vowel as their diphthong nucleus (that is, variants not accounted for in the models illustrated above). Therefore, with respect to the contrasting developmental paths shown above, they do not allow for the presence of /ɛ/ nuclei, suggesting that any further raising of the /aʊ/ nucleus occurred after [a] had been reached.

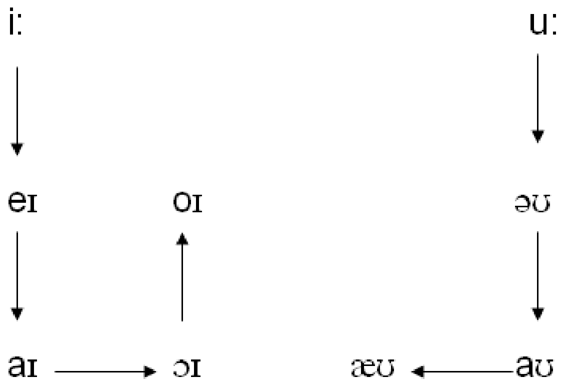
Both the paths illustrated above are incorporated into Ogura's (1987) highly detailed representation of the development of Middle English *ū*, which was based on calculations from data included in the Survey of English Dialects (SED). Also included in her model is the later development of /aʊ/-nucleus fronting. She notes that, across the 311 locations that she examined, there were 45 reflexes of Middle English /u:/ in England stating that "the first element of the diphthong may be almost any vowel" (1987:40).

3.3 The Stages in the Development of Middle English *ū*. Note: the main developmental routes are circled (from Ogura 1978:41)



However, even though the respective models differ in the developmental path of /aʊ/, they appear inadequate with respect to accounting for diphthongal qualities which are not found along the standard dialect's phonological path – for example, the half-open fronted [ε] ~ [e] nuclei which are found in many southern dialects of English in Great Britain. For these models, the development of [ε] ~ [e] nuclei is a result of further fronting and raising relative to the standard [a] nucleus. Indeed, not even Ogura's highly detailed model allows for the development of [εʊ], for example, until [aʊ] has been reached. The exception is her 'Type 2' development which sees, from the initial centralisation to [əu], a fronting towards [ε] before a lowering and backing to [a], but this, she suggests, relates only to the south-western part of England (and thus not, for example, in East Anglia where [ε] nuclei have also been found). Wells (1982a:256-257; 1982b:306-310) suggests that the fronting and raising of the MOUTH vowel in some southern English varieties (as well as those in the Midlands (UK), Australia and New Zealand) is part of a chain shift labelled as the Diphthong Shift, which also affected the long vowels /i: u:/ and the diphthongs /eɪ aɪ ɔɪ oʊ/. This shift is thought to have become widespread in the first half of the nineteenth century, at the same time that British English was being transported to Australia (Wells 1982a:257). A simplified version of the proposed vocalic movements of the Diphthong Shift can be illustrated as follows:

3.4 The path of the diphthong shift in both front and back vowel systems (from Wells 1982a :256)



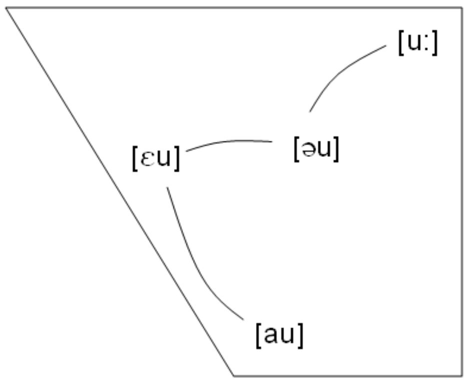
Even though it is not marked on Wells' diagram above, which only shows a fronting of the /aʊ/ nucleus, he does note that this vowel may also raise to [ɛʊ] after the initial fronting to [æʊ] (Wells 1982a:257)

Labov accounts for the change from [aʊ] to [ɛʊ] within the model of the Southern Shift (1994:208) – a similarly formulated set of changes to that of the Diphthong Shift. This incorporates changes to a number of vocalic elements across four sub-sets of movement and includes the nuclei fronting of back-gliding diphthongs (such as /aʊ/ and /ʌʊ/). As a result, the diphthong nucleus of /aʊ/ is fronted and raised to the region of /e/ (while the /e/

nucleus of /eɪ/ is lowered towards the /a/ region). Once again, the appearance of /ɛ/-type diphthongs is treated as a continuation of developments from the [aʊ] position.

In contrast, Britain (2008) presents a range of evidence (including historical, geolinguistic and dialectological descriptions) which dispute the above approaches to the development of the /aʊ/ nucleus with respect to varieties of Southern and Eastern England, Australia, New Zealand, the Falkland Islands and parts of the Southern United States. He argues that, rather than these dialects being highly innovative with respect to the subsequent development of the [ɛ] nucleus from the [a] nucleus, there is no evidence to suggest that the varieties in question had ever featured [aʊ] as a vernacular variant at the relevant periods of development. Instead, Britain suggests that fronting occurred much earlier so that a centralised [əu] type diphthong fronted towards [ɛu] before lowering took place to [aʊ] (see figure 3.5 below). However, the latter development to [aʊ] is only applicable to British English dialects.

3.5 The alternative development of (aʊ) - *Based on Britain (2008)*



Britain notes that the establishment of this route is important as it "reemphasises the distinctiveness and independence of non-standard varieties, even in the South of England, from their standard counterparts" (2008:69).

3.2

Variation of /aʊ/

As previously mentioned, Ogura remarks that the nucleus of (aʊ) could be almost any vowel and this observation is echoed by Wakelin (1977:8). In addition, Wells (1982a:152) outlines four main types of variation that may influence the pronunciation of (aʊ):

I. "The degree of advancement of the starting point". For example, he notes that very fronted starting points typically [æ~ɛ~e] are characteristic of traditional Southern British Englishes.

- These fronted variants have been found across the south in Milton Keynes and Reading, for example, with respect to working class speakers and speakers representing more traditional local variants (Cheshire et al (1999), Kerswill and Williams (2000), for example). Fronting to an /æ/ nucleus was also found in the Fens by Britain (1991) and by Przedlacka (2001) across the four counties of Buckinghamshire, Essex, Kent and Surrey, while investigating the presence and nature of Estuary English in 16 year old school children.

Further afield in the UK, Mathisen (1999) observed the use of /æ/ and /ɛ/ nuclei in the speech of her Sandwell (West Midlands) informants, particularly throughout the speech of working class males. In addition, she notes that the area's diphthongised GOOSE vowel ([ə̞u]) may lead to pairs such as *shooting* and *shouting* becoming homophonous.

II. "The degree of openness of the starting point". For example, Wells suggests that half-open starting points, or those even closer, of the qualities [ɐ~ʌ~ə] are associated with older and rural speech (though he does not indicate particular geographic regions for this observation).

– However, Williams and Kerswill (1999) note a pronunciation of [ɐʊ] is present in their Hull data, but they fail to comment on this and limit their observation only to the tendency for strong labialisation of the diphthong offset.

Diphthongs with a nucleus quality produced in the region of /ʌ/ have been reported in other parts of the UK, however. Mees and Collins (1999) describe the quality of /aʊ/ in their Cardiff data as a diphthong whose starting point "is low back rather than truly central" (1999:191), and therefore they represent it as [ʌu] as opposed to [əu] (see also Collins and Mees (1990)). In addition, Stuart-Smith (1999), when giving a summary of Glasgow vowels, notes that while the Glasgow Vernacular prefers a short [ʉ] vowel for this diphthong, Standard Glasgow English is represented by a diphthong of an [ʌʉ] quality. This Standard Glasgow variant is also found in data from Edinburgh English (Chirrey 1999)

III. "The quality of the second element". By way of illustration, Wells suggests that an [ɛɪ]-type diphthong featuring a front unrounded second element is represented in some areas of Southern England. Also, a mid-central type element resulting in the centring [æə]-type diphthong can be found in London Cockney English. It is also possible for there to be no second element, and thus, through a process of monophthongisation, renderings such as [æ: ~ a:] are also found in London Cockney.

– With respect to the qualities of the /aʊ/ offglide, unrounding to [ɪ] has been reported in areas such as Reading (Williams and Kerswill 1999) and Milton Keynes (Kerswill. and Williams. 2000). In these two locations, this form is associated particularly with the older working class speakers. However, Przedlacka (2001) found offglide lowering to [ɤ] in the data of 16 year old speakers across the counties of Buckinghamshire, Essex, Kent and Surrey. In contrast, the centralisation of the /aʊ/ offglide to schwa was reported in London Cockney (Sivertsen (1960)) and, indeed, Matthews (1938 [1972] cited in Ryfa (fc)) states that Cockneys, who are considered less broad, employ [ə] as the offglide to /aʊ/.

Regarding monophthongisation of /aʊ/, both Sivertsen (1960) and Tollfree (1999) report on the use of a monophthong in London speakers. However, it can also be found outside London, indicating that it is not a uniquely defining feature of the city or indeed the southeast. For example, Britain (1991) notes monophthongal forms of [e̞: ~ æ: ~ a: ~ ɑ:] qualities in his East Anglian Fens data while Docherty and Foulkes (1999) and Stoddart et al (1999) note that [a:] is the main local variant in their Derby and Sheffield data, respectively.

IV. "The 'speed' of the diphthong", which tends to affect the articulation of the initial element causing a prolonged articulation of the onglide (which is a particular characteristic of the American South).

– However, others, such as Tollfree (1999), have noted diphthongs, such as [æ:ᵊ], where the second element has a very short duration and, thus, the first element is prolonged.

Indeed, these are similar points of variation associated with the /aɪ/ diphthong (see 5.2 below) and, also in a similar fashion to /aɪ/, the MOUTH vowel is susceptible to smoothing processes, particularly in the context of /aʊə/ triphthong sequences. Thus, *tower* /taʊə/

may become [ta:ə] or even [tɑ:] through smoothing and subsequent monophthongisation, leading it to become homophonous with *tar* (Wells 1982a:238-239).

One final aspect of (aʊ) variation, which is also a shared characteristic with /aɪ/, is that of 'Canadian' Raising (see for example, Chambers (1989) or Britain (1995; 1997)). Unlike the variation reported for /aɪ/, there have been no reports of Canadian Raising patterns in England, and Trudgill notes that "we nowhere find different allophones of /au/ in voiced and voiceless environments" (1986:156). The Canadian Raising process is where the diphthong variants of /aʊ/ and /aɪ/ are in complementary distribution – those with a raised nucleus appearing before voiceless consonants and those with lowered nuclei surfacing before voiced consonants and all other environments. Thus, with respect to /aʊ/, pairs such as [əut] ~ [ʌut] versus [laud] occur.

The following sections will present the findings from a range of historical and modern dialect studies relating to the behaviour of the (aʊ) variable. The initial discussion will be primarily concerned with data from East Anglia in general before attention is turned briefly to some international varieties of English. This will construct a picture of what variants are represented in the regions surrounding Mersea Island and, therefore, those varieties with which Islanders are more likely to share sustained contact. In addition, by looking at the behaviour of (aʊ) in international insular varieties, we can examine patterns of variation across a range of sociolinguistic environments which might share similar patterns of contact with outside varieties.

3.2.1

Historical Variation

In order to establish the historical development of the (aʊ) variable in the area under analysis, this section will examine its variation as presented in a selection of historical dialect studies. The inclusion of historical data will also enable a real time perspective of variation and change to be established and, through a comparison with the modern data collected for this study, the trajectory of changes relating to this diphthong may be uncovered.

3.2.1.1

Ellis (1889)

The dialect survey conducted in Essex is described by Ellis as failing to obtain and "bring out the chief peculiarities" (1889:221) of the region. However, the data acquired with respect to /aʊ/ suggests the variation at the time included variants such as [ɛʊ] and [ɜʊ], but Ellis notes that [ɛʊ] should be taken as the general sound for the county. However, one additional observation to be made comes from data from Maldon (a town approximately 15 miles from Mersea Island), where it is noted that an occasional prefix of /ɪ/ is added to the diphthong leading to variations such as {nĭᴇ'u}– [nɪɛʊ][11].

3.2.1.2

Wright (1905, reprinted in 1968)

The result of Wright's dialect survey is the observation that, with respect to Old English long u (or ū), [eu] is common in Eastern England for words such as *about, house* and

[11] Note: the transcription using the notation of Ellis is included within { } brackets while the translated modern IPA symbols (using Eustace 1969 for the translation) are enclosed within the conventional [ ] square brackets.

south, even though [əu] is present in Norfolk. In addition, OE ūr is noted to have achieved breaking through schwa insertion in the items *our* and *shower* and has the pronunciation [ɐuə] in north-east Norfolk and east Suffolk (1968:151).

3.2.1.3

Kurath and Lowman (1970)

Kurath and Lowman noted that, in the central southern counties they investigated (Essex was classified as an east-central county), Standard British English [ɑu] did not emerge in the speech of those under investigation whereas [ɛu ~ ɛʉ ~ æu] were universal (1970:5). In addition, an isogloss pertaining to /aʊ/ variation was constructed and ran from the western Sussex border (with Hampshire) up towards central Worcestershire as a way of visually separating Western [əu] from Eastern [æu] (1970:35). However, it must be noted that they also observed a consistent Norfolk pronunciation, which deviated from this Eastern form, as [əu] with occasional [ʌu ~ ɐu] (1970:5).

3.2.1.4

The Survey of English Dialects (SED)

A comparison of three locations from the SED's data survey (East Mersea, Tiptree and West Bergholt, see the map in 2.1 above) shows Ellis' assessment of [ɛʊ] as the predominant variant holds true across each location. By way of illustration, the tokens *about*, *cloud*, *houses* and *cow* demonstrate the stable nature of the variant before a voiceless and voiced consonant, a morpheme boundary and in a word-final open syllable. Indeed, variation only becomes apparent when /aʊ/ is followed by /ə/.

3.6 A comparison of (aʊ) and (aʊə) pronunciations recorded by the SED (Based on Data extracted from Orton and Tilling (1969; 1970; 1971))

		East Mersea	Tiptree	West Bergholt
Diphthong	**about**	əbɛɷt	əbɛɷt	əbɛɷt
	how	hɛɷ	hɛɷ	ɛɷ
	cows	kɛɷz	kɛɷz	kɛɷz
	cloud	klɛɷd	klɛɷd	klɛɷd
Triphthong	**ours**	æɷəz̥	ɛɷən	æɷəz̥
	hour	æɷə	ɛɷə	æ̣ɷə
	flour	flæɷə	flæɷə	flæɷə
	flowers	flæɷəz	flɛɷəz	flɛɷəz

Note that the SED's notation [ɷ] is equivalent to modern IPA [ʊ]

It can be seen that the lowered, more open nucleus is preferred in each token by the East Mersea speaker while the Tiptree and West Bergholt data contrast particularly in the token *flowers*.

Additional observations which can be made from the SED are that there is no evidence of monophthongisation or smoothing processes as well as no evidence of [ɪ] prefixing.

3.2.1.5

Summary

These historical sources suggest that the most prolific historical variants of (aʊ) across the south-eastern regions discussed here are those with fronted half-open or centralised nuclei. Therefore, in light of this evidence, we can propose that these varieties were indeed subject to early fronting before lowering to the [a] nuclei (which is demonstrated by the studies below), since there is little or no evidence of these lowered nuclei in the historical data.

3.2.2

Modern Variation Studies – The South East

This section will give a brief overview of some sociolinguistic variation studies which have focussed upon (aʊ), or included it as part of a dialect survey. Due to the location of the community under study, varieties from the South East of England will be primarily considered alongside those studies whose geographical focus is on locations closest to Mersea Island. This will demonstrate the type of variation most likely to be in contact with that of Mersea Island and will help to generate an overall picture of regional variation in the south east of East Anglia.

3.2.2.1

The East Anglian Fens

The Fens are a low lying area spanning four counties: parts of west Norfolk, north Cambridgeshire, southeast Lincolnshire and northwest Suffolk. Historically, the southern two thirds of the Fenland area was made up of undrained marshland which was prone to flooding, making the land unsuitable for settlement (Britain 1997:19). As a result, the population was confined to a number of smaller settlements and communities which scattered about the region. The reclamation of the land, as it was drained in the seventeenth century, was a turning point in the region's history as these once isolated communities were now accessible. This is reflected in the extent of population growth between 1563 and 1801 in areas such as Wisbech and March, which were inaccessible before reclamation. The population of these areas grew from 1,210 and 1,025, to 4,710 and 2,514, respectively, and Britain notes that the origins of the in-coming population were mixed and varied (Britain 1997:19-20). As a result, these once isolated communities found themselves in high contact situations, particularly between those dialect varieties of the eastern and western Fens.

As we shall see below, Britain (1991) found prominent Canadian Raising patterns with respect to the (aɪ) variable (see 5.4.2 in particular). However, no such pattern, even in the historical data of the SED pertaining to the region under investigation, could be found for (aʊ). Even though Canadian Raising variation was not found to occur with this variable, the Fens data demonstrate certain phonological influences on the variation pattern which was analysed.

Using data from the SED, Britain established that traditional realisations of (aʊ) across available Fenland locations were diphthongs whose nucleus was predominantly of an [ɛ]-type quality. However, Britain's data highlighted a number of different monophthongal variations with qualities representing [ẹ: ~ æ: ~ a: ~ ɑ:]. Looking at both word-medial and word-final environments, as well as whether /aʊ/ was part of a triphthong, Britain found that following phonological environment correlated with the production of diphthongal or monophthongal variants. For example, even though the analysis highlighted greater diphthong usage in Eastern areas and greater monophthong usage in Western areas, overall, monophthongs were more common when (aʊ) preceded [θ] and [t]. Conversely, diphthongal variants were more likely in word-final position preceding a vowel or a pause. Building on this analysis, Britain investigated the relationship between monophthongisation of /aʊ/ and its onset quality by dividing his 81 informants into five groups, according to the extent of monophthongal use and the quality of their monophthong and diphthong realisations. However, he did not report any link between, for example, onset quality and frequency of diphthong pronunciations (i.e. Group Five exhibited almost categorical [a] onsets and diphthongal variants while Group Four, having mostly [ẹ] onsets, also used mainly diphthongal forms (1991:128-129)).

3.2.2.2

Colchester

In Colchester, Britain's oldest recorded town, which is approximately a twenty minute drive from Mersea Island and can be described as its nearest urban centre, Ryfa (2005) explored many linguistic variables including the MOUTH vowel. Ryfa's work focussed upon data from two youth groups, which she categorised as 'Chavs' (working class) and 'Grungers' (middle class) – however, see Ryfa (2005) for a more detailed description of these groups. Her study analysed the speech of eight informants, four from each social group, and consisted of spontaneous interviews across Colchester town centre where Ryfa approached the individuals and asked permission to record them at that time.

She found that, whereas the Grungers were more likely to use variants which approximated standard /aʊ/, the Chavs preferred more fronted diphthongs. Another observation which can be taken from her analysis is that both groups used a monophthongal [a:] variant (Grungers 31% and Chavs 25%, Ryfa (2005:52)), but other monophthongs can be found, ranging in quality from a front open [ạ:] to a back unrounded [ɑ:]. Also, there is no case of half open [ɛ]-type onglides to the diphthongs within her Colchester data, suggesting that Colchester youths, or at least those interviewed for this study, are utilising only lowered diphthongal nuclei for this variable.

3.2.2.3

Basildon

Basildon was built in the 1950s as a post-war 'New Town'. Fox (2000) notes that the majority of the establishing population consisted of families of working class origin who moved out of the London's East End districts. Therefore, the incoming London variety would have dominated not only the other input dialects, but also the original dialect spoken in Basildon (which was, before the new town development quite rural and sparsely populated). Therefore, the focus of Fox's survey of this area was to investigate whether this original Cockney influence still remained in the Basildon dialect, or whether the dialect had succumbed to what has been referred to as 'Estuary English' (a variety which, it has been proposed, has resulted from Londoners modifying their Cockney speech towards that of the areas to which they move and RP speakers accommodating their dialect towards that of the incomers (Coggle 1993 cited in Fox 2000:1)).

The survey of Basildon speech utilised a rapid anonymous survey (which involved the reading of a short passage) as well as interviews carried out at a local youth centre. All informants were adolescents between 12 and 19 years old – 22 informants being recorded during the interviews and 30 informants used for the reading passage survey.

This study looked at a number of phonological variables, including the MOUTH vowel, with the aim of assessing whether the vernacular speech of Basildon "is simply 'Cockney gone east' as opposed to so-called Estuary English" (Fox 2000:1). Citing a range of other previous research, Fox describes the traditional Cockney diphthong as one with an [æ] nucleus, while the Cockney monophthong has an [a] quality. Conversely, Estuary

English, not employing the monophthong, has been shown to have diphthong nuclei of [e ~ a ~ æ] qualities (Fox 2000:5-6).

With respect to the actual analysis, Fox's data only consisted of tokens extracted from six teens aged 13 to 15 years, the rest of the informants being excluded for reasons of non-eligibly and low quantities of data. With respect to /aʊ/, she found that the monophthong [a:] (often said to be a defining feature of Cockney) was quite prevalent in the data and also that the vowel has a more central offglide, lending the diphthong a [æə] quality. This observation is in line with Altendorf (2003), who notes that a monophthong realisation for (aʊ) is characteristic of Cockney as opposed to Estuary English and that her data demonstrate that it is "confined to the working class" (2003:103). This, she claims, helps strengthen the case that Basildon English is a diffused Cockney dialect as opposed to Estuary English.

3.2.2.4

Summary

These studies, once again, show that traditional variants in the South East, with the exception of Cockney English and areas of the Fens, were diphthongal in nature. The nucleus qualities of these diphthongs range between front, half open and open vowels. Also, the distribution of these diphthongal and any monophthongal variants may be influenced by the social factor of class as well as phonological context.

3.2.3

Contemporary Studies of Insular Varieties

This section will specifically focus upon studies of insular communities. These studies will highlight how a changing demographic and socio-economic status can influence not only linguistic variation, but also the attitudes towards that variation. The locations of these studies will include analyses from the United States, the Falkland Islands, St Helena and Tristan da Cunha. Through the incorporation of these studies, it will be possible to highlight not only possible linguistic constraints that must be considered in the analysis of Mersea Island English, but also any social and attitudinal factors which might also be relevant.

3.2.3.1

Martha's Vineyard

Martha's Vineyard is an island off the coast of Boston, Massachusetts. This was the location of Labov's groundbreaking sociolinguistic study (1963 reprinted in Labov (1972)), which investigated the correlation between the variants of (aɪ) and (aʊ)[12] and the many social factors pertaining to the community under observation. The particular variation under investigation was the distribution of raised or centralised nuclei of the diphthongs. At the time of the study, Labov notes that, with respect to data from the Linguistic Atlas of New England, Martha's Vineyard /aʊ/ shows little centralisation whereas /aɪ/ is "well centralised" (1972:11).

1,500 tokens of (aʊ) were extracted from 69 speakers, and the results showed that centralisation seemed to be phonologically conditioned, with respect to following

[12] Note that Labov used the notations (ay) and (aw) for (aɪ) and (aʊ), respectively. The latter pair has been retained here, and throughout this thesis for consistency.

environment. Thus, voiceless obstruents were found to favour centralisation while sonorants and nasals disfavoured it (see Labov (1972:20) for the full scale). Although Labov does not say as much, this pattern of centralisation coincides with the type of environments found in Canadian Raising patterns.

Centralisation was also discovered to increase successively from the oldest speakers (75^+) to the 31-45 year old group, which represents the peak of centralisation across all the age groups. The final age group, the youngest at 14-30, however, shows a decline in centralisation (by almost half compared to that of the 31-45 year old group). Indeed, Labov notes that, since the level of centralisation is at a minimum for both the very old and the very young, it "shows that the effect of age cannot be discounted entirely, and it may indeed be a secondary factor in this distribution over age levels" (1972:24).

Another significant factor was found to be the speaker's social orientation and attitude to the Island, in that a positive orientation towards Martha's Vineyard strongly correlated with higher degrees of centralisation (Labov 1972:39).

These findings were supported by Pope et al (2007) who reconstructed the original Martha's Vineyard study. Keeping the original methodology intact, 116 speakers were interviewed and 2,500 tokens of (aʊ) were extracted. They too found correlations with phonological context and, particularly, their attitudinal assessment found that there remained a correlation between speakers' attitudes and the amount of centralisation (2007:621). However, they noted that both (aʊ) and (aɪ) variables did not seem to be salient (or above the level of consciousness), and that their data, collected in 2002, showed levels of centralisation receding (with (aʊ) not being affected as much as (aɪ)). This was particularly true with speakers born after 1979 (2007:623).

These studies indicate that the additional aspect of social orientation may be a significant factor in shaping sociolinguistic variation. Types of attitude may act to inhibit or, conversely, promote certain types of change depending upon a variant's social evaluation when introduced though contact. The type of contact experienced by Martha's Vineyard Islanders with the mainland also appears to be reciprocal. That is, even though many tourists and permanent residents come to the Island, the Islanders also travel off the Island for professional or social activities (in this respect, the contact situation on Martha's Vineyard is similar to that of Mersea).

3.2.3.2

Ocracoke and Smith Island

Ocracoke and Smith Island are two islands off the coast of the Eastern United States which are only accessible by ferry. Ocracoke Island is situated off the coast of North Carolina and has been subject to a significant rise in the level of tourism in recent decades. However, Smith Island, located in the Chesapeake Bay area of Maryland, has not had such a tourism boost and, instead, has even begun experiencing a decline in its residential population (see, for example, Schilling-Estes and Wolfram (1999), Schilling-Estes (2002) and Wolfram (2008)).

Schilling-Estes and Wolfram (1999) illustrate that, with respect to /aʊ/[13] patterning, the following alternations may occur:

Nucleus	– Raised [ə ~ ʌ] vs. Unraised [a ~ ɑ] – Fronted [æ ~ ɛ] vs. Unfronted [ɑ]
Offglide	– Fronted [i ~ I ~ ɛ] – Non fronted [u ~ U ~ o] – Absent [e.g. monophthong]

From Schilling-Estes and Wolfram (1999:497)

They note that glide fronting is accompanied by a fronting of the nucleus by Ocracoke speakers, but this is not always the case for Smith Island speakers. In addition, it is these glide-fronted diphthongs which "feature prominently in discussions of Smith Island speech, both by residents and outsiders, but almost never mentioned in discussions of Ocracoke English" (1999-490), and this noticeably contrasts with the social saliency of (aɪ) (see 5.5.2 below).

However, even though it seems each location attributes different symbolic values to (aɪ) and (aʊ), both islands were shown to have increased levels of /aʊ/ glide-fronting between old and middle aged speaker groups, with middle aged females having greater levels of glide-fronting on both islands. Yet, despite this feature being on the increase, it seems that this fronted glide is restricted to closed syllables with both Ocracoke and Smith Island speakers preferring back-gliding variants in word-final position (for example, [na^{u}] *now*).

Once again, these studies demonstrate the influence of social attitudes on sociolinguistic variation. However, these studies also demonstrate how the same variable may be subject

[13] Once again, /aʊ/ will be used instead of /aw/ and /aɪ/ in place of /ay/ when referring to these works in order to maintain consistency.

to contrasting social evaluations in different communities. In addition, the data demonstrate how an almost allophonic distribution of variants may be found according to phonological environment. This was also noted for Martha's Vineyard above and it may suggest that, in insular communities where there is increasing contact between dialect varieties, these types of allophonic alternations may arise as a result of phonological re-allocation (see Chapter 9 for a more in-depth discussion of this point).

3.2.3.3

The Falkland Islands

The Falkland Islands are situated in the South Atlantic Ocean with the British laying claim to them in 1690. Sudbury (2000), Sudbury and Britain (2000) and Britain and Sudbury 2010) note that colonisation of the Falklands contrasts with other colonial events across the English speaking world, in that there was no indigenous population with which the settlers could have contact. Thus, the original colonising population (consisting of predominantly British nationals) had little contact with other language forms[14] during the initial settling period.

Across the nineteenth and twentieth centuries, sporadic immigration from areas across South America, Scandinavia and the British Isles resulted in a population peak of 2,400 island residents in 1931. However, many of those coming to the islands did not become permanently established there and thus the Island population was transient and in a state of fluctuation. Sudbury goes on to note that, even though the population and economy declined dramatically following the Second World War, the modern population consists of only 60% 'native' Islanders. The remaining population consists of 30% British

[14] Although Sudbury notes that a small proportion of early settlers were from Northern Europe

residents with the remaining 10% being made up from a diverse mixture of Europeans, Americans and Asians (Sudbury 2000; Sudbury and Britain 2000; Britain and Sudbury 2010).

With respect to /aʊ/, Sudbury (2000) notes that it is unlikely that the range of early Falkland settlers (mainly from the West Country and Scotland) would have brought diphthongs with open nuclei and that the main variants would have been those with mid-central and mid-front nuclei qualities.

The subsequent analysis of Falkland Island English (FIE) resulted in 4695 tokens of (aʊ), which were elicited through casual, unstructured sociolinguistic interviews. From these tokens, diphthongs with onset qualities of [a ~ ɐ ~ ɛ] were found as well as degrees of offglide weakening[15], the latter being a characteristic of other Southern Hemisphere Englishes. The analysis of onset quality revealed fewer diphthongs with open nuclei were produced before voiceless consonants, suggesting a Canadian Raising type pattern. However, Sudbury notes that "this allophonic patterning is less striking than in other varieties" (2000:275) and highlights significant variation across the behaviour of FIE speakers. This subtle allophonic pattern may reflect the natural direction of change from half-open to open nuclei in this dialect. Trudgill (1986) notes that the Canadian Raising pattern may result from a natural re-allocation of variants during dialect contact and language change and thus, the observations made with respect to the Falklands data resembles that of the Mersea Island analysis (See Chapter 9 for further details).

[15] Sudbury (2000) distinguishes between a full [u] offglide, a weakened [Və] offglide and a monophthong [V:]

With respect to the quality of the offglide, Sudbury found that younger speakers were more prone to glide weakening, indicating a change towards the weakened monophthongal forms, and that females seemed to be leading this change away from diphthongal forms. However, Sudbury does note that the "overall scores are very similar between groups" (2000:277). Even though the levels of glide weakening and monophthongisation of (aʊ) are more frequent in the younger speakers, there is no parallel behaviour in the offglide of (aɪ) in Falkland Island English (see section 5.5.3 below for a description of this variable). This suggests that either (aʊ) is more susceptible to these weakening processes or that, if monophthongisation is a continuation of developments to the diphthong, changes to (aʊ) are more advanced than those relating to (aɪ).

3.2.3.4

St Helena

English on the island of St Helena, in the South Atlantic Ocean, can be traced to 1658 when it was colonised by the East India Company. Schreier (2008; 2010a) demonstrates that the island's population has undergone extensive language contact and ethnic mixing. The founding community represented Europeans from England and France as well as West Africans, Indians and Madagascans. Schreier goes on to show how this population was also socially diverse, featuring a mixture of soldiers, planters' servants and slaves brought by the East India Company and that, although not much is known about the nature of the British settlers, "many – if not most – of them came from Southern, perhaps South-eastern England" (Schreier 2010a:225). In addition, it seems likely these British settlers represented those from the working classes.

Travel to and from the island is incredibly restricted and, even though the population in 2010 was recorded as approximately 4,000 (Schreier 2010a), this is a significant reduction from the population recorded a decade before. This is due to around 30 per cent of the population leaving St Helena once the United Kingdom granted the islanders full citizenship rights.

After integrating himself successfully in the community and establishing substantial network ties, Schreier collected a corpus of 33 informants ranging across the regions of the island. From this corpus, 20 informants born between 1911 and 1940 were selected, equally representing both genders (Schreier 2008:162-163). Though there is no indication of early forms of the /aʊ/ diphthong, the modern analysis of (aʊ) resulted in the observation of [aʊ ~ ɑ̹ʊ ~ ɔʊ] as the most usual pronunciations across the islanders (Schreier 2008; 2010a). Even though there was no apparent Canadian Raising pattern (as observed for the /aɪ/ diphthong, see 5.5.4 below), Schreier observed a distinction between the behaviour of some function words and lexical words. Indeed, the backed /ɔ/ quality of the diphthong nucleus was noted for the function words *out* and *about*, while the nucleus for lexical words tended to be more fronted (but not so fronted that it encroached on the vowels /æ/ and /ɛ/).

In addition, in contrast to the behaviour of Falkland Island English (see above), glide weakening of St Helena is reported by Schreier to be uncommon in the speech of his informants. Thus, full diphthong offglides are maintained.

The lack of contact with outsider varieties in recent history may account for the lack of Canadian Raising type patterns for this variable. However, it may also be the case that a change towards [aʊ] has been completed and the allophonic distribution was only temporary and, thus, has been lost from the dialect (compare this with the behaviour of (aɪ) in 5.5.4 below).

3.2.3.5

Tristan da Cunha

Situated in the South Atlantic (south of St Helena and west of Cape Town, South Africa), Schreier notes that, as of June 2008, the variety known as Tristan da Cunha English (TdCE) is spoken by a community of only 278 speakers (Schreier 2010b:245). The development of TdCE began in the 1820s and the initial mix incorporated many varieties across the British Isles, Northeast United States, South Africa and St Helena and present day speakers are monolingual with respect to the TdCE variety (though Schreier notes that there are occasional borrowings from Afrikaans (2010b:245)).

With respect to significant historical events, in the autumn of 1961, volcanic activity on the island forced a mass evacuation. However, these evacuees, who were mainly based in Southampton (UK), returned home from England in 1963, but this two-year break encouraged the modernisation and adoption of Western culture by the islanders. Social stability has since then returned and Schreier observes that prolonged or permanent out-migration is rare (2010b:248).

With respect to variation of /aʊ/, Schreier writes that the most usual pronunciations are of [æʉ ~ ɛʉ] qualities and that there is no evidence of Canadian Raising patterns for this diphthong. Indeed, Schreier notes that since neither TdCE nor St Helena English (StHE) exhibit Canadian Raising patterns for /aʊ/, but do for /aɪ/, this is evidence of the influence that StHE had on the historical formation of TdCE (2010b:230). Thus, in a similar fashion to St Helena, it may be the high degree of isolation which is preserving the Canadian Raising type pattern of (aɪ), rather than allowing the change to complete as it may have done for (aʊ).

3.3

Summary

This section has discussed the historical variation and derivation of the variable (aʊ). We have seen that present-day /aʊ/ derives from Middle English /u:/, as a result of developments associated with the Great Vowel Shift. Even though the path of /aʊ/'s development appears uncertain and controversial, historical evidence from Essex seems to support Britain's (2008) proposal of earlier fronting towards [ɛʊ] before lowering to [aʊ] occurred.

With respect to more modern sociolinguistic studies, it has been observed that (aʊ) variation can include a range between diphthongs which have a half-open [ɛ] nucleus (generally those representing older, more traditional pronunciations), and a lowered [a] or lowered and backed [ɑ] nucleus (which are generally more innovative, modern variants). These qualities also reflect a similar range of monophthongal vowel variants. It has also been observed, through international island studies, that the saliency of (aʊ) variation can be associated with social attitudes, which may have a direct influence on the pattern of both intra and inter-speaker variation. We have seen that the direction of change from some of these international studies reflect the trajectory of [ɛ] to [a] nuclei in South-eastern British Englishes despite having quite contrasting socio-demographic histories. Finally, these studies have also demonstrated that Canadian Raising patterns are uncommon with respect to (aʊ) variation, although other variation patterns, such as variation between lexical and functional words (St Helena) and variation according to syllable structure (Ocracoke and Smith Island), have been noted.

Chapter 4

(aʊ) - An Analysis of Social and Linguistic Factors

4. THE ANALYSIS OF (aʊ) [16]

The following sections will present and discuss the results generated from tokens extracted from Mersea Island data with respect to the variable (aʊ). The social dimensions of age and gender will be considered before attention is turned to the discussion of relevant linguistic factors.

4.1

(aʊ) - An Analysis of Social and Linguistic Factors

Initially, tokens of both the diphthong /aʊ/ and the triphthong /aʊə/ were extracted from the audio recordings. However, only 98 tokens (55 from the Older MIE speakers and 43 from the Younger MIE speakers) of /aʊə/ were present in the data, which compared to the 2942 tokens pertaining to the diphthong. Therefore, these were omitted from the final analysis, due to the number of tokens being deemed insufficient for a truly representative and comparative analysis. Before this decision was made, however, all tokens were coded according to the variant produced, as well as for the social and linguistic factors outlined in 4.2 and 4.3 below:

Diphthongal Variants	*Monophthongal Variant*
ᴵɛʊ ɪ̞ʊ əᵘ ɛʊ ɛᵘ ɛ̞ʊ ɛ̞ᵘ aʊ aᵘ	aa

[16] Examples of (aʊ) tokens according to phonological environment can be found in Appendix D (1a) and (1b)

As previously described, age was categorised according to whether the data was from the museum archive or from sociolinguistic interviews of Older and Younger Islanders carried out on the island of Mersea in 2006 and 2007. As the table above shows, there was little variation in the quality of the diphthongal offglide. Therefore, due to the complexity of the variant spread, the majority of this analysis will focus upon percentages relating to variation regarding the diphthongal nucleus types:

ɪ̞ - type
ə - type
ɛ - type
ɛ̞ - type
a - type

aa - type

The notation ‘aa’ will be used to represent the monophthongal variant which is more typically represented as [a:] so that it is distinguishable from diphthongs with an [a] type nucleus. This notation will also help the examination of the monophthongal variants in Chapter 10, since it allows for a quality to be assigned to each timing-tier slot.

4.2

Social Factors

This section will outline the results pertaining to (aʊ) with respect to the social factors of age and gender.

4.2.1

Age

The tables in (4.1a) and (4.1b) below illustrate the token numbers and corresponding percentages for each variant of (aʊ) according to the age of the speaker while (4.1c) presents this data in graphic form.

4.1a

Number of (aʊ) tokens according to age

	ᶦɛʊ	ɪ̞ʊ	əᶷ	ɛʊ	ɛᶷ	ɛ̞ʊ	ɛ̞ᶷ	aʊ	aᶷ	aa	**Total - Tokens**
Young					1	4	2	363	182	178	**730**
Old		18	9	705	157	361	51	366	180	49	**1896**
Museum	14	2	16	196	45	25	2	10	5	1	**316**
Total	**14**	**20**	**25**	**901**	**203**	**390**	**55**	**739**	**367**	**228**	**2942**

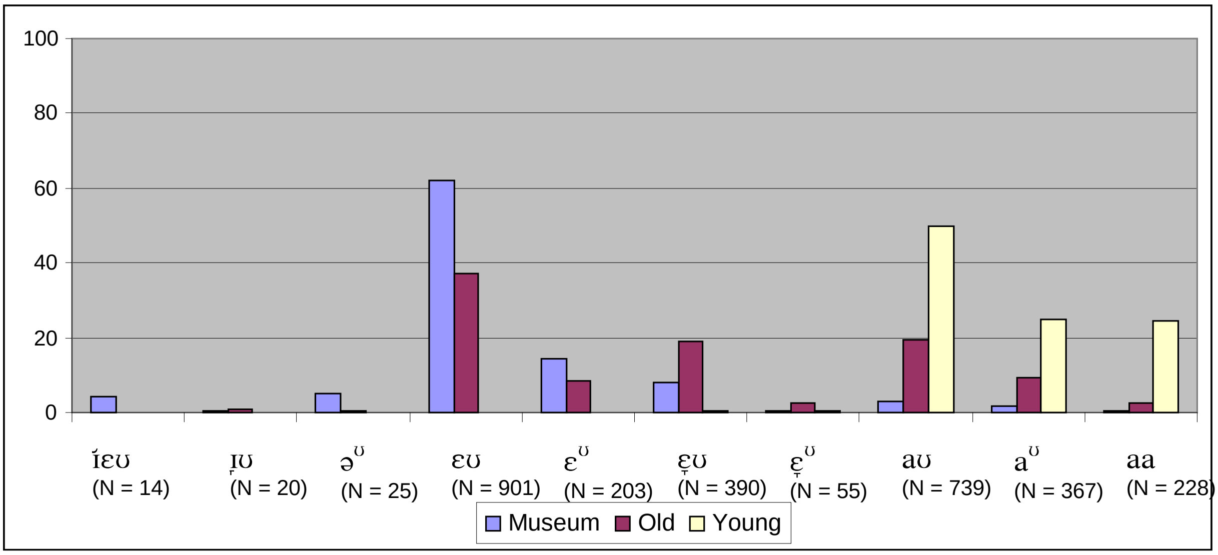
4.1b

Percentage of (aʊ) variants according to age

	ᶦɛʊ	ɪ̞ʊ	əᶷ	ɛʊ	ɛᶷ	ɛ̞ʊ	ɛ̞ᶷ	aʊ	aᶷ	aa
Young					0.14	0.55	0.27	49.73	24.93	24.38
Old		0.95	0.47	37.18	8.28	19.04	2.69	19.30	9.49	2.58
Museum	4.43	0.63	5.06	62.03	14.24	7.91	0.63	3.16	1.58	0.32

4.1c

Overall percentage of (aʊ) variants by age



It can be seen that, while the speakers from the museum recordings generally prefer the traditional [ɛʊ] form (62%), they do produce, albeit in small amounts, raised and centralised [ˈɛʊ][17] and [əʊ] forms as well as more standard-like [aʊ] forms. Conversely, the Younger speakers are confined almost exclusively to variants with an [a]-type nucleus, while the Older speakers demonstrate a range between [ɛ]-type and [a]-type nuclei. Indeed, since this data does not show variation in the phonetic quality of the offglide (the only variation being in its duration, which could be attributable to extra-linguistic factors such as the pace and rhythm of speech), the variant data above can be recalculated according to the ‘type’ of onglide, in order to illustrate age trends more easily.

[17] It is this variant which corresponds with the [ɪ] prefixing observed in Ellis (1889), see 3.2.1.1 for details.

4.2a

Number of (aʊ) tokens according diphthong type and age

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type	**Total**
Museum	16	16	241	27	15	1	**316**
Old	18	9	862	412	546	49	**1896**
Young			1	6	545	178	**730**
Total	**34**	**25**	**1104**	**445**	**1106**	**228**	**2942**

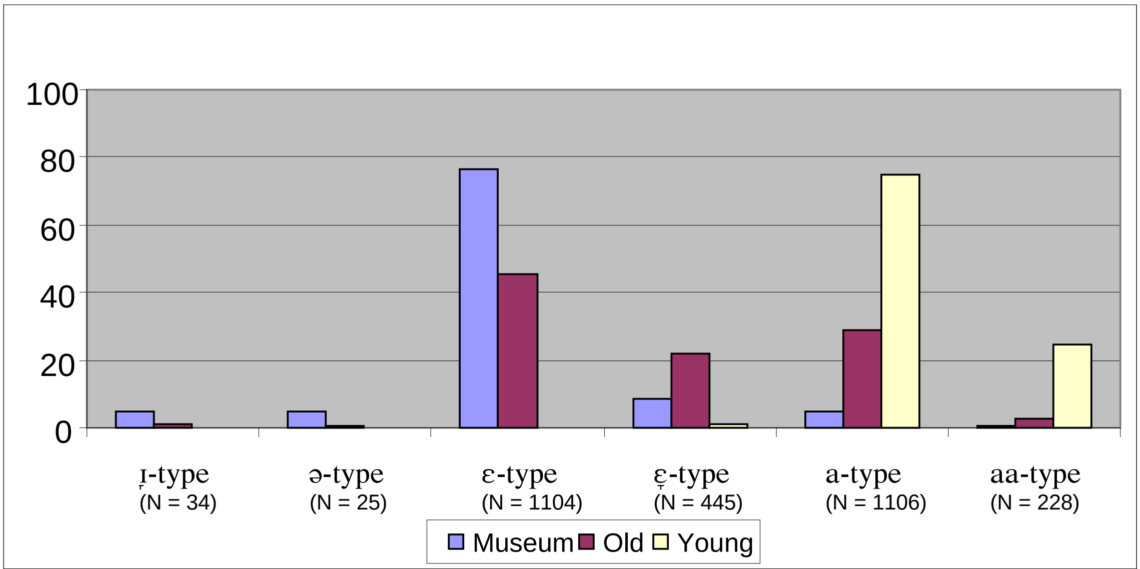
4.2b

Percentage of (aʊ) variants according to diphthong type and age

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type
Museum	5.06	5.06	76.27	8.54	4.75	0.32
Old	0.95	0.47	45.46	21.73	28.80	2.58
Young			0.14	0.82	74.66	24.38

4.2c

Overall percentage of (aʊ) variant by age



Thus, the transitional nature of the Older speakers from more traditional variants (used mainly by the Museum speakers) on the left of the graph to more innovative variants (used by the Younger speakers) on the right is now clearer to see. The above data also demonstrate a transition from [ə] to [ɛ]- type diphthongs in the speech of the Museum speakers, as opposed to a shift from [ə] to [a]- type variants, which would be predicted by the models outlined in figures 3.1 and 3.2 in the previous chapter.

It can be suggested that the extent of the variation demonstrated by the Older speakers marks or highlights the generational period in which the change from [ɛ]-type to [a]-type variants was at its most prolific. Indeed, the period in which these speakers were growing up coincides with periods of sharp demographic change (see Chapter 1 for a discussion on the changes to the Island's demographic structure).

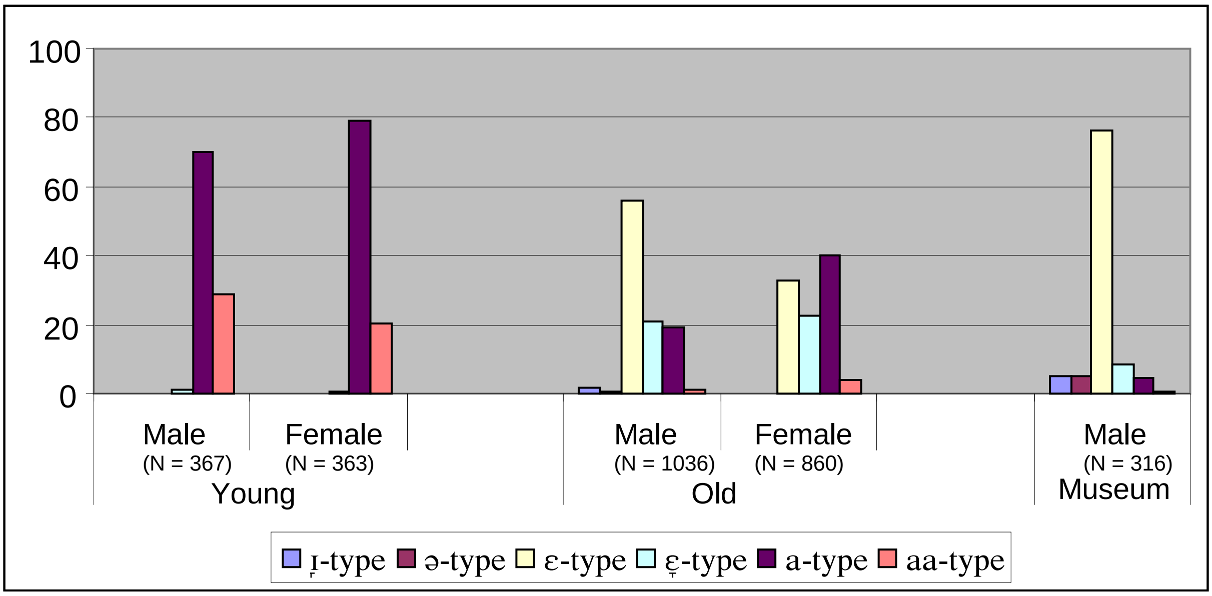
4.2.2

Age and Gender

Unlike the Older and Younger speaker groups, the only suitable speakers for analysis from the museum recordings were male. Therefore, the variant patterning of this speaker group is akin to the data which have already been presented in both 4.1 and 4.2 above. However, for ease of comparison, this data set is repeated below.

4.3

Percentage of (aʊ) variants according to age and gender



Once again, the range of variation produced by the Older speakers can be seen to be demonstrated by both genders. However, the data show that, while there is little difference between the Older females' use of traditional [ɛ]-types and Standard English [a]-types, the males clearly prefer the former. Another observation that can be made with respect to the Older speakers' data is that, not only do these females seem more advanced than the males in the change from [ɛ]-types to [a]-types, but they also demonstrate a greater use of the monophthong than the males (35 tokens, 4%, as opposed to 14 tokens, 1%, respectively).

However, this is not the case when we consider the Younger generation. The graph in 4.3 illustrates how the young males, now almost completely employing [a]-type variants, are favouring the monophthong more than the females (105 tokens, 29%, versus 73 tokens, 20%, respectively) while females are, once again, favouring more standard-like [a]-types.

This may suggest that, while [aʊ] is being developed as a supralocal form (as opposed to a simple assimilation to the Standard variety), the monophthong is being treated and adopted as a vernacular variant, which is not necessarily a continuation or progression of the [aʊ] variant.

With respect to group affiliation, sociolinguistic research (such as Trudgill (1974)) has shown that males will tend to show greater use of vernacular forms regarding stable variants. However, it has also been shown that females seem "to initiate changes above the level of social awareness [and that] such changes tend to be in the direction of prestige norms" (Coates 2004:185). Thus, one possible interpretation of the Mersea data is that the change from [ɛʊ] to [aʊ] is above the level of social consciousness and, therefore, females of both Younger and Older groups gravitate towards and select the [aʊ] variant (indeed, it could be suggested that it is the Older females who are leading this change from [ɛʊ])[18]. Conversely, the males of these respective generations retain the non-standard, traditional [ɛʊ] variant and lag behind in the change towards [aʊ] until it is established within the community. Once the shift has established itself and become stabilised, however, the males then re-orientate themselves towards another non-standard variant with which they can affiliate (see Chapter 9 for a discussion of the variation and change on Mersea Island with respect to all three variables under analysis).

[18] See Chapter 9.3 below for a discussion of this as a change relating to dialect supralocalisation.

4.3

Linguistic Factors

This section will discuss and present the details of (aʊ) variation according to the linguistic factors of syllable type and phonological environment.

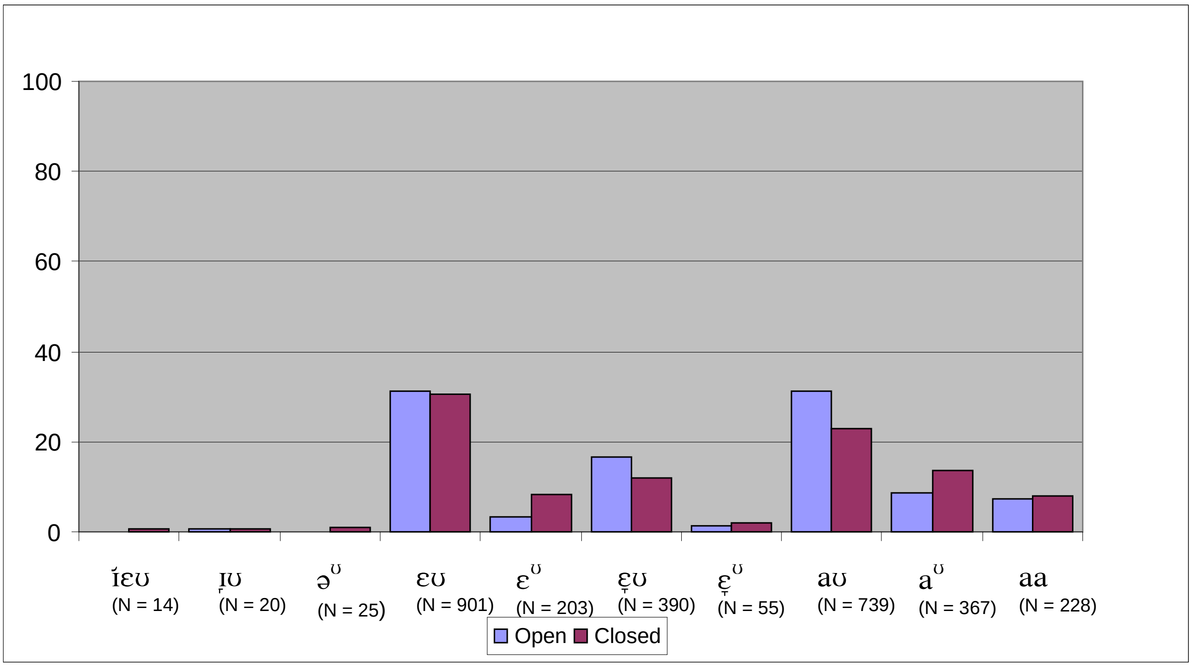
4.3.1

Syllable Type

As already mentioned, (aʊ) tokens were coded according to whether the variable was found in the nucleus of an open syllable (such as in '*cow*' /kaʊ/) or the nucleus of a closed syllable (such as '*cows*' /kaʊz/). The data below shows the overall results for the complete variants of (aʊ) across the Mersea Island data.

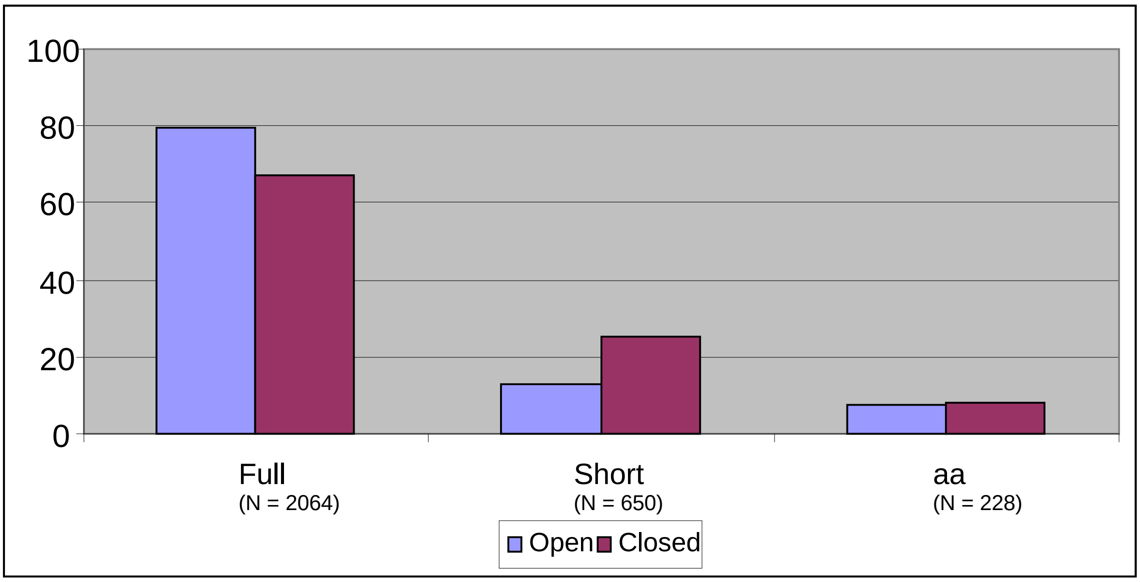
4.4

Overall percentage of (aʊ) variants according to syllable type



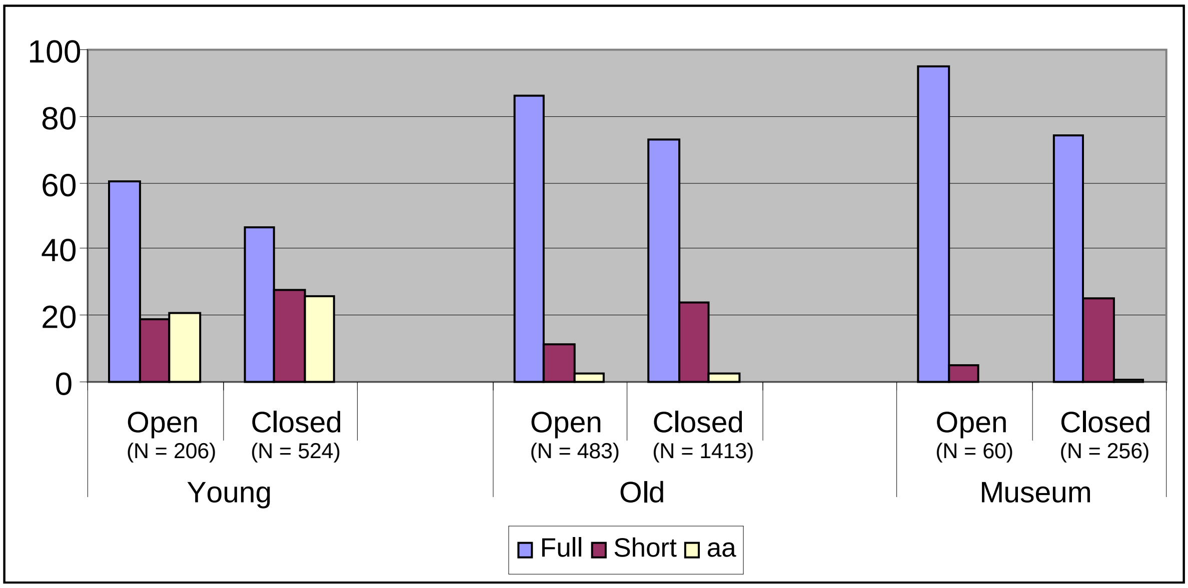
It seems that the monophthong does not demonstrate significant bias towards open or closed syllables. However, an interesting observation is that closed syllables correlate more with shorter offglides, while open syllables correlate with fuller offglides. This can be seen more clearly if variants are combined with respect to their offglide status (i.e. whether the offglide was ‘full’ or ‘short’).

4.5
Overall percentage of full and short diphthongal offglides according to syllable type



Even though the differences are slight, this may indicate that the production of a shorter offglide is linguistically constrained rather than being a by-product of language change towards monophthongisation. Indeed, as the following data show, while variants with fuller offglides always remain the more dominant of the pair, the extent to which they are produced is reduced when found in the context of a closed syllable. However, the graph in 4.6 illustrates how this behaviour is declining across the generations.

4.6
Percentage of full and short diphthongal offglides according to age and syllable type



4.3.2

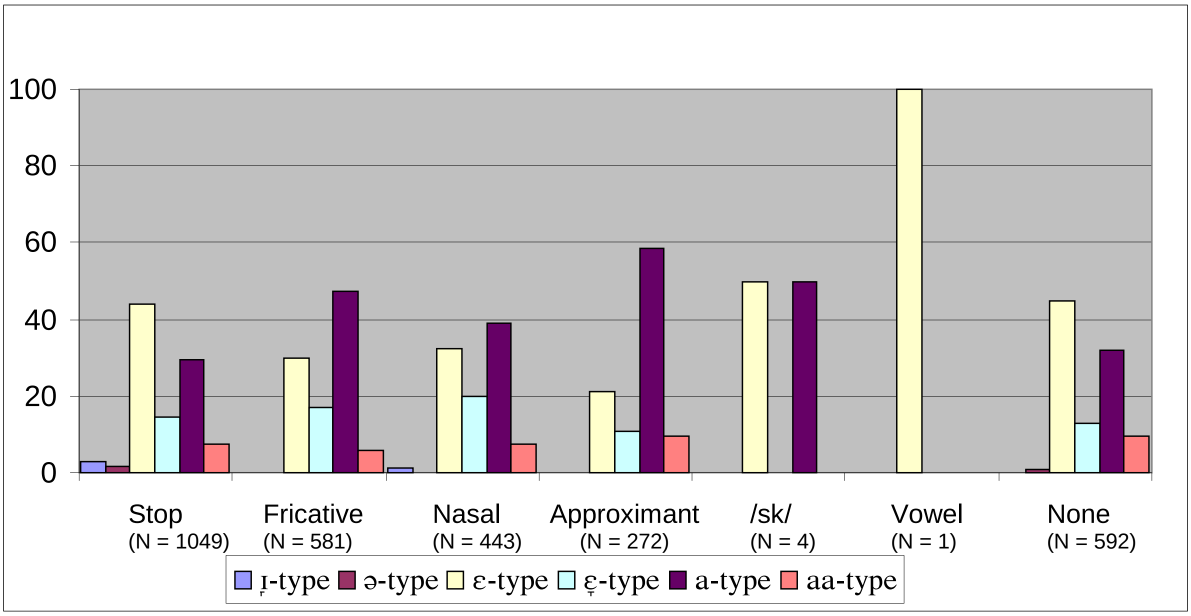
Preceding Phonological Environment

Tokens were coded by the phonological environment in which they occurred. A coding of *none* represents tokens which are word-initial, such as '*out*'. Once again, since there was no qualitative change to the diphthongal offglide (that is, it remained as a high back rounded vowel), the following data will illustrate variant types as opposed to each individual variant.

With respect to preceding environment, the data in 4.7 presents the overall percentages of variant types according to preceding manner of articulation.

4.7

Overall percentage of (aʊ) variants according to preceding manner of articulation



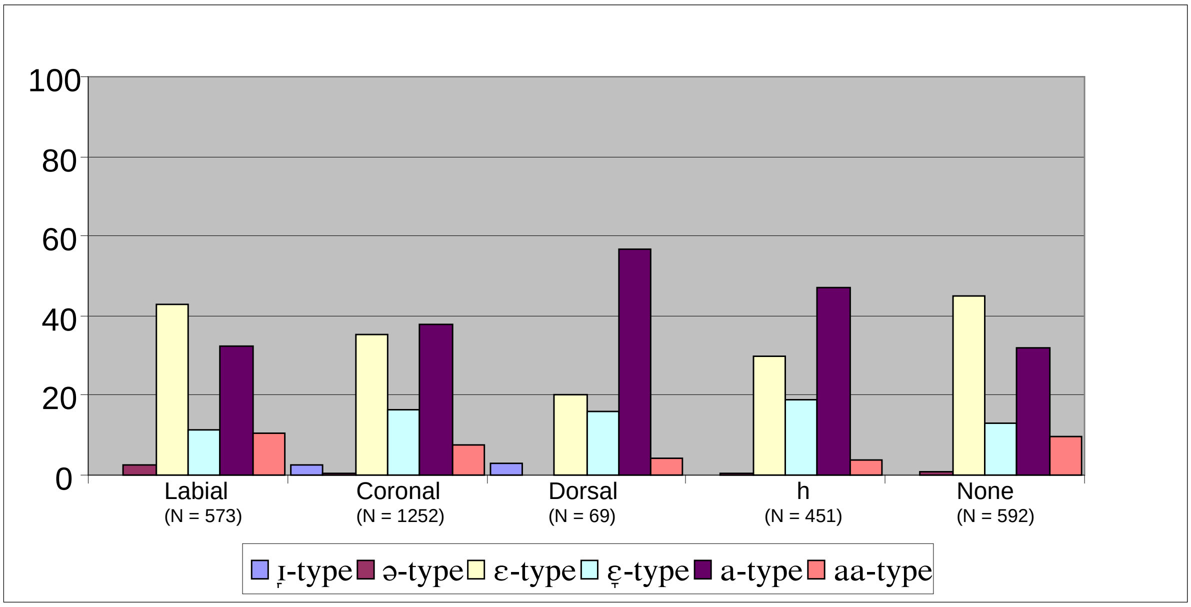
Due to low token numbers in the context of a preceding vowel and preceding /sk/ (1 and 4, respectively), these environments will not feature in the subsequent discussions (particularly with observations relating to whether the preceding s-cluster correlates with the properties of the second consonant - in this case whether the dorsal stop in /sk/ patterns with the dorsals in simple onsets).

The generalisations that can be extracted from this overall data set are that tokens with preceding stops and word-initial (aʊ) produce more [ɛ]-type variants, while other preceding environments promote more [a]-type. These observations, together with preceding approximants promoting [a]-types above other variants, can be found across the data for individual age groups (Appendix A.15, A.16 and A.17).

A similar scenario is found when analysing preceding segments by place of articulation. The graph in 4.8 once again represents the overall results for extracted tokens across the Mersea Island data and it can be seen that each environment displays wide-ranging variability.

4.8

Overall percentage of (aʊ) variants according to preceding place of articulation



The data shows that, of the 34 raised ɪ-type tokens (which represents 14 tokens of [ˡɛʊ] and 20 tokens of [ɪ̞ʊ]), 31 (91.2%) are associated with preceding coronals[19]. In addition, these 31 tokens appear to be somewhat lexically restricted, mainly to the items *now*, *down* and *town* (5, 21 and 5 tokens, respectively). These were produced not only by the two oldest speakers of the Museum data (one born in 1883 and one in 1890), but seemed to be preserved in the speech of two males from the Older data set, one 64 year old and one 75 year old (the latter of which was the oldest male recorded during the 2006/7 data collection).

[19] Compared to the 1252 (42.6%) tokens of preceding coronal overall

Another interesting observation is that, even though it is the source of the fewest tokens, the most outstanding environment is that of preceding dorsals, which seem to prompt more [a]-type articulations when compared to the behaviour of the other environments, and this trend is repeated in the Museum and Older data sets (see Appendix A.18 and A.19). Indeed, the preceding dorsal environment is the one of least stability in the Museum data and the only environment which favours [a]-type variants above [ɛ]-type variants in the Older speakers' data (55.6% for [a]-type variants compared to 22.2% for [ɛ]-type variants).

One possible motivation for this dorsal pattern is that, as the tongue retracts towards the back of the mouth in order to make the necessary closure at the velum, it is in a low position when it comes to making the following vowel articulation. Therefore, it would require more time and effort on the part of the speaker to front and raise the tongue towards the [ɛ] target area and, since there is no phonemic distinction between [ɛʊ] and [aʊ] which would require greater articulatory precision, the articulation of [a]-types is favoured. Thus, the patterning of the data suggests that, this phonological environment could have been the environment which helped promote and encourage the change from [ɛʊ] to [aʊ].

4.3.3

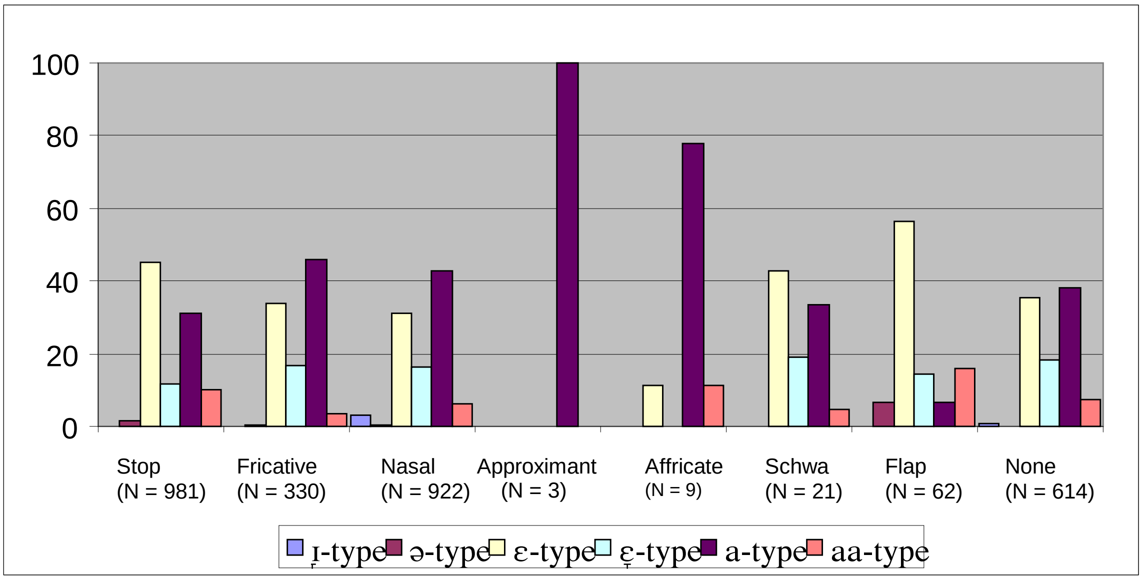
Following Phonological Environment

In a similar fashion to preceding environments, variants were coded according to their following phonological environment. However, in these cases, a code of *none* represents a token which is in a coda-less syllable in a word-final position, which allows for a differentiation of words such as '*thousand*' /θaʊ.zənd/ and '*cow*' /kaʊ/.

Firstly, with respect to manner of articulation, 4.9 gives the overall data for the Mersea Island speakers. The data presented is according to variant type, as there was no qualitative difference in the offglide which could be attributable to influences of the following segment and, unlike the case of open and closed syllables above, there was no apparent correlation with duration of the offglide and the manner in which the following segment was produced.

4.9

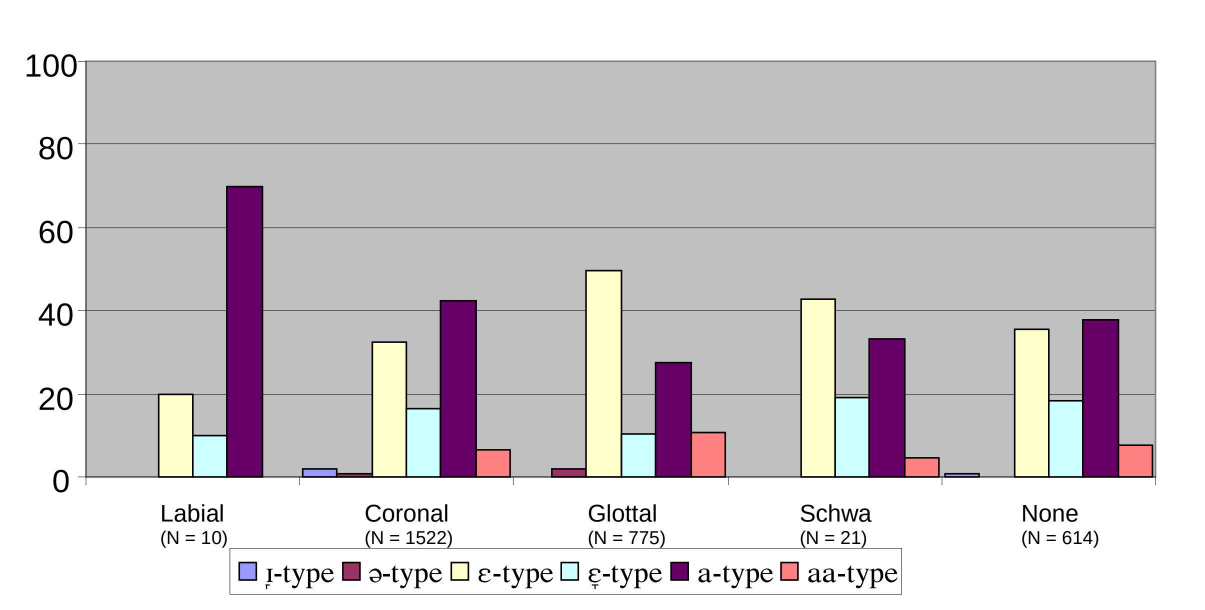
Overall percentage of (aʊ) variants according to following manner of articulation



It seems that, overall, only following stops, flaps and schwa correlate with higher proportions of [ɛ]-types as opposed to [a]-types (the latter data of which were made up of the tokens '*now-a-days*', '*allowance*' and the surname '*Haward(s)*'). However, this pattern is not generally reflected by the individual age groups (see Appendix A.21, A.22 and A.23).

In a similar fashion to following manner of articulation, following place of articulation does not seem to have any significant effect on the duration of the offglide, except in the case of following labials. It has already been noted (in 2.3.1.2.1 above) that the distribution of (aʊ) is heavily restricted in mono-morphemes so that it, generally, does not occur before non-coronals. Therefore, the data set representing following labials below (which promote [a]-type variants more than any other environment) is primarily from complex words (such as *endowment*, *ploughman* and *allowing*, the latter coded as following [w], due to the presence of the labial glide acting as a prominent hiatus breaker). However, this category does also include 6 tokens with following /f/s. The source of these tokens comes from th-fronted tokens of *south* [saʊf], which breaks the requirement for only tauto-syllabic coronals.

4.10
Overall percentage of (aʊ) variants according to following place of articulation



It can be seen that coronals, glottals and word-final positions appear to promote a greater extent of variation than other environments. However, due to the distributional restrictions, it is not surprising that it is these three linguistic environments that are represented by the most tokens and thus are less likely to show bias in a particular direction due to low token numbers.

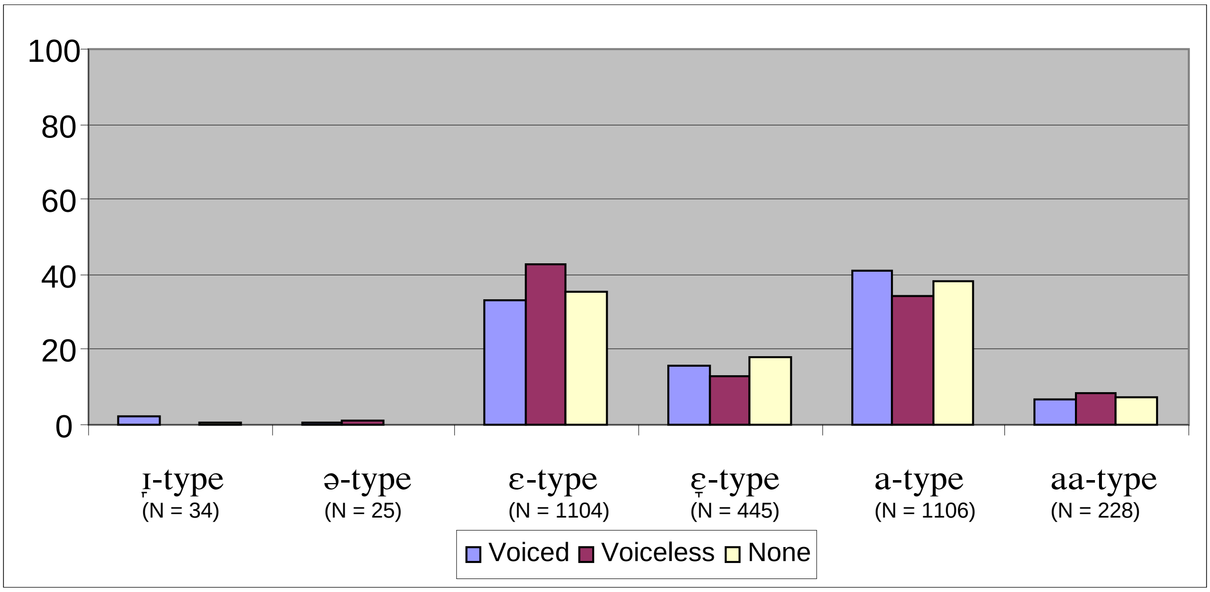
4.3.3.1

Following Voice

One final dimension for investigation regarding following linguistic environments is that of voicing. A particular linguistic phenomenon associated with variation of (aʊ) and (aɪ) (for analysis of the latter, see Chapter 6 below) is that known as Canadian Raising (see, for example, Chambers (1989), Britain (1995; 1997) and Wells (1982c)). Canadian Raising occurs as a linguistic rule and sees the diphthongal nuclei of /au/ and /ai/ surface as a half-open, mid vowel when it is followed by a voiceless consonant in the same syllable. Thus, pairs of words such as *out* [ʌʊt]~ *loud* [lɑʊd] and *house* [hʌʊs] ~ *houses* [hɑʊzɨz] (Wells 1982c:494) are derived.

The data in 4.11 present the overall percentages for Mersea Island speech. The pattern which emerges, albeit slight, illustrates that more raised variants were produced in the context of preceding voiceless consonants and a greater degree of lowered variants were produced before voiced consonants. With respect to word-final (aʊ), the Canadian Raising literature suggests that this should pattern like those tokens with a following voiced consonant. The separation of these three contexts shows that the expected pattern is found in the Mersea speakers' overall data.

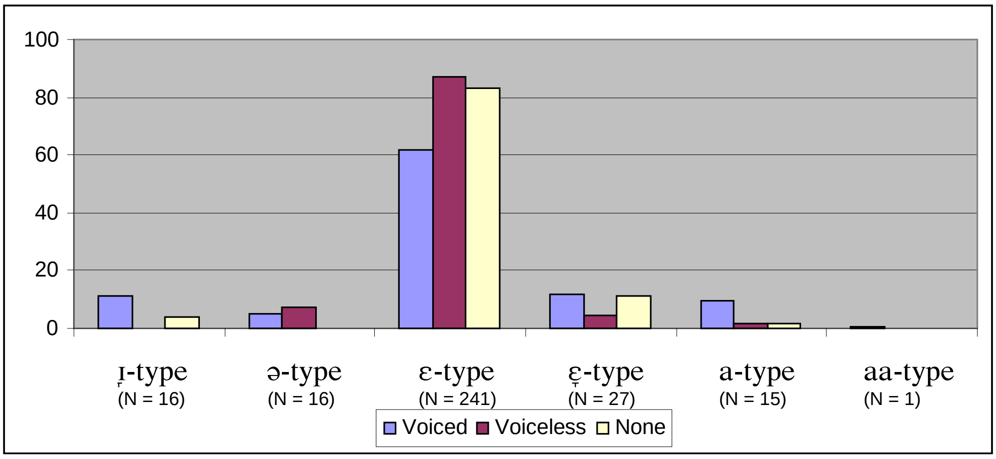
4.11
Overall percentage of (aʊ) variants according to the voicing of the following segment



This scenario is replicated by the Older speakers' data (4.13), in which the data show a slight correlation between [ɛ]-types preceding voiceless consonants and [a]-types preceding voiced consonants, while the Museum data in (4.12) shows that, even though [ɛ]-types produce the most tokens, lowered [a]-types are greater before voiced consonants. However, these patterns are lost in the data from Younger speakers (4.14) since there are only 7 tokens of raised [ɛ] or slightly raised [ɛ̝] types.

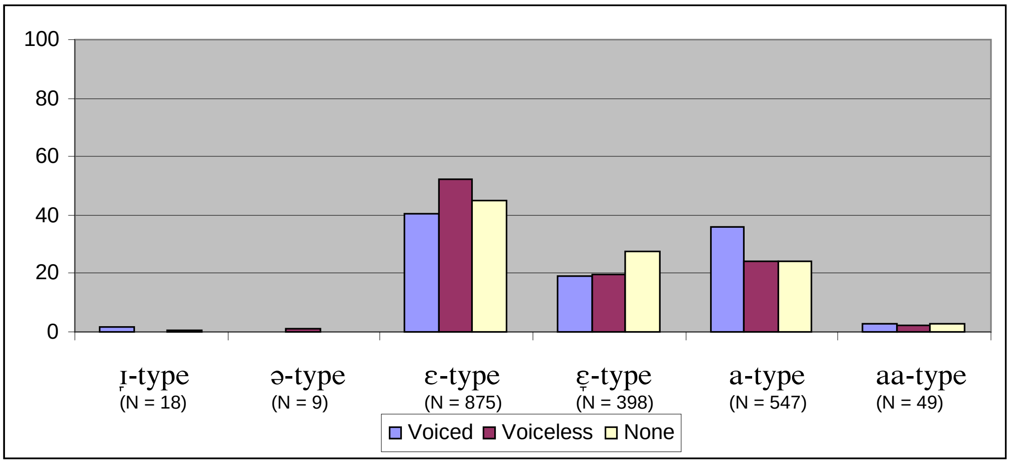
4.12

Percentage of (aʊ) variants according to following voice by Museum speakers



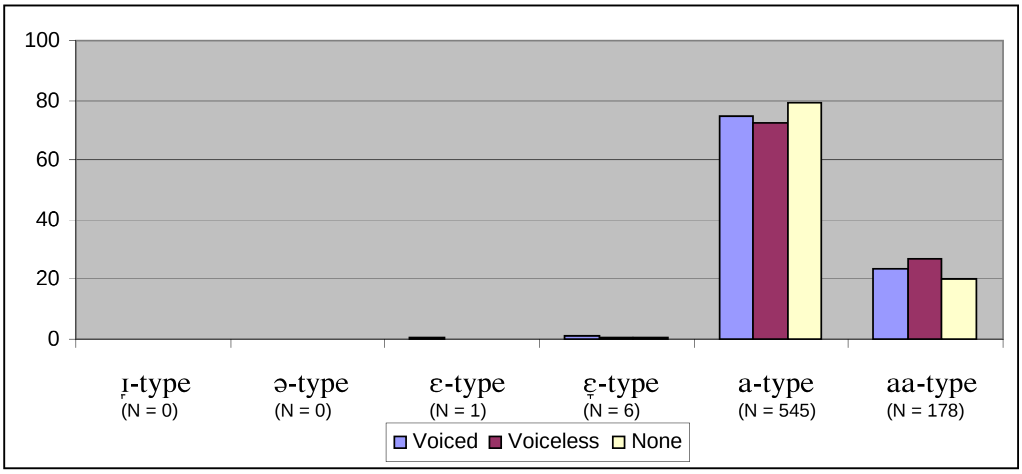
4.13

Percentage of (aʊ) variants according to following voice by Older speakers



4.14

Percentage of (aʊ) variants according to following voice by Younger speakers



It was noted previously in the analysis of (aʊ) that, with respect to following manner of articulation, nasals appear to promote [a]-type variants and that flaps display the greatest range of variants and correlate with monophthongisation, particularly in Younger speakers. Both of these environments share the feature [+VOICE] which is consistent with the finding that following voiced consonants attract [a]-type variation. Thus, we can propose that, whereas preceding dorsals appear to lead the change from [ɛʊ] to [aʊ], with respect to following environments, it is voiced consonants (in particular, nasals) which recognise or promote [aʊ] and following flaps which are leading in the subsequent change to the monophthong.

4.4

Summary

This section has presented results from the analysis of (aʊ) in the data from Mersea Island English. It has shown that there has been a change from the more traditional [ɛ]-type diphthongs towards more open [a]-type diphthongs. This transition is illustrated nicely by the spread and use of variants (particularly the intermediate [ɛ̞]-type diphthongs) by the Older speakers. However, regarding the Older speakers, it seems that it is the Older males who are retaining the traditional variants to a greater extent than females (this is in keeping with the results for (aɪ) but contrast with the behaviour of this group regarding the (ɔɪ) variable, see Chapter 8 below). With respect to the Younger speakers, the males exhibit a higher percentage of monophthongal variants, but the overall level of this variant is relatively small, indicating that it has not yet taken a hold within the speech community.

The analysis of linguistic factors shows that a full diphthongal offglide correlates with open syllables while shorter offglides are favoured more by closed syllables. In addition, with respect to phonological environments, it has been seen that word-initial (aʊ), preceding stops and preceding labials are the highest retainers of traditional [ɛ]-type diphthongs. Conversely, preceding dorsals have a greater correlation with the lower, more open [a]-type diphthongs and therefore may be one of the phonological environments leading the change to [aʊ]

Finally, an analysis of following voice has shown that a pattern similar to that of Canadian Raising can be found in the Mersea data. Thus, raised diphthongal nuclei had a higher percentage of occurrence when preceding voiceless consonants and lower, more open nuclei were found to correlate more with all other environments. However, even though such a pattern is evident in the data relating to the Museum and Older speakers, this pattern no longer exists in the speech of the Younger informants. Instead, we can see that it is following voiceless consonants which cause more monophthongs to surface while diphthongs have a slightly stronger correlation with all other environments.

Chapter 5

The Historical Derivation and Variation of the Variable (aɪ)

5. THE HISTORICAL DERIVATION AND VARIATION OF THE VARIABLE (aɪ)

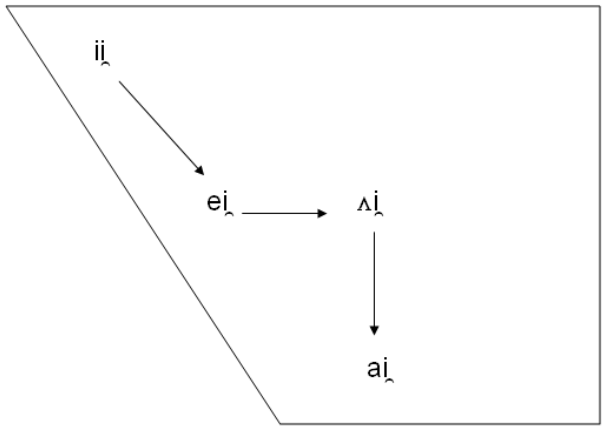
This section will examine and discuss the historical derivations of the diphthong /aɪ/ by initially identifying its source phoneme in Middle English before examining historical dialect evidence relating specifically to the dialect varieties of Essex and East Anglia.

5.1

Historical Sources

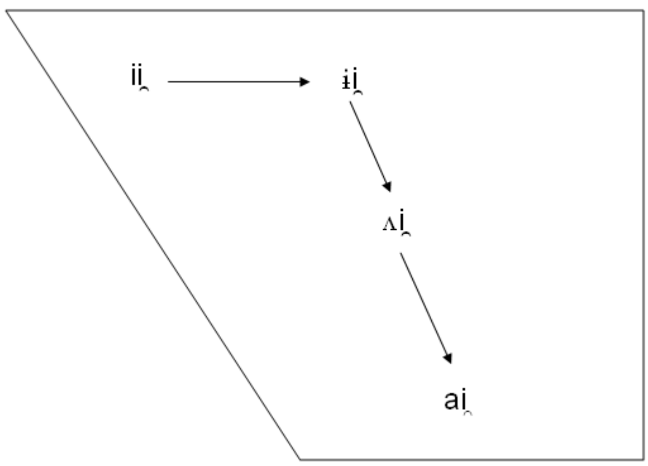
The variable (aɪ), which occurs in both open and closed syllables, is also known, through Wells' (1982a) classification system, as the PRICE lexical set. It relates to the stressed standard English /aɪ/ diphthong and has been, for the most part, historically derived from Middle English /iː/ which, as a result of the Great Vowel Shift, diphthongised. However, as with (aʊ), the direction of the developmental path from Middle English /iː/ to present day /aɪ/ is the subject of academic debate and remains controversial. For example, Lass (1987) supports the idea that, after the Great Vowel Shift, the nucleus of the newly diphthongised /iː/ initially lowered before being centralised. Thus, with respect to the standard dialect, the sequence of *lower-centralise-lower* process results in the present day /aɪ/ pronunciation, while, it is argued, some dialects then backed the nucleus further towards /ɒɪ/ or /ɔɪ/.

5.1 The developmental path of /aɪ/ following the *lower-centralise-lower* route (based on Yamada (1984:61))



Conversely, it is also proposed that, after the initial diphthongisation process, the nucleus first moved to a central position before lowering took place. This *centralise-lower-lower* development is supported by, for example, Strang (1970) and Stockwell (1975), but Yamada (1984:61, citing Anderson and Jones 1977) notes that both possibilities are empirically supportable (however, see Ogura (1987) or Britain (1991) for a critical evaluation of these contrasting approaches).

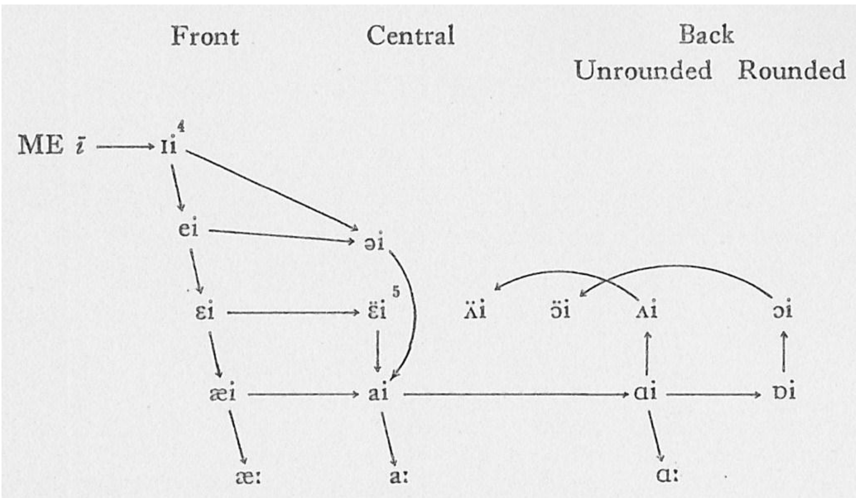
5.2 The developmental path of /aɪ/ following the *centralise-lower-lower* route (based on Yamada (1984:61))



However, it seems that, even though the route from /i:/ to /aɪ/ is different, the *centralise-lower-lower* model still suggests that any backing towards /ɒɪ/~/ɔɪ/ in non-standard dialects must have occurred after /aɪ/ was reached, suggesting that dialects with backed or backed and raised variants were more advanced in terms of the developmental chain, and highly innovative compared to those which did not back the nucleus. Indeed, Stockwell refers to these types of dialect as advanced dialects, as they have continued the chain of development (1975:347).

Both of these approaches are incorporated into Ogura's (1987) model which is based on data from the SED. Ogura discovered 17 reflexes of Middle English /i:/ across the 311 locations from which she extracted data and these are linked according to the diagram below:

5.3 The stages in Development of Middle English ī (from Ogura 1987:36)

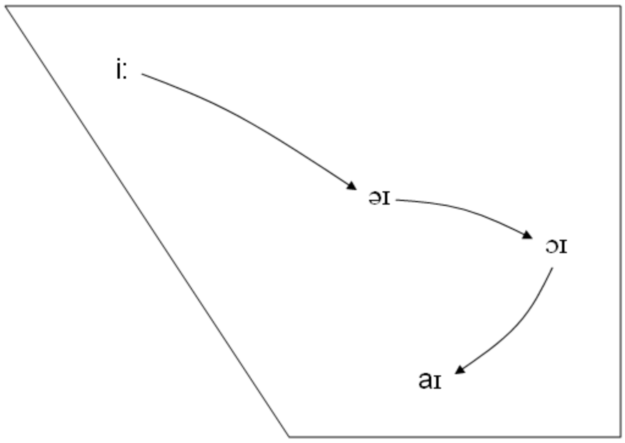


One aspect that this model does have in common with those above is that backing occurred only after an [aɪ] variant had been achieved. This is a similar observation to that previously made with respect to (aʊ) (see 3.1 above). An account of these developments of backing and raising is provided by the Diphthong Shift outlined by Wells (1982a:256-257) and, alternatively, Labov's model of the Southern Shift (1994:208).

The processes outlined by the Diphthong Shift see the nucleus of the PRICE vowel back and raise towards [ɔɪ], although Wells notes that raising may not always occur, resulting in diphthongs of [ɑɪ] ~ [ɒɪ] qualities (1982a:257). Once the PRICE nucleus has raised to the region of [ɔɪ], the CHOICE diphthong then raises to avoid a merger, resulting in qualities such as [oɪ]. Labov incorporates this in his model of the Southern Shift and he claims that "there can be no question that the movements of [aɪ] and [oɪ] form a chain shift and that the nuclei are rising" (1994:170).

However, Britain (2002b) observes that data from Ellis (1889) show diphthongs with back mid-open [ɔ ~ ɒ] and central onsets were prolific in the Essex area. Therefore, given that these variants were present in the nineteenth century, while the presence of [aɪ] forms was less frequent, we might want to suggest that the backing of the /aɪ/ nucleus (similar to the fronting of the /aʊ/ nucleus discussed above) occurred a lot sooner in the Essex dialect than the models above allow. The resulting path may, therefore, be illustrated as follows:

5.4 The possible developmental path of /aɪ/ in the Essex dialect



5.2

Variation of /aɪ/

In a similar fashion to the variation of /au/ (see 3.2 above), Wells (1982a:149) observes that there are four main types of variation with respect to the elements of this diphthong:

I. "The degree of advancement of the starting point". For example, very back [ɑ] ~ [ɒ] nuclei "are characteristic of the urban south of England".

– For example, in Derby, Docherty and Foulkes (1999) found standard [aɪ] was the preferred variant for middle class speakers. However, this variant accounted for only 30% of the working class data. Instead, the working class speakers in their data (in particular, the working class males) produced a diphthong with a backed [ɑ] or [ɒ] onglide. This male preference for backed [ɑ] onglides, with females preferring more fronted [a] onglides, was also found by Stoddart et al (1999) in their Sheffield data.

With respect to more southern varieties, data from Milton Keynes and Reading show that [ɔ] and [ʌ] nuclei are only preserved in the oldest of speakers in the former, while, in the latter, they are still maintained to a certain extent in the speech of the younger informants (Cheshire et al (1999), Kerswill and Williams (2000) and Williams and Kerswill (1999)).

II. "The degree of openness of the starting point". For example, nuclei of a quality similar to [ɐ]~[ʌ]~[ə] are considered typical of the rural south of England.

– However, Przedlacka (2001) found [ʌ̟] nuclei for this diphthong surface in her data for young Received Pronunciation (RP) speakers who attended Eton College. Further afield, /aɪ/ diphthongs with nucleic qualities of [ə] and [ʌ] have been found in Cardiff English (Collins and Mees (1990) and Mees and Collins (1999)) and Glasgow English (Stuart-Smith (1999)).

III. "The quality of the second element". For example, the offglide may be of an [ɛ] or [ə] quality as a result of reduction caused by a longer nucleus.

– In her detailed discussion of Englishes of the Southeast, Ryfa (fc) does not highlight any account of an /aɪ/ diphthong surfacing with offglide qualities other than [ɪ].

However, variation in the offglide quality may come about through glide weakening in some varieties of English. For example, Schreier (2010b) notes that the offglide quality of /aɪ/ in Tristan da Cunha English may surface as [ɒˈɛ] in certain contexts due to glide weakening processes.

IV. "The 'speed' of the diphthong". For example, 'slow' diphthongs with reduced offglides or those in which monophthongisation occurs are characteristic of the American South but may also be found in London.

– Docherty and Foulkes (1999) and Stoddart et al (1999) report diphthongs with long nuclei leading to offglide reduction in Derby and Sheffield, respectively. Docherty and Foulkes note that it is almost exclusively the working class females who utilise [a::$^{\text{ɪ}}$] while Stoddart et al show that if [a:$^{\text{ə}}$] surfaces, it does so for the pronoun *I*.

With respect to the monophthongisation of /aɪ/, these have been reported across the South East England with qualities ranging from backed [ɑ:] and [ɒ:] in London (Tollfree 1999) and the Fens (Britain 1991) to a more fronted [a:] in Colchester (Ryfa 2005). Even though monophthongisation is generally associated with working class speech, Kerswill et al (2006) show how monophthongal realisations of /aɪ/ also correlate with non-Anglo males in inner London (as opposed to Anglos in outer London or areas on the London periphery).

Wells (1982a) also notes that /aɪ/ is particularly sensitive to smoothing processes through which monophthongisation takes place by adopting the phonetic characteristics of the nucleus. This is followed by a lengthening process which creates a monophthong of that quality. However, he particularly uses examples of the /aɪə/ triphthong to demonstrate this process (such as where *fire* /faɪə/ becomes [fɑə]) and not the diphthong itself since smoothing is only permitted in the context of a following vowel.

Other factors which can affect the realisation of this diphthong include following phonological environment. The process of Canadian Raising, which has already been discussed in 3.2 above with respect to /au/, sees the nucleus of /aɪ/ surfacing as [ʌ], for example, in the context of a following voiceless consonant. Therefore, pairs such as *tight* /tʌɪt/ and *tide* /taɪd/ are created. Although it has been claimed by some that Canadian

Raising patterns do not occur in the United Kingdom[20] (see 3.2 above), data presented by Britain (for example, (1991; 1995; 1997)) strongly demonstrate a Canadian Raising pattern of /aɪ/ in the East Anglian Fens (see below for details).

The following sections will report the findings from a range of historical and modern dialect studies of (aɪ) with particular focus upon variation in East Anglia in general before attention is turned to data from international studies.

5.3

Historical Variation

The following section will focus on data from the selection of historical data sources as outlined in Chapter 2.4 above.

5.3.1

Ellis (1889)

With respect to the pronunciation of items representing Middle English /i:/, Ellis notes that common pronunciations in Essex, using the translations of Eustace (1969), would be [ʌɪ], [ɒɪ] and [ɑɪ]. Even though there is fairly even variation across all tokens in the Essex word list, it is worth noting the pronunciation of the tokens *lice, mice* and *height*:

[20] Though Trudgill (1986) reports that different allophones of /ai/ may be found in a part of east Yorkshire, he also notes that the phonetic forms in the alternations bear no resemblance to those of Canadian Raising (1986:156)

Lexical Item	Transcription in Ellis (1889)	Vowel translation of Ellis using Eustace (1969)
High	hɔ’i	hɒɪ
Kind	kjáɪnd	kjɑɪnd
Wide	wɔ’ ɪd	wɒɪd
Lice	liis	li:s
Mice	miis	mi:s
Height	hekth	hḙkth

Although Ellis does not comment on this variation, Ogura (1990:33) notes that Old English *ȳ* became [e:] in the Middle English period in Kent, parts of Middlesex, Sussex, Essex and Suffolk. Later, presumably as a result of the Great Vowel Shift, this became [i:] in present day English. Thus, some lexical items, such as *mice* and *lice*, which were among those which adopted Middle English [e:], later developed into a long [i:] vowel instead of the /aɪ/ diphthong with the rest of the PRICE set.

With respect to the pronunciation of *height*, the short [e] vowel has also been attested by Wright (1968) in Essex since its origins belong to Old English *ē* (see below for further developments).

5.3.2

Wright (1968)

Regarding Old English *ī*, Wright notes a pronunciation of ai in *dike*, *mine* and *my* (1968:127-129). However, he also notes that *dry*, which is derived from Old English *ȳ*, has a pronunciation of 'oi' (1968:153). As noted above, Wright observed that, in Essex, a reflex of Old English ē was the front, half open [e] vowel in the token *height*. He also noted that *die* may be pronounced as [eɪ] or [ɐi]. However, there is no evidence from either Ellis or the SED to suggest that this was an active pronunciation in the area under investigation.

5.3.3

Kurath and Lowman (1970)

Kurath and Lowman's study of Southern British English notes that the diphthong resulting from Middle English /i:/ starts in a centralised position, leaving the most common variant with a centralised nucleus [əɪ], though a more backed [ʌɪ] may also occur. This, they note, is the case in the west of the country and East Anglia, as well as being largely represented in the South-eastern counties

5.3.4

The Survey of English Dialects (SED) (Orton 1962)

The majority variant in the East Mersea sample was [ɔɪ], occurring in 52 out of a possible 74 tokens. At no point in the data from this speaker was there standard-like [aɪ] variants present. However, other variants included:

A centralised [ɔ̈ɪ] *e.g. dry*
A centralised and raised [ɔ̣̈ɪ] *e.g. bind*
A more open [ʌ] *e.g. tried*
A lowered [ɔ̞ɪ] *e.g. eye*

and

A lowered and backed [ɑɪ] *e.g. height*

However, the last of these variants, [ɑɪ], only occurred in four tokens (*height, ice, iron* and *lie*) and, therefore, by looking at the following environments of these words, we can observe no potential Canadian Rising pattern. This observation also holds true for the two nearby locations of Tiptree and West Bergholt, where [ɔɪ] was also the variant of preference.

The SED data does suggest a shift since the time of Ellis' study, however. The use of [e] in *height* is no longer apparent while the long [iː] in *mice* and *lice* appears to have given way to the PRICE diphthong. With respect to *lice*, both East Mersea and West Bergholt are represented as having [ɔɪ], while Tiptree is variable between the long vowel [iː] and the diphthong. *Mice,* on the other hand, is variable in East Mersea and Tiptree, but only has the diphthong in West Bergholt.

5.3.5

Summary

Even though there are some instances of low back [ɑ] nuclei, these historical sources suggest that back mid vowels such as [ɔ] and more centralised [ɔ̈] nuclei were the more common variants across the south eastern counties, and Essex in particular. However, there have been some lexical exceptions in the development of /aɪ/, such as those which have origins in Old English *ȳ* and *ē*.

5.4

Some More Recent Studies

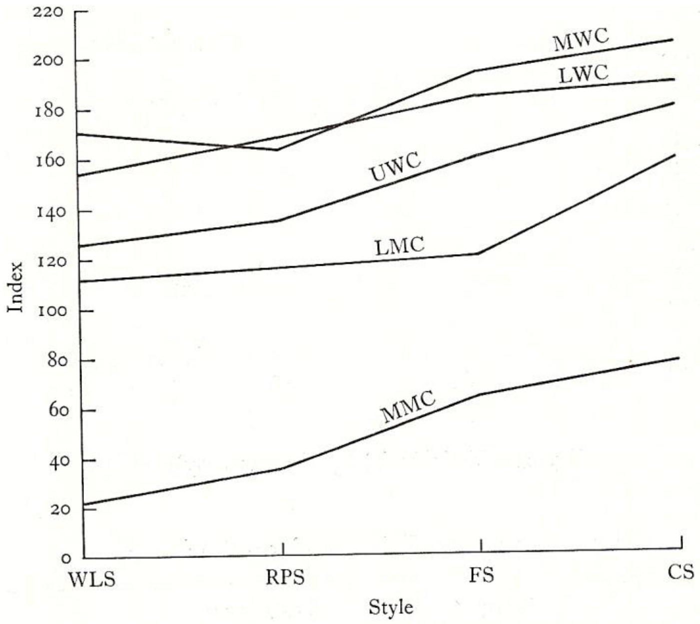
Now that we have gained some insight into the historical development and the traditional variants of (aɪ) in the region under investigation, attention will now be turned to the status of this variable, as reported by some more recent sociolinguistic studies. The initial focus will be on those studies which are geographically close to the location under study, Mersea Island. Thereby, an idea of the variant geography of the South-eastern region can be ascertained. Following this will be a closer look at the behaviour of (aɪ) in insular communities around the world. These will help establish any patterns of variation which may surface as a result of socio-demographic isolation.

5.4.1

Norwich

Trudgill (1974; 1988) studied the East Anglian city of Norwich (Norfolk) in both real and apparent time through a comparison of four speech styles – word list style (WLS), reading passage (RPS), formal style (FS) and casual style (CS). As a result of the apparent time study, Trudgill (1974) identified the variation of Middle English /iː/ as being representative of linguistic change. Among his arguments was the overlapping nature of the data relating to the middle working class speakers, which featured more [ɔɪ ~ ʌɪ] type variables compared to the data from the lower working class.

5.5 Variable (ī) by class and style (from Trudgill 1974:106)



The index scores for this variable were calculated as follows:

1 = [aɪ]
2 = [ɐɪ]
3 = [ɐi]
4 = [ɔi]

Trudgill notes that the older East Anglian form is [ɐi], while [ɐɪ] and [aɪ] (with tense offglides) are RP-influenced variants, and, therefore, it may "be the case that [ɔi] is a fairly new development in Norwich" (Trudgill 1974:106). As a result, the lower the index score, the more standard the variants used. Conversely, a high index score represents a closer approximation to the vernacular. Thus, the high index scores of the middle working class demonstrate that this is the group which is promoting and adopting the [ɔi] more than the other class groups in this Norwich data. Furthermore, an additional argument Trudgill used to support the claim of linguistic change towards [ɔi] was that a higher percentage of speakers under 39 (particularly males) had this variant in their linguistic repertoire, compared to those who were aged over 40 (1974:107).

A comparison of this variable in real time was made possible when Trudgill (1988) revisited Norwich for additional data and the original methodologies were maintained, even though he did not conduct the interviews himself. Although the quality of the diphthongal nucleus seemed to have shifted from [ɔɪ], Trudgill notes that there "has also been an increase in the use of variants of /ai/ as in nice with a back rounded onset [ɑi]" (1988:40), thus confirming the apparent time findings of the previous study which highlighted a change away from the traditional [ɐɪ] form.

5.4.2

The East Anglian Fens

Even though Canadian Raising patterns of /ai/ variation had been rarely attested within the UK, Britain (1991) presented findings from the SED as well as data collected from 81 speakers located across the Fenland areas, which clearly demonstrated such a pattern. However, he did also observe a contrasting pattern between those speakers from Eastern areas compared with those from Western areas. He observed that, in pre-voiceless contexts (in which Canadian Raising would promote raised diphthong nuclei), raised nuclei are clearly a feature of Eastern dialects, while those in the West prefer more open variants. In addition, an age comparison demonstrated that a contextual Canadian Raising contrast of raised and open variants had retreated eastwards in favour of categorical open variants and monophthongal forms.

By way of explanation, Britain (1991) suggested that this Canadian Raising pattern may have come about from processes of focussing and reallocation. Thus, when the Eastern dialects (with raised variants in all environments) came into prolonged contact with

Western dialects (which had open variants in all contexts) after the extensive draining of the marshlands in the seventeenth century, it led to a focussed variety in the Central Fenland regions. Subsequent reallocation of forms to particular phonological contexts (namely raised variants before voiceless consonants and lowered variants elsewhere) resulted in the type of Canadian Raising pattern that was observed (Britain 1991:96-97).

One further observation, with respect to the Fenland data, concerns monophthongisation and the environment of (aɪ) preceding /l/. Britain notes that females of both ages were more advanced regarding monophthong production than their male counterparts, while the sequence /ail/ had the greatest proportion of monophthongal forms. This suggests that "/ail/ is undoubtedly the leading environment in the linguistic change in progress" (Britain 1991:91).

5.4.3

Other South-Eastern Variation

In Colchester (Britain's oldest recorded town and a 20-minute drive from Mersea Island), Ryfa investigated the speech of two young social groups known as the Chavs and the Grungers (see Ryfa (2005) for detailed explanation and characteristics of these social groups). She identified eleven variants of (aɪ) ranging from standard [aɪ] to a raised [ɔɪ] and monophthongs of both raised and lowered qualities. The middle class Grungers were found to use the standard form in 82% of tokens while the working class Chavs used it in only 24% of tokens, preferring more raised forms instead. In addition, monophthongs were found in the speech of both groups with the Grungers preferring more backed [a̝: ~ ɑ̟:] variants and the Chavs the more centralised [a:] variant (2005:50).

Other data from the South East and London areas can be found in Przedlacka (2001), Tollfree (1999) and Fox (2007) . For example, Przedlacka's investigation into Estuary English shows that, in the speech of adolescents, backed and rounded [ɑɪ ~ ɒ̟ɪ] variants were used in Buckinghamshire while Essex, Kent and Surrey represented [a̱ɪ ~ ɑ̟ɪ] variants (2001:42).

Tollfree (1999) also observes backed, slightly less rounded [ɑ̜ɪ] variants in her South London data. This can be compared with her more standard London data, which exhibits a range of more fronted [aɪ ~ a̱ɪ ~ äɪ] variants. She also notes that the second element, or offglide of the diphthong can be centralised and is often brief or wholly lacking from pronunciation (Tollfree 1999:168).

This variation between backed [ɑ] nuclei and more fronted [a] nuclei was also found by Fox (2007). Her, analysis of Tower Hamlets adolescents (in the East End of London), identified three types of backed variants [ɑ:] ~ [ɑɪ] ~ [ɑ̟ɪ] and three more fronted variants [ɐɪ] ~ [aɪ] ~ [æ], the latter set being regarded as the newer variants, while the backed variants were being preserved, particularly by preceding voiced stops. This fronting, Fox suggested, could "indicate that the PRICE vowel may be undergoing a reversal of the diphthong shift" (2007:159). Fox also found that the ethnicity of her informants correlated with the quality of the nucleus. For example, 93% of the Bangladeshi speakers' data consisted of fronted variants. In contrast, the white British and mixed origin speakers preferred backed variants, 62% and 63% respectively (Fox 2007:160).

Cheshire et al (1999), studying and comparing the locations of Milton Keynes and Reading, noted that, among the very oldest pre-New Town speakers in Milton Keynes, there can be found raised [ɔɪ] and [ʌɪ] variants. However, in Reading, these were being maintained by children. They suggested that the target is not the RP variant, but rather a London-like, and perhaps supra-local, [ɑɪ] variant, with a low backed nucleus “which is geographically widespread in south-eastern urban varieties” (1999:6).

5.4.4

Summary

From these studies, we can see that variation of (aɪ) with respect to the quality of the offglide does not tend to deviate from the high front /ɪ/ region. The only exception seems to be when the offglide is weakened towards a monophthong. In contrast, the diphthongal nucleus may be found in raised and backed positions towards the /ɔ/~/ʌ/ regions in more traditional dialects across the South East. This suggests that, in these dialects, lowering to [aɪ] had not occurred before backing and raising, which is what the diphthong shift and the southern shift would suggest. However, backed variants, can be found in the speech of some South-eastern adolescents suggesting that these dialect areas may be undergoing parts of the diphthong shift, which is causing the backing of the /aɪ/ nucleus towards [ɑɪ ~ ɒ̝ɪ].

In addition, monophthongal realisations have been found in the speech of some younger informants, indicating that these are innovative variants in some dialect communities. However, as Britain (1991) noted in his Fenland data, the extent of monophthongisation may be conditioned by phonological context, specifically with respect to the increased amounts of monophthongs likely before /l/.

5.5

Contemporary Studies of Insular Varieties

As noted above, the following sections will look at selected studies from a range of insular communities with respect to the variable (aɪ). These studies will be able to highlight any patterns of variation which may have been influenced by the unique social development of each location.

5.5.1

Martha's Vineyard

As previously mentioned, the pioneering research carried out by Labov (re-printed as part of Labov (1972)) in Martha's Vineyard, off the New England coast, focussed on the two diphthongal variables (aɪ) and (au)[21] regarding the degree of centralisation of their nuclei. With respect to (aɪ), Labov collected 3,500 tokens and found that, even though the results did not seem to pattern with style, a number of factors influenced the centralised variants. Among these, phonological environment was found to correlate with the degree of centralisation. For example, a following /t/ or /s/ was found to favour centralisation the most while a following /m/ favoured centralisation the least These findings were also supported in subsequent studies by Pope et al (2007) and Blake and Josey (2003) with the latter noting that "the findings suggest that the variable presence of the Canadian Raising rule in the speech of Vineyarders today follows the same directional pattern observed by Labov" (Blake and Josey 2003:465).

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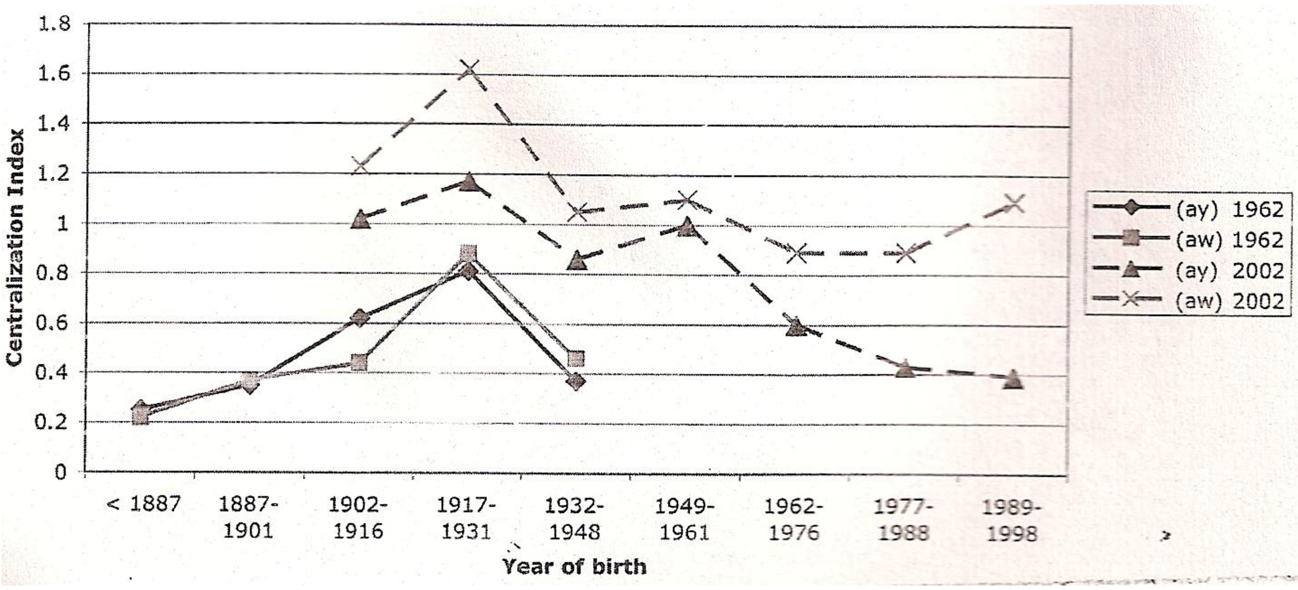
[21] Note that in Labov's work, these were referred to as (ay) and (aw)

Age was also found to correlate with centralisation of (aɪ). Labov's apparent time data, together with data from the Linguistic Atlas of New England (LANE), showed an increase of centralised variants across age groups (with the exception of the very youngest group which showed a slight decline), leading Labov to interpret this as ongoing language change. However, these claims were only tentative as the low levels of centralised tokens in the LANE data and the data from the youngest speakers could have been representative of the U-Shape curve found in age-grading patterns.

However, the study by Pope et al, which replicated Labov's original methodology as closely as possible, did not find such a U-Shape pattern but rather a general decline in the use of centralised nuclei. A comparison of both studies is provided below:

5.6

Centralisation of (ai) and (au) plotted separately, according to year of birth. (Labov's 1962 study compared with the present 2002 study - From Pope et al 2007: 623)



The extent of centralisation was also observed to correlate with the attitude and social orientation of the speakers. Indeed, as already noted above, Labov proposed that the increase of centralised variants was in response to the growth of summer tourism on the island and, thus, speakers used their linguistic resources to create and maintain their native islander status. However, even though this was tested by Pope et al and found to still be valid on the island, Blake and Josey (2003), who also found a decline in (aɪ) centralisation, reported that the iconic status of centralised /aɪ/ had been lost and native islanders no longer had any vested interest in trying to linguistically separate themselves from the summer tourists. In retaliation to this, Pope et al suggested that a misinterpretation of social data, together with clashing methodologies in the initial data collection, resulted in these contrasting conclusions - see Pope et al (2007:624 onwards) for a discussion of these points.

5.5.2

Ocracoke and Smith Island

As previously noted in section 3.2.3.2 above, Ocracoke and Smith Island are two inhabited islands off the Eastern coast of the United States of America. The former is situated off the coast of North Carolina, while the latter is located in the Chesapeake Bay area of Maryland. Both are only accessible by ferry and while Ocracoke has witnessed a huge rise in tourism levels over recent decades, Smith Island does not have such a vibrant tourism industry and is even experiencing a decline in its residential population (see, for example, Schilling-Estes and Wolfram (1999), Schilling-Estes (2002) and Wolfram (2008)). In both islands, the diphthong /aɪ/ is realised with a raised onset in the region of [ʌ] or [ə] and, while this is a noticeable stereotype of Ocracoke English, it is rarely perceived as a marker of Smith Island English. This is in contrast to the (au) alternations in these communities mentioned above (Schilling-Estes and Wolfram (1999-490)). Indeed, the salience of this feature is once again suggested as having an influence on the variation patterning of each island. Therefore, where raising and backing of /aɪ/ is salient in Ocracoke, it is observed to be receding as a dialect feature, with the exception of the speech of those belonging to the closely-knit Poker Game Network[22] who seem to promote and preserve traditional island features. Conversely, the 24 Smith Island speakers showed an increase of raised and backed variants, particularly among the middle aged and young speakers.

Another point of contrast in the behaviour of these variables comes with respect to following phonological environment. In the Ocracoke data, the raising and/ or backing of /aɪ/ was favoured before voiced environments (such as in *tide*), which is similar to that of the Martha’s Vineyard data mentioned above, while in the Smith Island data, raising and/ or backing was favoured before voiceless environments (for example, *tight*). Schilling-Estes and Wolfram (1999:495) note that, in earlier work, this difference was attributed to the peripheral and non-peripheral nature of [ʌᶦ] and [əᶦ], respectively. However, in the light of additional data from the United States, this is no longer considered by them as a viable explanation, since this data does not fit the predicted pattern proposed by their original model. Instead, the contrasting symbolic nature of raised and/or backed variants is given explanatory theoretical status. Therefore, with the raised and/ or backed variant acting, in Ocracoke, as a “symbolic icon of Islander speech and Islander identity” (Schilling-Estes and Wolfram 1999:496), which can be used to distance locals from tourists, only those who want to project an island affiliation will retain this feature. However, on Smith Island, where it does not serve as a marker of island status, it is not as readily manipulated and may be retained without socio-psychological pressure.

[22] These are a group of men who regularly meet to play poker and who “project a highly (traditionally) masculine image, and who pride themselves on speaking the authentic Ocracoke dialect” Wolfram and Schilling-Estes (2006:239)

5.5.3

The Falkland Islands

The Falkland Islands are a group of islands east of Argentina in the South Atlantic Ocean. The main resident population lives on East Falkland in the Capital Stanley (Britain and Sudbury 2010). Even though uninterrupted Anglophone settlement can be traced back to the 1830s (with the initial British claim going back to 1690), Britain and Sudbury (2010:212) note that, according to the 2006 census, 55% of the population were born outside the Falklands. This population is represented by those from Great Britain, St Helena, Chile, Australia and a range of many other nationalities. As a result, the Falklands "should in no way be seen as demographically homogenous or monocultural" (Britain and Sudbury 2010:212) [23].

With respect to the (aɪ) variable, Sudbury (2000) notes that the originating population, representing mainly Scotland and the West Country, would have brought with them variants with [ʌ ~ ə ~ ɛ] nuclei qualities (2000:222). In addition to these, diphthongs with open back [ɑ̟ ~ ɑ] nuclei may also have been present, but those with open front [a ~ æ] nuclei "are likely to have been in the minority at the time of the Falklands colonisation" (2000:222).

Finally, Sudbury observes that the original offglide qualities were high front [ɪ ~ i] and, therefore, varied with respect to the degree of tenseness. However, monophthongs were also recorded, but these were particularly restricted to *–ight* lexical items (2000:222).

[23] See Section 3.2.3.3 for more details of the settlement history.

The analysis of modern Falkland Island English (FIE) demonstrated that the preferred variants of (aɪ) had nuclei of [ə ~ʌ] qualities. This suggests a degree of conservatism in the dialect as these onsets do not seem to have progressed or diverged much from that of the original settlers. However, Sudbury discovered a consistent Canadian Raising pattern with respect to /aɪ/. She concludes that realisations of /aɪ/ preceding voiceless environments strongly favour a close mid onset, while the nucleus of /aɪ/ in other environments is lower, though does not reach a fully open position. Thus, even though an allophonic distribution akin to Canadian Raising can be found, the phonetic distinction between allophones is less marked than in other Canadian Raising dialects (Sudbury 2000:233).

Due to the extent of settlers from Scotland, Sudbury also tested for patterns relating to the Scottish Vowel Length Rule (SVLR). This rule generally predicts (with respect to /aɪ/) that /aɪ/ nuclei will be represented by open vowels only before voiced fricatives, /r/ and word or morpheme boundaries[24]. However, even though some speakers exhibited differences in the contextual usage of (aɪ) variants, Sudbury notes that these "were not always in the direction predicted by the SVLR" (2000:243). This led Sudbury to conclude that the SVLR does not apply as a general rule in FIE.

5.5.4

St Helena

The island of St Helena, in the mid-central South Atlantic Ocean, was recorded as having a population of 5,644 in 1987. However, since then, due to St Helenians being granted

[24] See the processes associated with Aitken's Law in Wells (1982b) for more detailed information.

full British Citizenship, this population has decreased by 20.3% due to extreme out-migration (Schreier 2008:93). Schreier (2008; 2010a) records that the founding population of the island formed four principle groups, namely the British and European settlers, slaves from Africa, Madagascar and Asia, and labourers from China. Schreier goes on to write that, even though there is a lack of specific information relating to the British Settlers, it seems likely that the London area (perhaps the Greater London area) was the place of origin for many of them (2008:95)[25]. The extensive range of island settlers over the history of St Helena has led to a sociolinguistic environment which is diverse and heterogeneous. However, even with such social and linguistic diversity, Schreier observes that “its most influential founders came from the British Southeast and Madagascar” (2008:227), while the other linguistic groups had little impact on the resulting dialect.

Regarding variation of (aɪ), Schreier notes that [ɔ̞ɪ̈] is the most common variant (although an open [ɑ] nucleus may also surface). However, instead of proposing that these backed variants are preserved from older forms of the dialect, which may then lower towards [ɑ], Schreier claims a backing of the /aɪ/ nucleus to the [ɔ] region has taken place, which is indicative that St Helenian English (StHE) has undergone at least part of the diphthong shift. He likens this to the pronunciation of Cockney English and Australian English (2010a:234). In addition to this, the data from St Helena demonstrate evidence of Canadian Raising. Thus, the nucleus of /aɪ/ was found to raise towards the mid central region of [ə ~ æ̝] before voiceless consonants and is lowered in all other environments.

[25] See Section 3.2.3.4 for additional details regarding the social history of St Helena

Finally, even though Schreier notes some mild glide weakening (with respect to the second element of the diphthong, [ɨ]) he does not report any use of full monophthongal variants in StHE (2008; 2010a).

5.5.5

Tristan da Cunha

Tristan da Cunha is a sparsely populated island, with only 278 speakers of Tristan da Cunha English (TdCE) recorded in 2008 (Schreier 2010b:245). The now monolingual Anglophone community has developed out of a number of inputs ranging from the British Isles to the Northeast United States to South Africa and St Helena. A significant observation of the island community is that the population resides in one settlement (eliminating the possibility of regional variation). As a result, the social networks of inhabitants are very dense and multiplex in their structure. Finally, Schreier notes that the population have a strong Tristanian identity and "their sense of orientation is focussed on the island" (2010b:246)[26].

The modern TdCE dialect, with respect to /aɪ/, exhibits an innovative allophonic pattern between a 'fast' [ɐɪ] diphthong and a 'slow' [ɒˈɛ] diphthong (Schreier 2010b:249). These allophones follow a Canadian Raising type pattern in that the former can be found before voiceless consonants, while the latter surfaces elsewhere. The nature of the slow [ɒˈɛ] diphthong, Schreier observes, is indicative of the /aɪ/ diphthong having taken part in the diphthong shift as well as glide weakening. However, there are no reports of the latter process of glide weakening leading to monophthongisation.

[26] See Section 3.2.3.5 for more information regarding the history of Tristan da Cunha

5.6

The Special Status of LIKE – Variation in New Zealand English

The use of *like* with either grammatical or discourse functions leads it to be a highly frequent item throughout spoken language data (although different functions of *like* will represent different usage frequencies). Due to the multi-dimensional nature of this item, it is worth considering it separately from other (aɪ) tokens. Even though other studies (such as Cheshire and Fox (2007), Macaulay (2001) and Tagliamonte and Hudson (1999)) have looked at the uses of *like* from the perspective of variation within the quotative system, the following discusses how phonetic variation of *like* can be employed to signal group affiliation as well as *like*-function.

D'Arcy observes that in "the media there is a tendency to talk of *like* as a single, monolithic entity" (2007:391) and thus highlights nine categories of LIKE. These may surface under the two broader categories of grammatical uses (for example, LIKE as a verb or adverb) and vernacular uses (for example, LIKE as a quotative complementiser or discourse marker). Using a subsection of these classifications (determined by frequency of tokens and, thus, available data), Drager (2009) investigated the variation of LIKE in the speech of girls in an all-girls high school in New Zealand. Her analysis was based on ethnographic observations of student groups, determined by where they ate lunch. The two primary groups were the Common Room Girls (CR) and the non-Common Room Girls (NCR). The variation analysed included the quality of the vowel, whether the final /k/ was realised and degrees of glottalisation.

A subsequent acoustic analysis of tokens demonstrated that the realisation of LIKE was not only grammatically conditioned, but also socially conditioned so that speakers could manipulate pronunciations as they construct their social identity or persona. For example, in a comparison of quotative *like* with grammatical functions of *like*, her results showed that "a token was significantly less likely to be quotative *like* if it was more diphthongal" and thus, "tokens with vowels that were more diphthongal were more likely to be a grammatical function of *like*" (2009:116). In addition, when comparing the realisations of the /k/ in the quotative *like* and the discourse particle *like*, Drager observed that a speaker was more likely to realise the /k/ in a quotative *like* as opposed to a discourse particle *like* if she were a NCR girl and thus "more likely to drop the /k/ in the quotative than in the discourse particle if she was a CR girl" (2009:122)[27].

5.7

Summary

Even though the historical source of present day /aɪ/ can be identified as mostly Middle English /iː/, the subsequent path of derivation remains uncertain. Historical dialect surveys suggest that a traditional variant of (aɪ) in Essex is [ɔɪ] while in some areas, notably across the East Anglian Fens, Canadian Raising patterns were established.

However, modern studies have shown that, in the UK, while patterns of Canadian Raising are evident in a few locations, (aɪ) has undergone or is undergoing linguistic change either towards a standard-like /aɪ/ diphthong, or towards a newly levelled or supralocal variant, such as [ɑɪ]. Also, it has been shown that the quality of the diphthong is considered a salient sociolinguistic marker, not just in the UK, but in other locations such as those in the United States and New Zealand, as presented here. In these locations, the level of

[27] Drager classified a /k/ as being dropped if it could not be heard during the auditory analysis (2009:106). If the /k/ appeared glottalised, this was marked as such but still treated as having the /k/ not realised (2009:107).

social awareness regarding (aɪ) variation may affect the variant patterning within a speech community as speakers attempt to construct their sociolinguistic identities.

The examination of insular communities has demonstrated that the development of allophonic distributions of (aɪ) variants in a manner similar to that of Canadian Raising is more likely to develop for this diphthong than for (aʊ). Perhaps, due to this allophonic variation, the /aɪ/ diphthong is less susceptible to processes of glide weakening, in these communities, which contrasts with the behaviour of (aʊ).

Chapter 6

(aɪ) - An Analysis of Social and Linguistic Factors

6. THE ANALYSIS OF (aɪ) [28]

The following sections will present the results for the variable (aɪ) in Mersea Island English. The social dimensions of age and gender will initially be presented before a subsequent analysis of linguistic factors.

6.1

(aɪ) - An Analysis of Social and Linguistic Factors

As previously mentioned in Section 2.3.1.3, the analysis of function words (including *I, my, myself* and *by*) will not be discussed here. Rather, this analysis will be restricted to the behaviour of lexical words, together with a comparison of variants pertaining to the different functions of '*like*'. Also included in this analysis, but treated separately due to their behaviour in the data, will be an investigation into the behaviour of tokens in which (aɪ) immediately precedes /l/.

Following the methodology outlined in Chapter 2 above, 3620 tokens of (aɪ) were extracted from the data. In addition, 218 tokens of (aɪ) preceding /l/ and 746 tokens of LIKE were extracted. Thirteen variants were identified and these can be categorised into the following subgroups:

1	2	3
Primary Variants	Lowered and Backed Variants	Unstressed and Reduced Variants
ɔ̞ɪ ʌɪ ɔɪ ɔ̞ɪ ɔ̞ᶦ aɪ aᶦ	ɑ̞ɪ ɑ̞ ɑ	o ɐ

[28] Examples of (aɪ) tokens according to phonological environment can be found in Appendix D (2a) and (2b)

The variants in category 1 are those majority variants which are found in all phonological environments and lexical items. Those in category 2 are more restricted in their distribution, occurring mainly before /l/ and occasionally as a smoothed variant before a schwa in the items 'quiet' and 'lion'. The third category of unstressed variants were only found in the lexical item 'quite' ([o] 4.5% and [ɐ] 2.4%) and were produced predominantly by Younger males.

Once again, there was no significant variation in the quality of the offglide of this diphthong. Therefore, due to the complexity of the variant spread, together with the small overall token numbers for variants with reduced offglides compared to the full counterparts[29], this analysis will present the percentages and analysis relating to the following variant types:

ɔ̘ - type
ʌ - type
ɔ - type
ɔ̞ - type
a - type
ɑ̘ - type

ɑ̘ ~ ɑ - type (fully backed and open long vowels/ monophthongs)
o ~ ɐ - type (unstressed)

[29] The full token numbers for each individual variant can be seen in Appendix B.0

6.2

Social Factors

This section will outline the results pertaining to (aɪ) with respect to the social factors of age and gender.

6.2.1

Age

The data in 6.1 demonstrate how the variant use has changed across the three age groups.

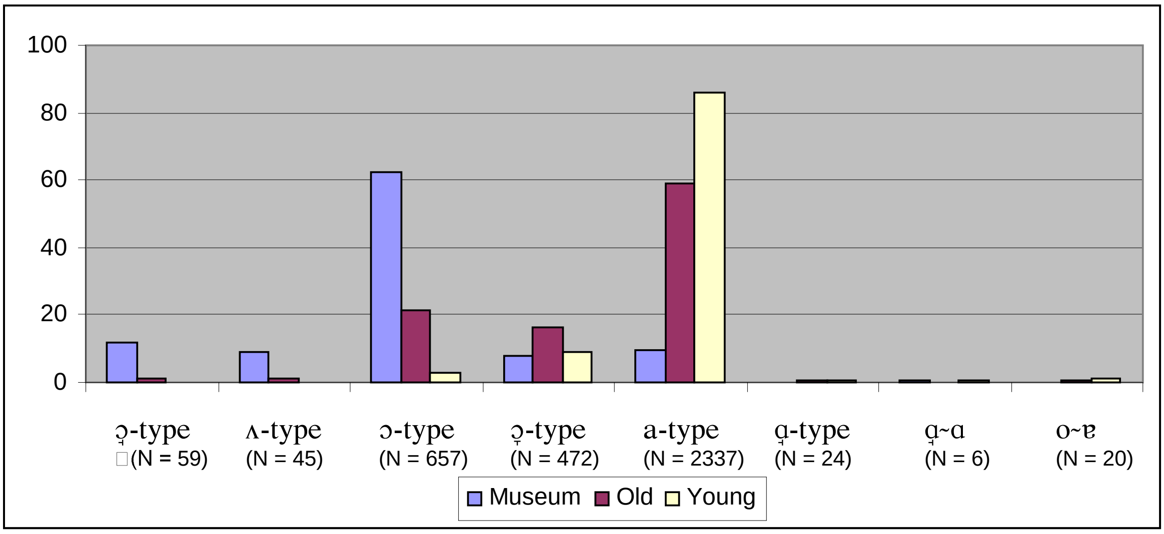
6.1a

Percentage of (aɪ) variants according to diphthong type and age

	ɔ̜-type	ʌ-type	ɔ-type	ɔ̜-type	a-type	ɑ̜-type	ɑ̜~ɑ	o~ɐ
Young	0.00	0.00	2.67	9.24	85.88	0.84	0.31	1.07
Old	1.20	0.90	21.61	16.33	58.96	0.65	0.05	0.30
Museum	11.59	8.94	62.25	7.62	9.27	0.00	0.33	0.00

6.1b

Percentage of (aɪ) variants according to speaker age



It can be seen that the Museum speakers, while using small levels of the standard variant, are the greatest proponents of the ɔ-type variants, as well as featuring the greatest levels of ɔ̜- type and ʌ-type variants. Conversely, the Younger speakers use small amounts of the more rounded ɔ̜ and ɔ- type variants and, thus, their speech is characterised predominantly by the standard-like a-type variants. It is also worth noting that, apart from the backed and smoothed monophthongs before /l/, there seems to be no instance of monophthongisation, such as that found with the variable (aʊ), see Chapter 4 above. In addition, the Older speakers, once again, show a transitional quality in their range of variants.

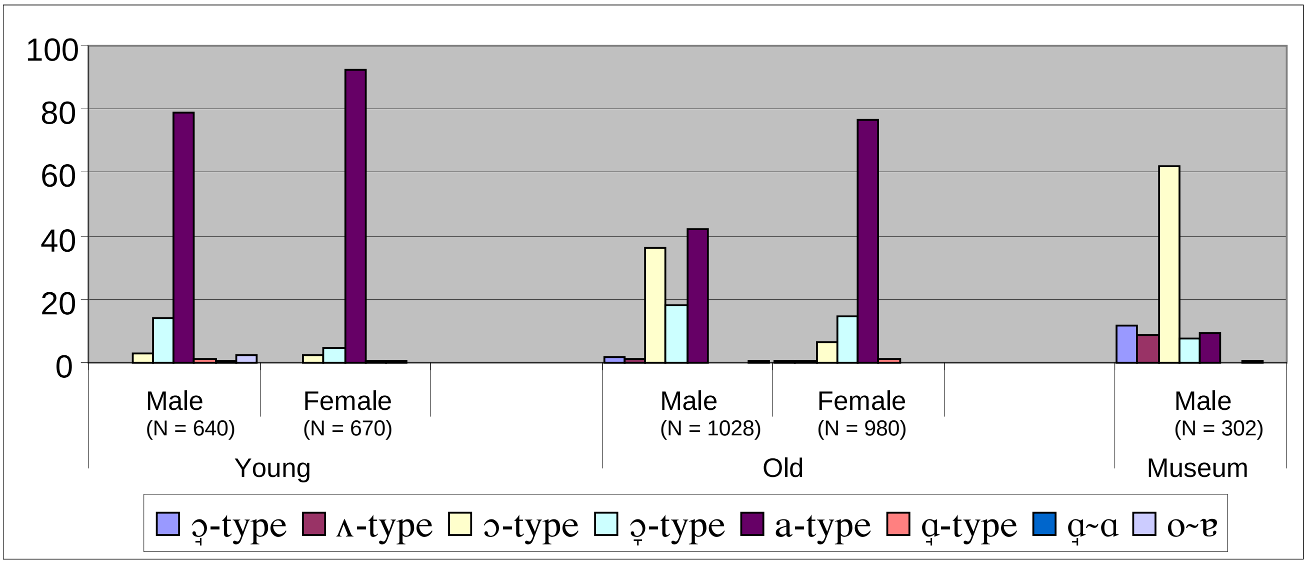
6.2.2

Age and Gender

When the data is examined more closely, with respect to age and gender, we can see that it is the males who show a greater tendency towards the more traditional ɔ-type variants.

6.2

Percentage of (aɪ) variants according to age and gender



The Older males appear to be preserving the more traditional variants as opposed to the females. This is also the case with respect to the Younger speakers' data. Although their use of ɔ-types is considerably diminished, when compared to their older counterparts, the Younger males show similar characteristics to the Older female speakers.

6.3

Linguistic Factors

This section will discuss and present the details of (aɪ) variation according to the linguistic factors of syllable type, phonological environment and the specific lexical item *Island*.

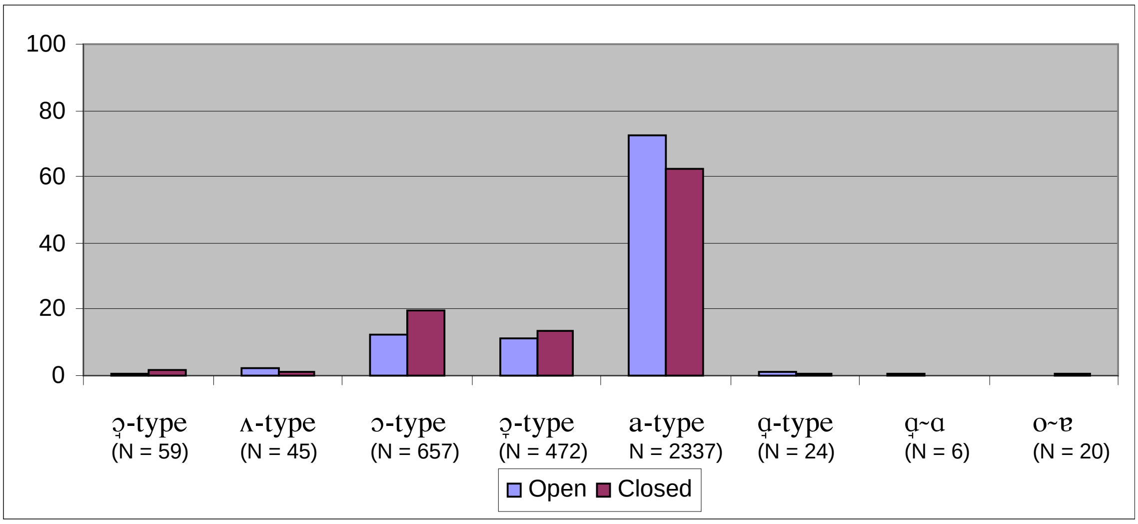
6.3.1

Syllable Type

When the overall data is analysed, open syllables are seen to correlate more with a-type variants, while closed syllables show a greater correlation with ɔ and ɔ̹-types (6.3). This pattern is replicated in the data for each individual age group (6.4), showing consistency across the generation groups.

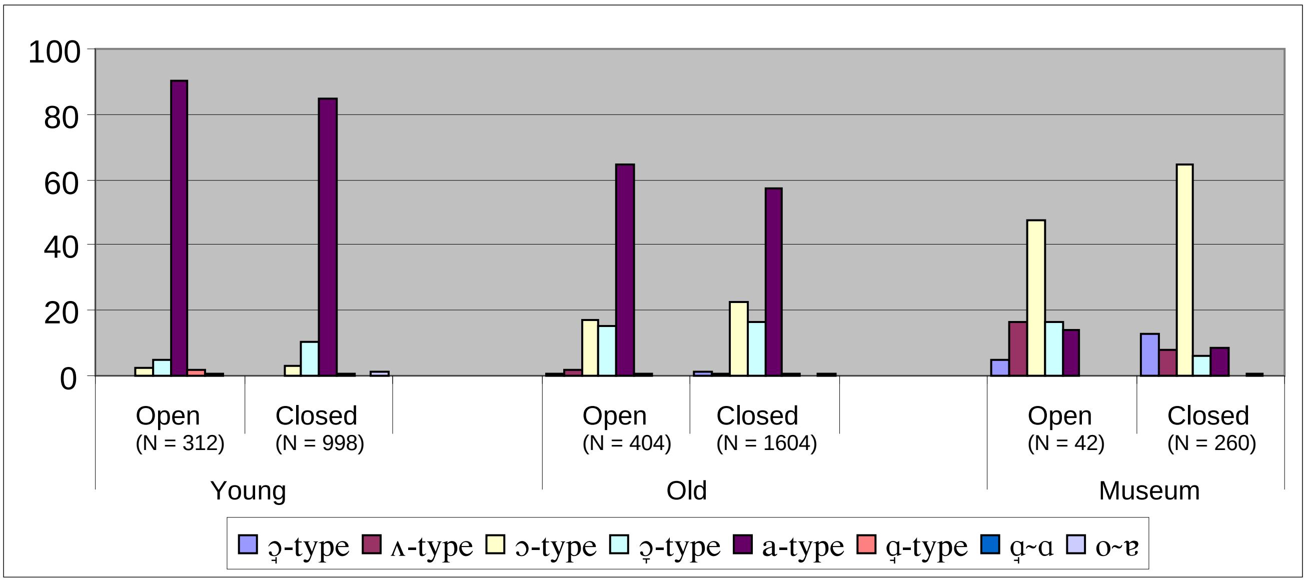
6.3

Overall percentage of (aɪ) variants according to syllable type



6.4

Percentage of (aɪ) variants according to syllable type and age group



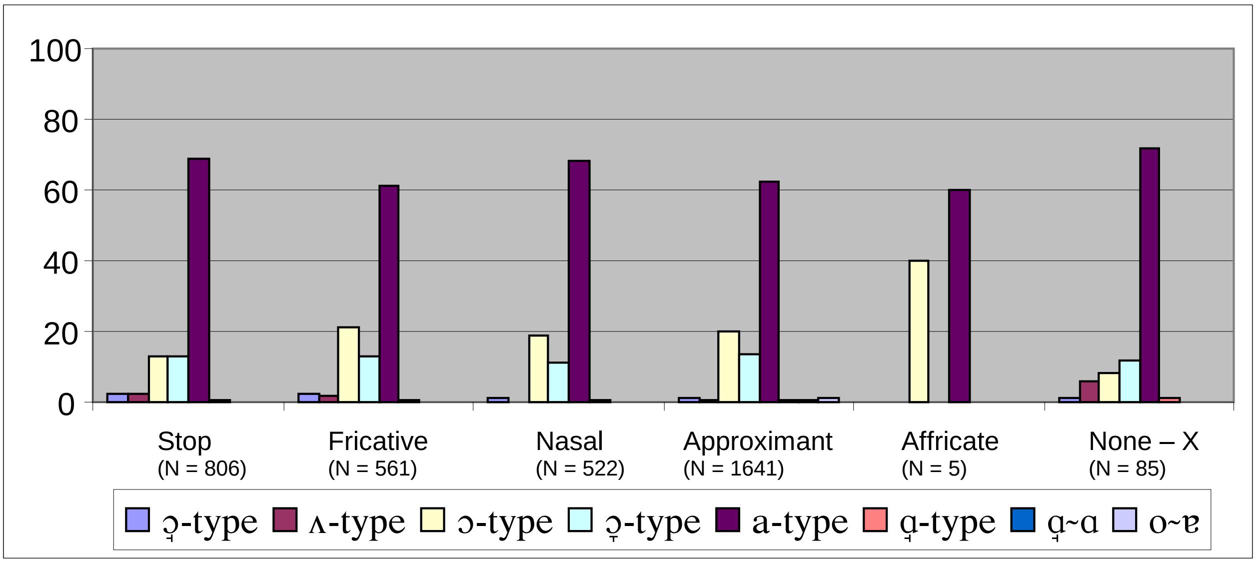
6.3.2

Preceding phonological environment

The overall data, with respect to preceding manner of articulation, is given in 6.5 below:

6.5

Overall percentage of (aɪ) variants according to preceding manner of articulation

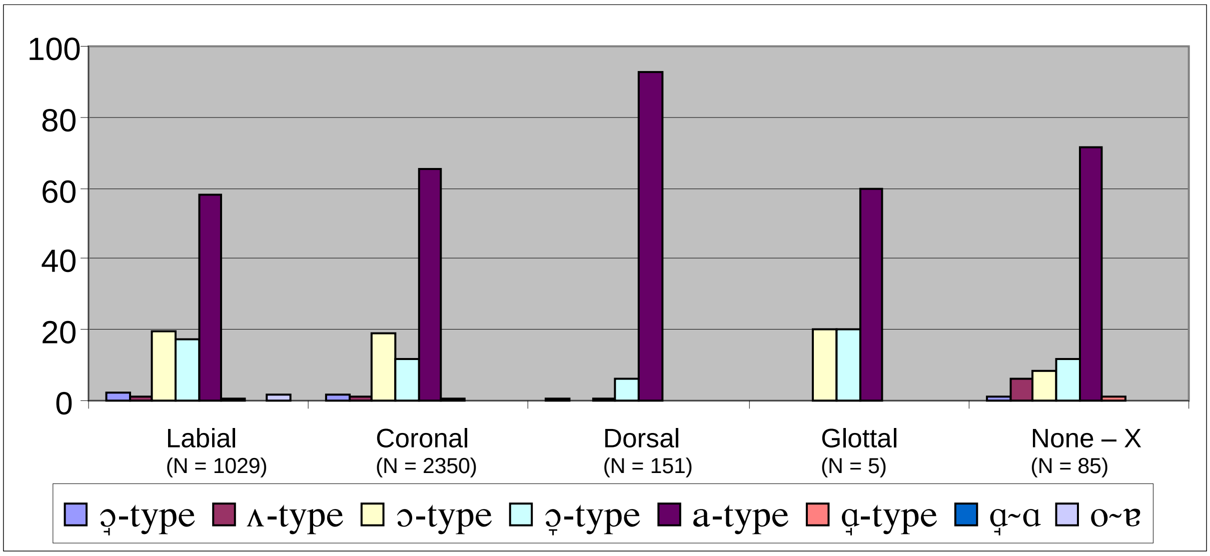


While each age environment demonstrates a similar pattern, a broader use of variants seems to surface when (aɪ) is word-initial (in items such as ‘eye’ and ‘Irish’) and this pattern is borne out in each individual group (See data in Appendix B.23, B.24 and B.25).

However, with respect to preceding place of articulation, a similar pattern to that previously demonstrated with (aʊ) (see section 4.3.2 above) develops.

6.6

Overall percentage of (aɪ) variants according to preceding place of articulation



Once again, dorsals are seen to promote a greater amount of lowered variants across the overall data, and, once again, this is a trend which holds across each individual age group (see the complete data in Appendix B.26, B.27 and B.28).

6.3.3

Following Environments

As outlined (in section 2.3.1.2.2) above, the diphthong /aɪ/ has fewer restrictions on its phonological distribution than the other two diphthongs under investigation. For example, with respect to mono-morphemic words, it can occur before both voiced and voiceless consonants and all stops, fricatives and nasals, except /g/, /ʃ ʒ / and /ŋ/ in word final position[30]. However, the only approximant and affricates that can follow /aɪ/ are /l/ and /ʧ/.

6.3.3.1

Voice

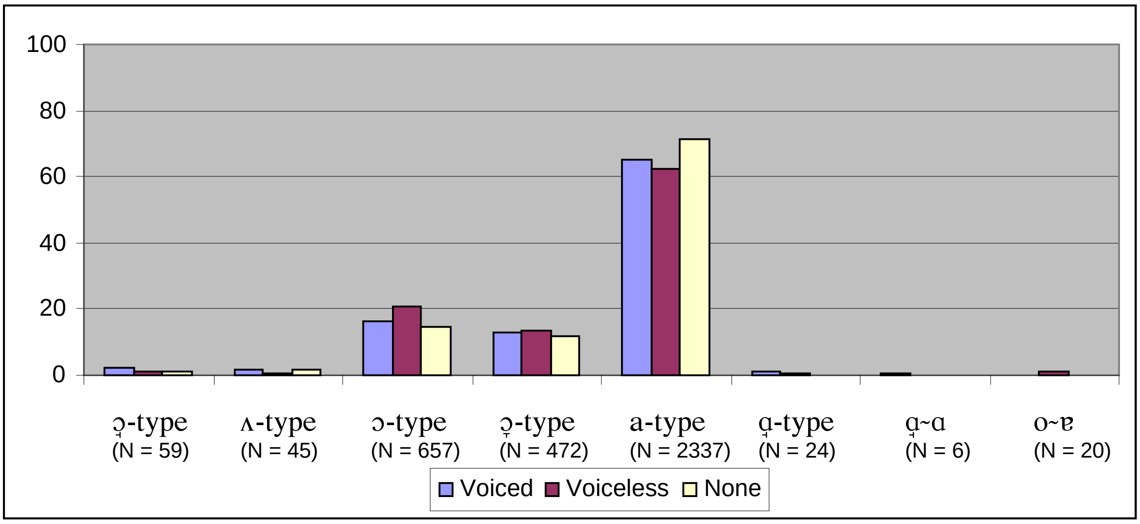
The first dimension for investigation is the phonological environment of following voice. As previously mentioned, a particular linguistic phenomenon associated with variation of (aʊ) and (aɪ) (see 4.3.3.1 for the analysis of the (aʊ) variable) is that known as Canadian Raising. This is a linguistic process in which the diphthongal nuclei of /au/ and /ai/ are half-open, mid vowels when followed by a voiceless consonant in the same syllable, but not in other contexts. Thus, pairs of words such as *write* [rəit]~ *ride* [raid] and *knife* [nəif] ~ *knives* [naivz] are derived (Wells 1982c:494).

The graph in 6.7a shows the overall percentages for the Mersea Island data and we can see that there was a greater degree of raised and back [ɔ]-type variants produced before voiceless consonants, while contexts with following voiced segments and word-final tokens produce more [a]-type variants. With respect to the Canadian Raising literature, word-final variants should behave in a similar way to following voiced contexts and we can see that this is the -case with the Mersea data.

[30] However, it is possible in British English to truncate the name 'Nigel' to [naɪʤ].

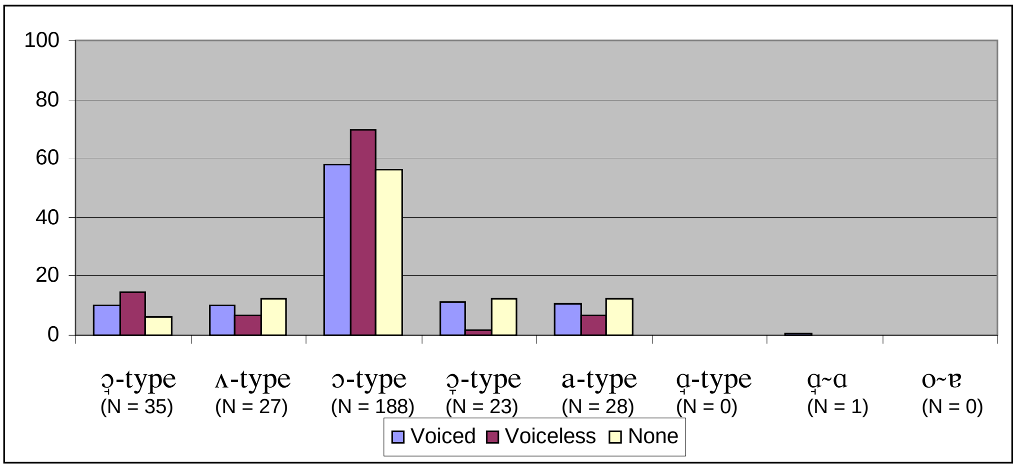
6.7

Overall percentage of (aɪ) variants according to the voicing of the following segment

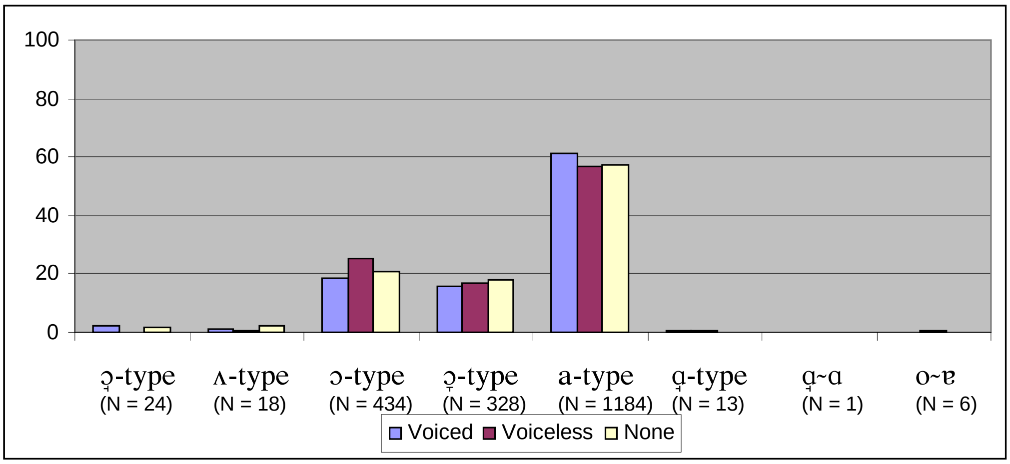


This pattern is also replicated with respect to the Museum speakers (6.8) albeit with the raised backed unrounded [ʌ]-types more common in the context of following voiceless segments. In addition, both the Older (6.9) and Younger (6.10) data sets demonstrate preferences in keeping with Canadian Raising type patterns and, even though it is not as categorical as the rule suggests, it seems that these linguistic environments do have an impact on the variant patterns found in the data.

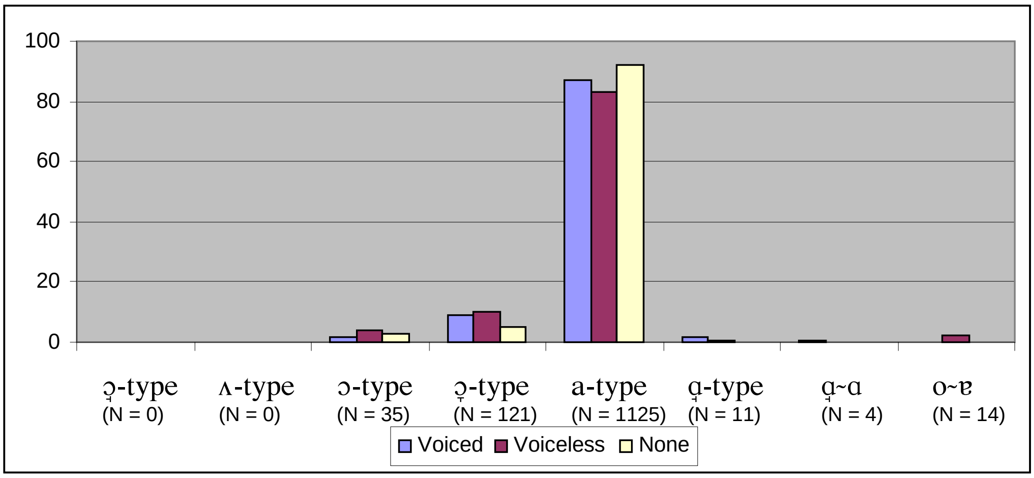
6.8 Percentage of (aɪ) variants according to following voice by Museum speakers



6.9 Percentage of (aɪ) variants according to following voice by Older speakers



6.10 Percentage of (aɪ) variants according to following voice by Younger speakers

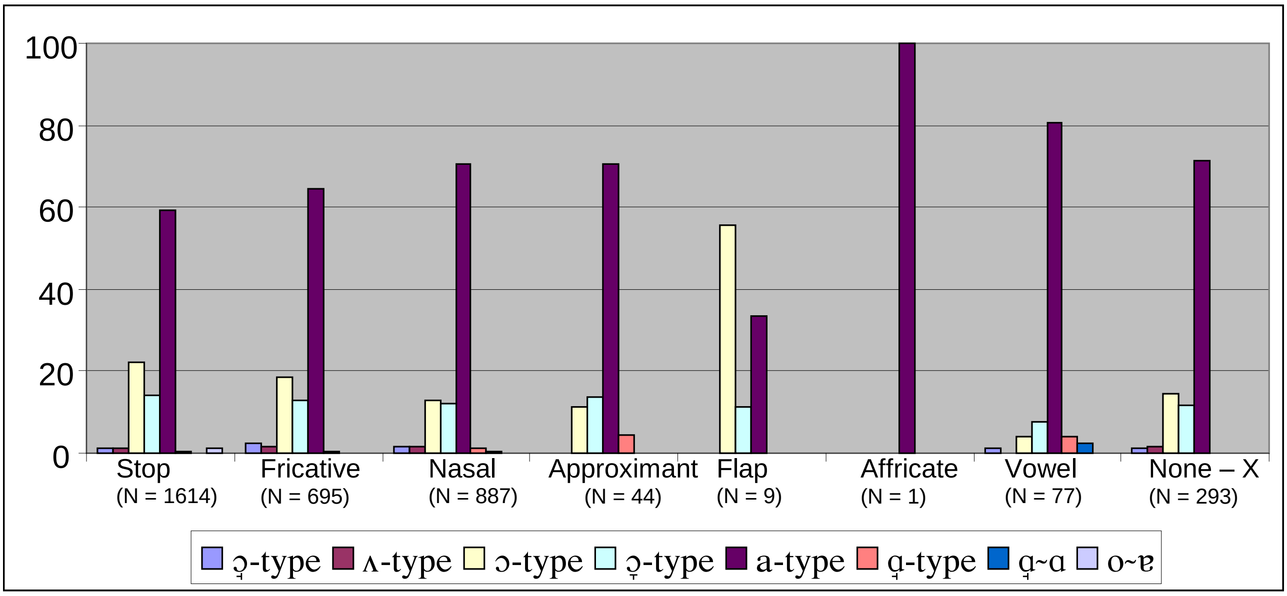


6.3.3.2

Manner

With the exception of following flaps, each environment clearly favours the standard-like a-type variants. However, the percentages for this environment were only based on 9 tokens overall.

6.11
Overall percentage of (aɪ) variants according to following manner of articulation



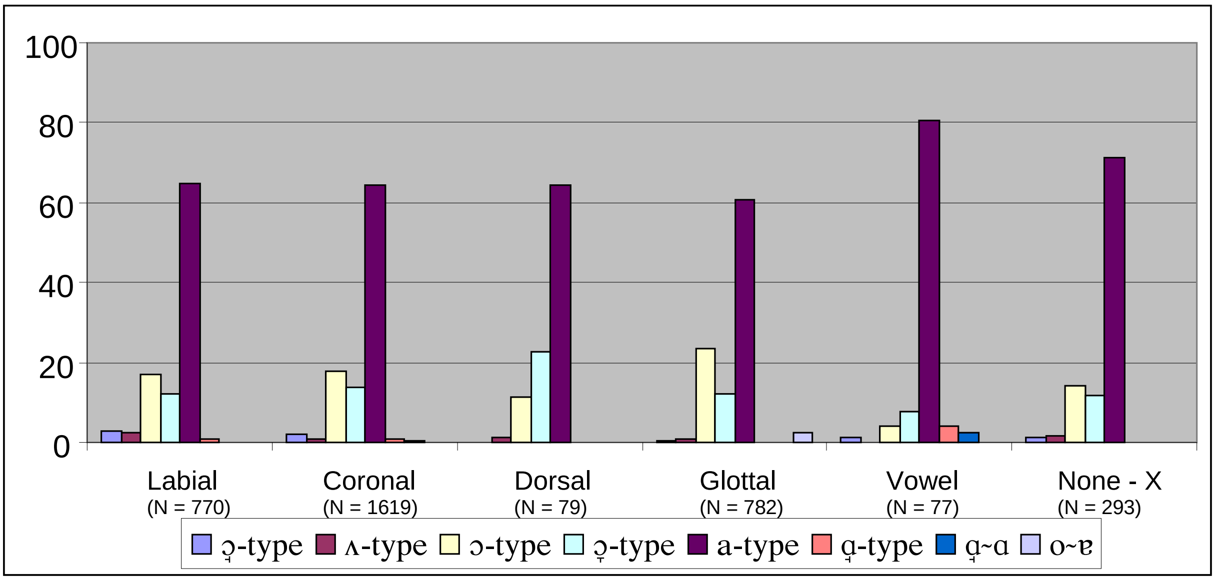
6.3.3.3

Following Place of Articulation

With respect to following place of articulation, whereas following vowels (in tokens such as ‘triangle’ and ‘highest’) provoke a wider range of variants, it is only following dorsals which promote the intermediate ɔ̞-type above the more raised and rounded ɔ-type variants.

6.12

Overall percentage of (aɪ) variants according to following place of articulation



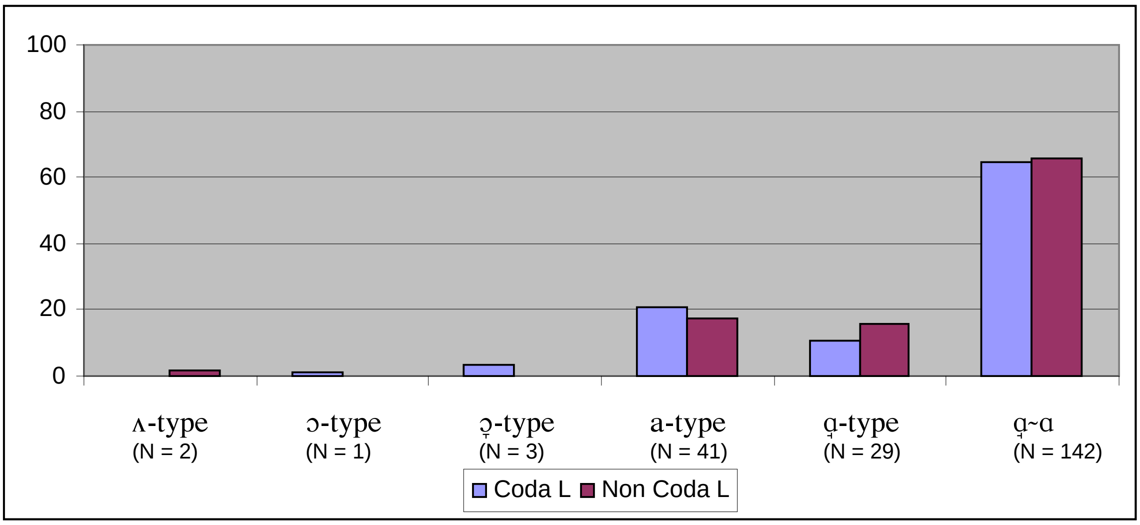
6.3.3.4

Following /l/ and the Status of 'Island'

The following data compare the distribution of variants according to whether the following /l/ is tautosyllabic with (aɪ) (i.e. it is in the coda) or not (i.e. it is the onset of the following syllable).

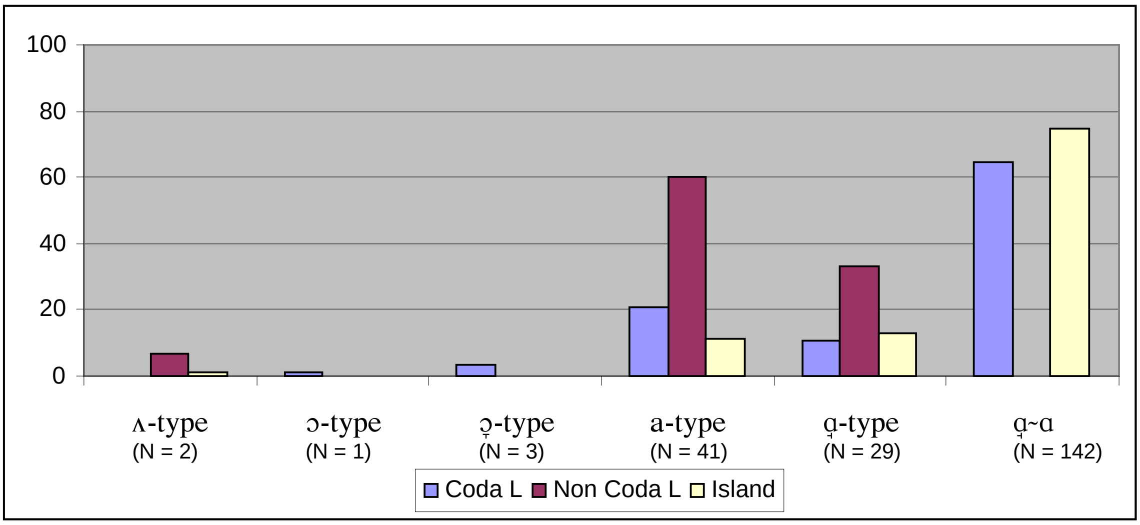
6.13

Overall percentage of (aɪ) variants preceding /l/



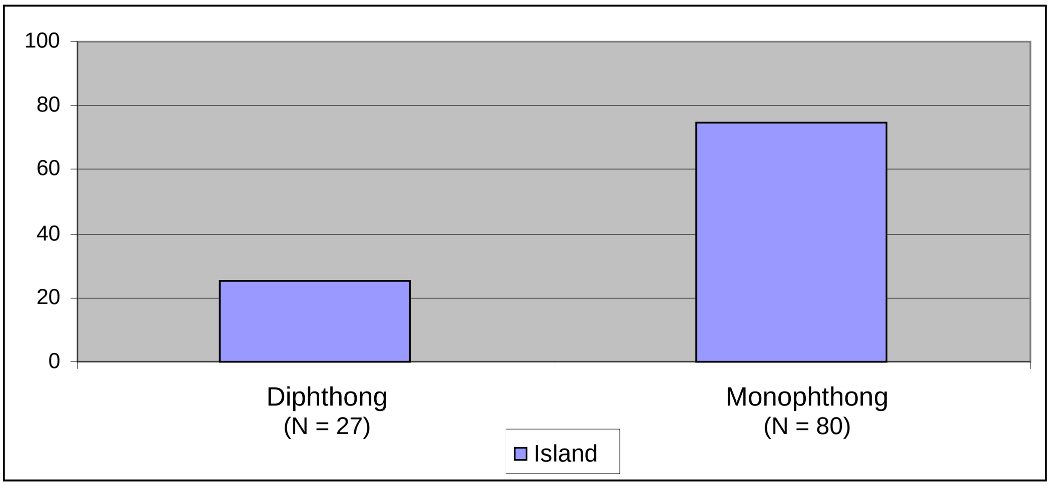
The data show that variants with backed [ɔ] ~ [ɔ̜] nuclei rarely surface in this context, while low back open [ɑ̟] ~ [ɑ] variants are preferred and, on the surface, there seems little difference between the influence of /l/ when each phonological position is compared. However, when the 107 tokens of ‘Island’ are separated from the ‘Non-Coda L’ data, a quite different pattern emerges.

6.14
A comparison of the overall percentages of (aɪ) variants according to /l/ type



The data now demonstrate how, with the extraction of 'Island', Non-Coda L does not exhibit any smoothed and backed variants. Instead, 'Island' appears to pattern with the tokens which have a following /l/ in the coda (such as *while* and *tile*), particularly with respect to the use of the backed monophthong [ɑ]. This is demonstrated by the overall comparison of diphthong variants versus monophthong variants:

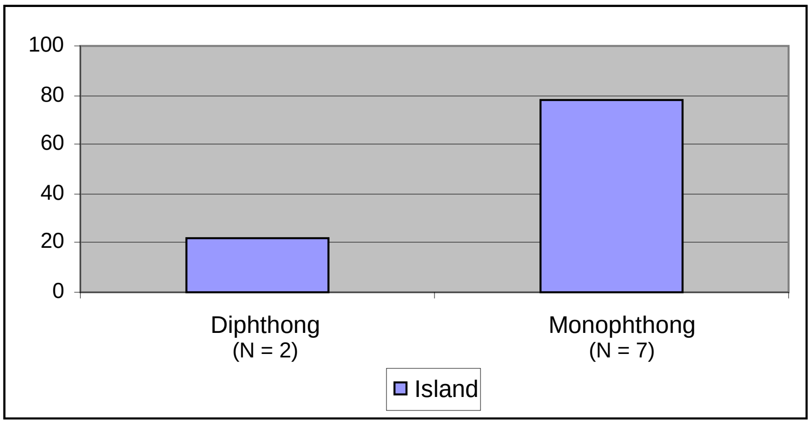
6.15
Overall percentage of Diphthongal vs. Monophthongal variants for the token *Island*



The data suggest that a monophthong realisation of 'Island' is lexically conditioned, since it does not conform to the expected [ɑ] monophthong before coda /l/. In addition, this pattern could also suggest that the pronunciation of 'Island' is a type of iconic marker within Mersea Island speech (this latter point will be discussed further in Chapter 9 below). Indeed, this pattern is reinforced in each age group. However, as 6.18 illustrates, the Younger speakers seem to be adopting more diphthongal realisations for '*Island*' compared to the other two age groups. This could suggest that the lexical effect of this item on variation is beginning to be lost in Mersea Island English as it converges with the expected pattern of (aɪ) before a non-coda /l/. However, the limited token numbers for the Younger speakers (9 tokens) would need to be expanded before this claim could be established.

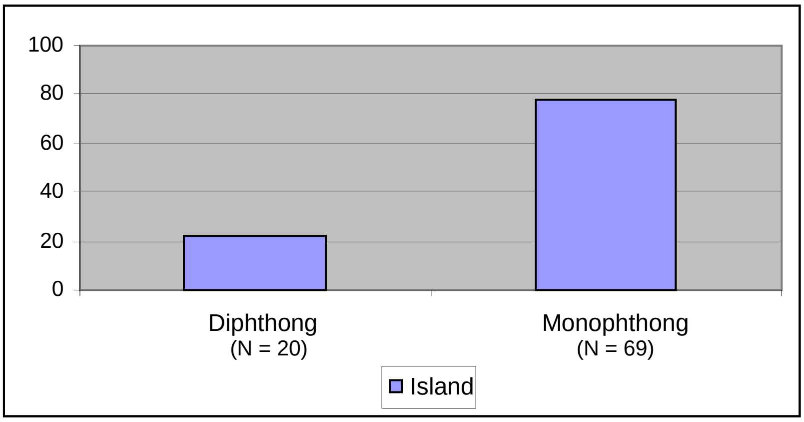
6.16

Percentage of (aɪ) variants for *Island* by Museum speakers



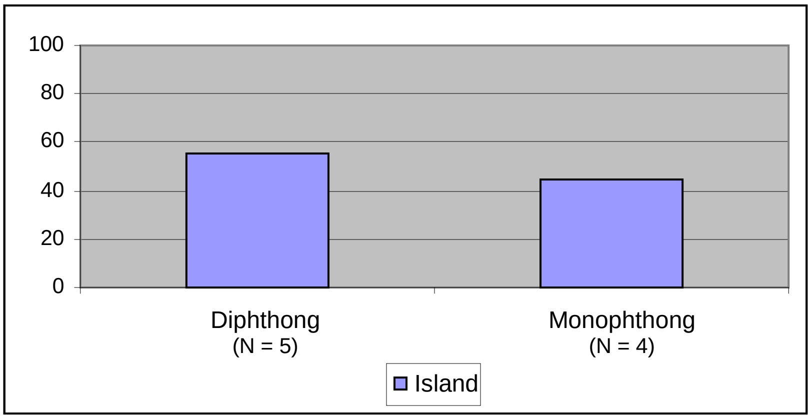
6.17

Percentage of (aɪ) variants for *Island* by Older speakers



6.18

Percentage of (aɪ) variants for *Island* by Younger speakers



6.3.4

LIKE

The analysis of the MIE data yielded 746 tokens of LIKE. These were coded according to either their grammatical function (298 tokens) or their discursive function (448 tokens) following D'Arcy (2007). Below are examples of these individual functions from the Mersea Island data (note - the letters after each example represent the informant's speaker ID code):

Grammatical Functions

Lexical Verb:	"we didn't *like* it" (DS)
Adverb:	"he looks *like* him" (AF)
Conjunction:	"it sounded *like* they were singing" (LD)
Suffix:	"factory-*like*" (DS)

Discourse Functions

Discourse Marker:	"*Like*, my last recording was with this little girl" (SG)
Discourse Particle:	"this water's *like* gonna electrocute everyone" (CL)
Approximate Adverb:	"it sat there for ages *like* days" (TH)
Quotative:	"all the children were *like* "are you recording?" (SG)

The following tables show the overall token count for each category and their corresponding percentages.

6.19a

Overall number of (aɪ) tokens for the token *Like*

		ɔ-type	ɔ̞-type	a-type	ɑ̞-type	o~ɐ	Total
Grammatical Functions	Lex. Verb	15	21	87	0	0	123
	Adverb	30	19	122	1	0	172
	Conjunc.	0	1	1	0	0	2
	Suffix	0	0	1	0	0	1
Discursive Functions	Disc. Marker	1	3	17	0	0	21
	Disc. Particle	18	53	291	0	1	363
	Approx. Adverb	0	1	1	0	0	2
	Quotative	0	3	59	0	0	62

6.19b

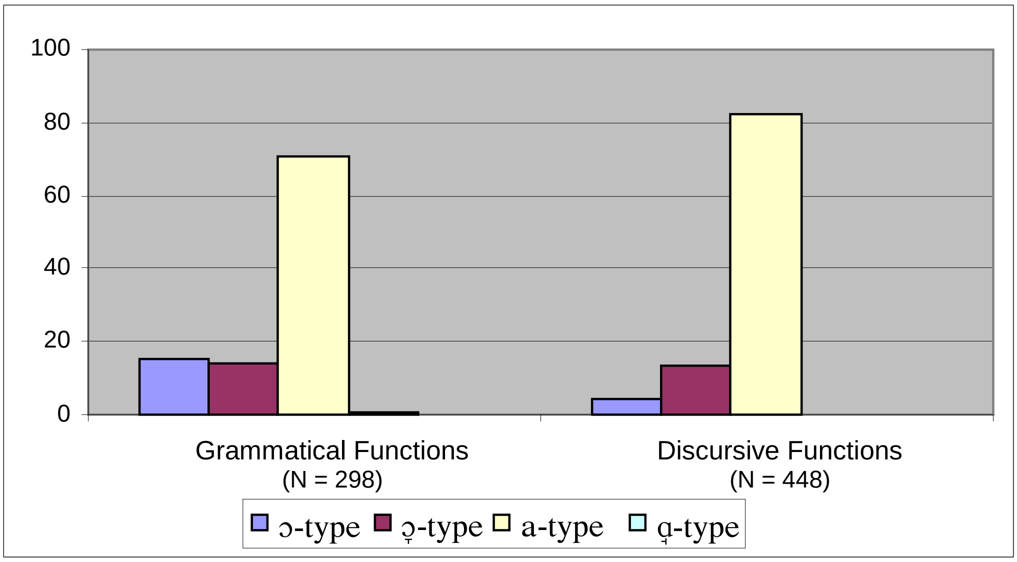
Overall percentage of (aɪ) variants for the token *Like*

		ɔ-type	ɔ̞-type	a-type	ɑ̞-type	o~ɐ
	Lex. Verb	12.20	17.07	70.73	0.00	0.00
Grammatical Functions	Adverb	17.44	11.05	70.93	0.58	0.00
	Conjunc.	0.00	50.00	50.00	0.00	0.00
	Suffix	0.00	0.00	100	0.00	0.00
	Disc. Marker	4.76	14.29	80.95	0.00	0.00
Discursive Functions	Disc. Particle	4.96	14.60	80.17	0.00	0.28
	Approx. Adverb	0.00	50.00	50.00	0.00	0.00
	Quotative	0.00	4.84	95.16	0.00	0.00

The token numbers demonstrate that it is the lexical verbs, adverbs and discourse particles which yield the greatest number of tokens throughout the data, while the percentages show that the standard-like a-type variants are preferred for each functional linguistic category. However, the data representation in (6.20) below demonstrate a little more clearly how it is the grammatical functions of LIKE which, when considered together, feature a higher percentage of more traditional ɔ-type variants than the more innovative discursive functions of LIKE.

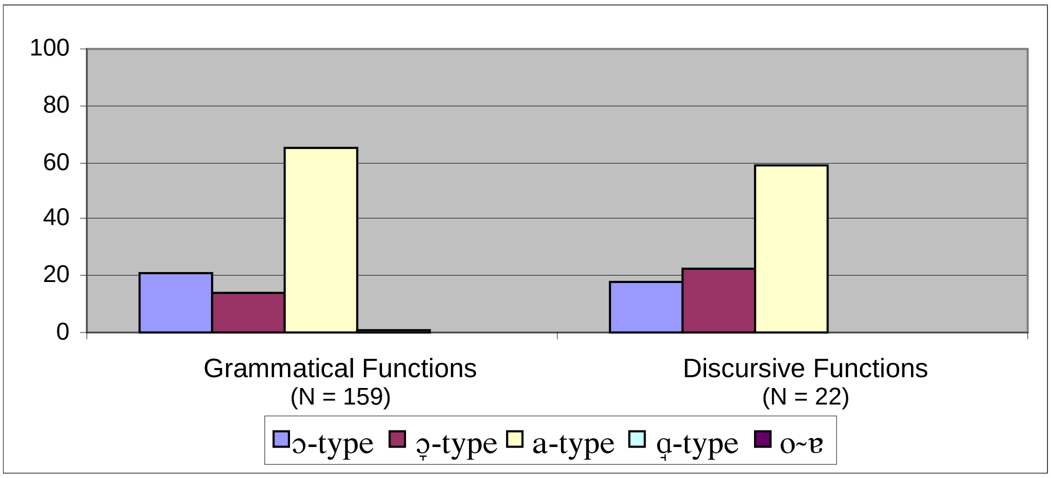
6.20

An overall comparison of (aɪ) variants according to the functions of LIKE

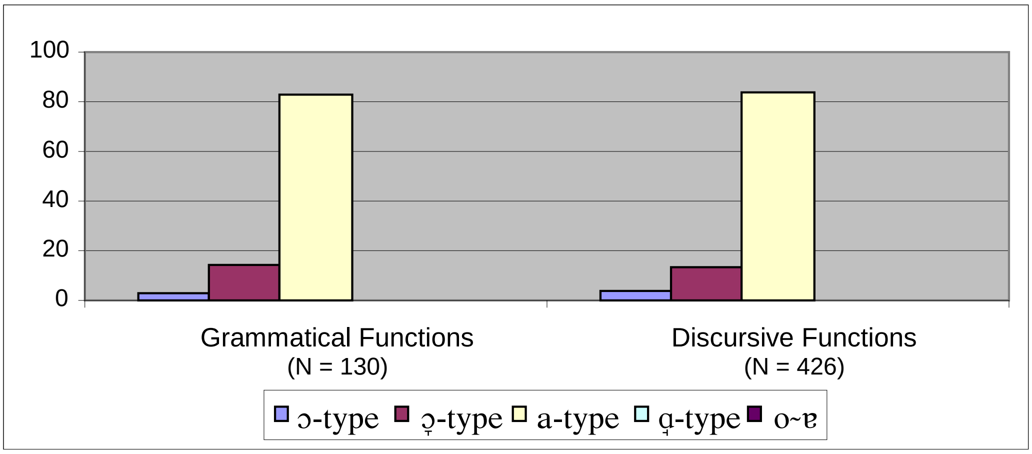


With respect to individual age groups, the data from the Museum group only produced 9 grammatical tokens (8 of which were [ɔɪ] and one of which was [ɔ̹ɪ]) and no discursive tokens. However, when looking at the other two groups, there appears to be little difference between the variant pattern of grammatical and discursive LIKE in the Younger speakers (6.22). However, there is a slight difference in the data relating to the Older group, particularly regarding the greater use of the intermediate ɔ̹-type variants in discursive functions of LIKE (6.21).

6.21
A comparison of (aɪ) variants according to the functions of LIKE by Older speakers



6.22
A comparison of (aɪ) variants according to the functions of LIKE by Younger speakers



6.4

Summary

This section has presented results from the analysis of (aɪ) in the Mersea Island English data. It has shown that there has been a change from traditional [ɔ]-type diphthongs to more open [a]-type diphthongs, and this transition is illustrated nicely by the spread and use of variants (particularly the intermediate [ɔ̩]-type diphthongs) by the Older speakers. However, regarding the Older speakers, it seems that it is the Older males who are retaining the traditional variants to a greater extent than females (and this contrasts with the behaviour of the Older group regarding the (ɔɪ) variable, see Chapter 8 below).

With respect to linguistic factors, we have seen that syllable type, preceding and following manner of articulation and following place of articulation do not seem to have a great impact on the type of variant produced. However, it has been shown that preceding manner of articulation shares some similarities with the analysis of (aʊ) (see sections 4.3.2 and 6.3.2 above) in that preceding dorsal consonants actively promoted lower [a] nuclei and, thus, wider diphthongs. Once again, this could be one of the phonological environments leading the change to [aɪ]. Also, an analysis of following voice has shown that a pattern similar to that of Canadian Raising is present, with more raised diphthongal nuclei surfacing before voiceless consonants and more open, or lower variants surfacing before all other environments.

The specific environment of /aɪ/ + /l/ was investigated and results show that, when coda /l/ and non-coda /l/ data are compared, there appears to be no difference between them, in terms of the variants used. However, when the token *island* is extracted from the non-coda /l/ data, it has been shown that non-coda /l/ tokens favour a diphthongal variant while coda /l/ tokens and *island* clearly favour monophthongal variants.

Finally, the investigation of LIKE has shown that, when LIKE functions grammatically, it correlates with a higher percentage of traditional variants while discursive functions correlate with more recent [a]-type variants. However, even though the Older group shows a difference in this direction, there appears to be no contrast in the variant usage for the Younger speakers.

Chapter 7

The Historical Derivation and Variation of the Variable (ɔɪ)

7. THE HISTORICAL DERIVATION AND VARIATION OF THE VARIABLE (ɔɪ)

The following will be a discussion of the derivation of present day /ɔɪ/ in British English. Included will be its historical sources, as well as data from historical and present day dialectal studies, which will demonstrate the type of variation which can be found in Essex and, more broadly, across the United Kingdom.

7.1

Historical Sources

The variable (ɔɪ) represents the stressed diphthong /ɔɪ/ or what Wells (1982a) classifies as the CHOICE vowel. Unlike /aɪ/ and /aʊ/, /ɔɪ/ did not develop as a result of the Great Vowel Shift. Instead, present day /ɔɪ/ words are derived from Middle English /ɔi/ and /ui/ diphthongs, and Wells notes that "all CHOICE words are believed to be ultimately loan words, mainly from French" (1982a:209). Thus, those words which are derived from Middle English /ɔi/ include *boy, oyster* and *noise*, while those which are derived from Middle English /ui/ include *oil, boil (v)* and *join*. In addition, Wells notes that in some dialects those words derived from Middle English /ui/ developed into [əi] or [ʌi] which resulted in these forms becoming homophones with those of the PRICE set (see below).

In addition to these sources, the CHOICE lexical set is completed by some lexical items which contained Middle English /i:/ (and thus 'should' have developed into present day /ai/ with the rest of the PRICE set) - for example, the final syllable of *employ* became distinct from that of *imply* (Wells 1982a:209)

7.1.1

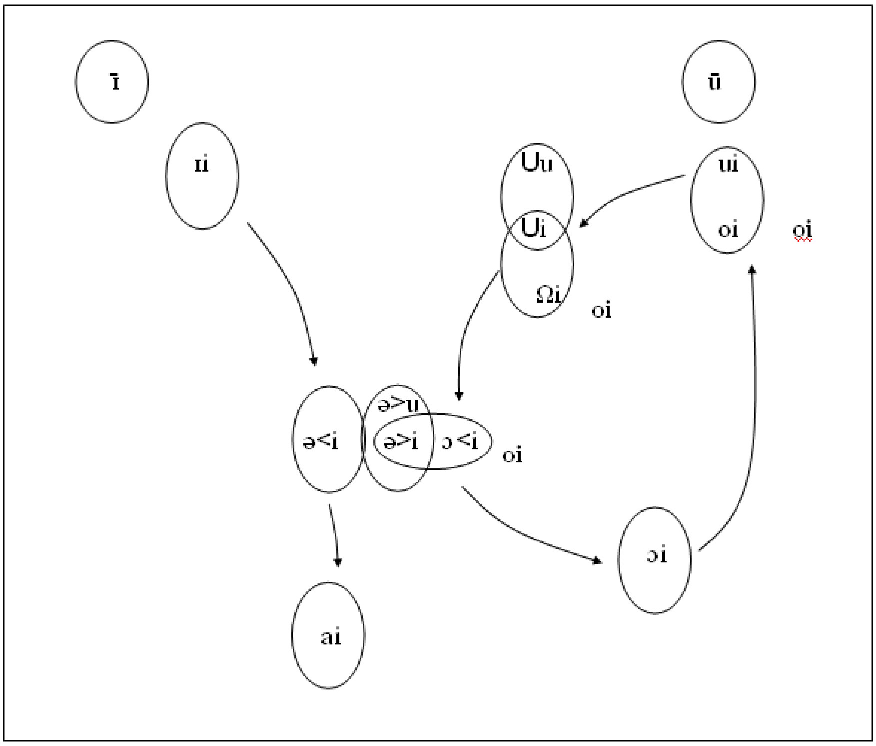
/ɔɪ/ and /aɪ/ - a Near or Temporary Merger?

Labov (1994) demonstrates, through literary sources and historical dialect observations, that an apparent merger between the diphthongs /ɔɪ/ and /aɪ/ seems to have started around the fifteenth century. However, even though there is literary evidence at this time, Labov (1994:307) suggests that general recognition of this merger began to appear in the late seventeenth century, when pairs such as *loin* ~ *line* and *oil* ~ *isle* were treated as homophones.

Following the work by Nunberg, who traced the history and progress of change of the modern /ɔɪ/ diphthong, Labov (1994) presents data suggesting that, in the Middle English period, the /ɔɪ/ diphthong had two allophonic realisations: [ui], with a high back nucleus, and [oi], with a mid back nucleus. As the nucleus of the [ui] allophone lowered and centralised in the seventeenth century, it became close to the developing Middle English ī as it progressed towards modern standard /aɪ/. During this centralisation phase, the allophones of /ɔɪ/ were affected differently according to phonological context. For example, /ɔɪ/ diphthongs in pre-/nt/ environments (e.g. *joint*) were more likely to centralise than those in pre-/l/ environments (e.g. *boil*). As a result, Labov notes that, during this period, “the reflexes of ME ī and the originally high allophones of /oy/ were […] of close approximation”[31] (1994:375). This can be illustrated as follows:

[31] Note, Labov uses /oy/ to represent /ɔɪ/

7.1 The development of /aɪ/ and /ɔɪ/ demonstrating the potential overlap of phonemes (from Labov 1994:376)



The point of overlap between /aɪ/ and /ɔɪ/, illustrated by the diagram, is the point which Labov describes as the diphthongs being “so close that they were judged as ‘the same’ by most observers” (1994:376). However, he also notes that a number of words switched diphthong classes during this time, indicating a type of merging before the phonemes ‘re-separated’. By way of illustration, *eyelet* switched from /ɔɪ/ to /aɪ/, while *boil*, *joist* and *groin* switched from /aɪ/ to /ɔɪ/. This was also demonstrated in data from Suffolk by Kokeritz (1932), where the items *boil*, *noise*, *oil*, *spoil* and *poison* were all variable between [ɑɪ] and [ɒɪ]~[oɪ] realisations.

By the end of the eighteenth century, the merger seemed to be in retreat but, by this time, it had already attracted negative connotations and was associated with ‘common speech’.

However, the process of de-merging these two diphthongs continued and they remain distinct in Modern English dialects. This, Labov (1994:308-309) notes, is true of a wide range of British English dialects (including those representing the London vernacular, Southern British dialects as well as Birmingham and Manchester dialects). The only exception, Labov indicates, where the /ɔɪ/ and /aɪ/ merger "appears in current dialect records [is] the county of Essex in the southeast" (1994:309).

Using data from the Survey of English Dialects, Labov extracted /aɪ/ and /ɔɪ/ data from seventeen locations across the county of Essex. Nine of these locations demonstrated a merger between the diphthongs, while only two had distinct realisations for /aɪ/ and /ɔɪ/. The remainder of locations, however, demonstrated separate realisations for /aɪ/ and /ɔɪ/, but, phonetically, the differences between them were smaller, [ɔ̈ɪ] and [ɔɪ], respectively.

This was substantiated by Labov's own analysis of data from the east Essex village of Tillingham (which was fully merged in the SED data). However, spectrographic analyses conducted by Labov suggested that the realisations of the 'merged' diphthongs were phonetically distinct. This led Labov to hypothesise that, even though a merger was perceived, "/ay/ and /oy/ were not completely merged in the eighteenth century, but only closely approximated in a near merger" (1994:384).

7.2

Historical Variation

The following section will focus on data from the selection of historical data sources as outlined in 2.4 above.

7.2.1

Ellis (1889)

Even though Ellis does not give any specific commentary on this variable in Essex, his data suggest that at least some parts of Essex retained the split in which (ɔɪ) is pronounced differently in tokens derived from Middle English /ui/. For example, the five items which were present in the Essex word-list data predominantly show a rounded [o] for the diphthongal nucleus in the words *boy* and *voice*, while an open [a] nucleus is present in *spoil, boil (v)* and *oil*.

Lexical Item	Transcription in Ellis (1889)	Vowel translation of Ellis using Eustace (1969)
Boy	boɪ	bo̜ɪ
Voice	wois	wo̜ɪs
Spoil	spa'il	spɑ̜ɪl
Boil (v)	ba'il	bɑ̜ɪl
Oil	a'il	ɑ̜ɪl

However, it is interesting to note that these forms do not seem to be homophonous with the PRICE set in Ellis' survey. Indeed, as noted above in section 5.3.1, the predominant pronunciation of the PRICE vowel has a lower and backed rounded nucleus. As a result, the PRICE set represents [ɒɪ], which contrasts with both sets above with respect to height and lip rounding. Therefore, it seems that the above tokens (in which (ɔɪ) precedes /l/) are not homophones with (ai), but have remained distinct from the rest of the (ɔɪ) set through a lowering of the nucleus.

7.2.2

Kurath and Lowman (1970)

The dialect study conducted by Kurath and Lowman indicates that data from around locations in East Essex and West Essex (towards London and Middlesex) include derivatives of Middle English /oi/ and /ui/ surviving as distinct phonemes [oɪ] and [ɔɪ], respectively (Kurath and Lowman 1970:26). Thus, in these areas, *point* and *oil* rhyme with *pint* and *mile*. However, this distinction is not represented in the data from the SED (see below) suggesting that this dialect feature was receding at the time of these studies.

7.2.3

The Survey of English Dialects (SED) (Orton 1962)

The data from the SED, like that of Ellis (1889), is limited in the number of available tokens. However, it seems that the spilt observed by Ellis is not present in the six available tokens from SED's data. For example, the following table shows the pronunciations across three locations (note, only these words have been included as they were represented by all three locations):

	East Mersea	**Tiptree**	**West Bergholt**
Boiling	bɔɪlɪn	bɔɪlɪn	bɔ̈ɪlən
Poisonous	pɔɪznɪs	pɔɪznəs	pɔɪznəs
Voice	vɔɪs	vɔɪs	vɔɪs

The data from East Mersea, as well as that from Tiptree and West Bergholt, show predominantly [ɔɪ] variants and occasional alternations with more centralised [ɔ̈] nuclei and a raised, rounded [ʊ] variant (such as *boys* [bʊɪz] in Tiptree and West Bergholt). Thus, in East Mersea, both *boil (v)* and *voice* contain the present day standard [ɔɪ] form.

7.3

Modern Variation Studies

This section will examine the behaviour of (ɔɪ) with respect to both British English dialect studies and surveys as well as its behaviour in more isolated, insular varieties.

7.3.1

British English

Despite its intriguing historical development, there has been no systematic sociolinguistic study of (ɔɪ) within the British Isles. However, researchers have mentioned it in passing when conducting broader dialect surveys.

For example, in Newcastle, Derby, Sheffield, Milton Keynes, Reading and Hull (see Foulkes and Docherty (1999) for information on the individual studies), the CHOICE vowel is noted simply as the standard [ɔɪ] variant. The wide geographical range of these locations indicates the regional variation, with respect to this variable is minimal. However, Trudgill (1999:130) notes that, in Norwich, the lexical item *boil* has a noticeable PRICE vowel, though he remarks that this feature is very recessive. Other variants of (ɔɪ) in Norwich which Trudgill notes, range from [ʊi], the most local form, to the standard [ɔɪ].

Additional variation observed by Tollfree (1999:168) in South East London is that, in this area, the CHOICE nucleus ranges between a rounded [oɪ] and a more open [ɔɪ], while younger speakers may use a very advanced or centralised nucleus, producing a diphthong of an [öɪ] quality.

7.3.2

International Insular Variation

This section will specifically focus upon modern studies of insular communities. These studies will highlight the behaviour of (ɔɪ) in communities with unique socio-demographic histories to see if any parallels may be drawn between them and the behaviour of (ɔɪ) in British English dialects.

7.3.2.1

The Falkland Islands[32]

Sudbury (2000) and Sudbury and Britain (2000), while including (ɔɪ) in the overall description of Falkland Island English (FIE), do not discuss the variable in detail. However, the diphthongal quality [ɔɪ] reflects that of Standard British English and Sudbury notes that this realisation "is consistent with all the historical sources and other southern hemisphere varieties" (Sudbury 2000:180).

7.3.2.2

St Helena[33]

The quality of /ɔɪ/ in St Helenian English (StHE) was found by Schreier (2008; 2010a) to have a close back and slightly raised [o̝]-type nucleus (another indication, Schreier claims, that StHE has taken part in some aspects of the Diphthong Shift) as well as a more centralised [ɪ̈] offglide. In addition to this, Schreier (2008; 2010a) observes how one speaker exhibited an /aɪ/ diphthong for certain /ɔɪ/ items, such as *boil*. This use of what Schreier calls 'an archaic dialect feature' could be a remnant of the British inputs brought to the island by the early settlers, possibly those who came from the southeast of England

[32] See Chapters 3 and 5 for an overview of the Falkland's historical development.
[33] See Chapters 3 and 5 for an overview of St Helena's historical development.

in the early part of the eighteenth century. However, Schreier suggests that we should "probably not interpret too much here since this realisation is rare and unusual in StHE" (2008:171).

7.3.2.3

Tristan da Cunha[34]

The /ɔɪ/ diphthong in Tristan da Cunhan English (TdCE) has a close back nucleus of an [o]-type quality. However, unlike StHE, there is no raising of the nucleus towards [o̝]. Therefore, Schreier suggests that this diphthong has not taken part in the Diphthong Shift, which he claims has affected the realisation of /aɪ/., see section 5.5.5 above.

The use of the /aɪ/ diphthong for /ɔɪ/ also features in TdCE, and Schreier (2010b) observes that it is also reflected in some local place names. This suggests that this dialect feature was transported to the island during its early colonisation and that the denseness of the social structure has helped in its preservation.

7.4

Summary

The Standard English diphthong has been shown to have a range of historical sources. Looking at historical data, it has been found that, in some parts of Essex, lexical items which have derived /ɔɪ/ via Middle English /ui/ have adopted an [a]-type nucleus to the diphthong, such as [spail] *spoil*. Even though this split has been attested in Essex and other areas of East Anglia, it seems that this feature has receded in favour of diphthongs with a more standard-like quality /ɔɪ/. However, present day variation of this diphthong

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[34] See Chapters 3 and 5 for an overview of Tristan da Cunha's historical development.

does not reflect a use of [a] nuclei. Instead, the variation studies presented here demonstrate that the realisation of this diphthong may include a degree of nucleus centralisation ([ɔ̹ɪ] ~ [ɔ̈ɪ]) and raising ([oɪ]).

The dialect evidence from British-colonised insular communities mentioned above demonstrates that lingering mergers of some /ɔɪ/ items with the /aɪ/ diphthong is still possible, but only in the most conservative speech on St Helena and Tristan da Cunha. In contrast, FIE represents a British standard-like /ɔɪ/ diphthong, suggesting that any merged forms transported to the island by early settlers have been lost.

Chapter 8

(ɔɪ) - An Analysis of Social and Linguistic Factors

8. THE ANALYSIS OF (ɔɪ) [35]

The following sections will present the results generated for the variable (ɔɪ) in Mersea Island English. Initially, the social dimensions of age and gender will be explored before attention is turned to an examination of linguistic factors.

8.1

(ɔɪ) – The Variants

286 tokens of (ɔɪ) were extracted from the data and were coded according to the methodology outlined in Chapter 2 above. The four variants identified throughout the data differ with respect to the degree of backness and lip-rounding:

ɵɪ ~ ɔ̹ɪ ~ ɔɪ ~ ɔ[36]

8.2

Social Factors

This section will outline the results pertaining to (ɔɪ) with respect to the social factors of age and gender.

8.2.1

Age

The data in 8.1 show the distribution of (ɔɪ) variants according to the age of the speaker. It can be seen that the standard variant [ɔɪ] is the majority variant for all three age groups.

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[35] Examples of (ɔɪ) tokens according to phonological environment can be found in Appendix D (3a) and (3b)

[36] Note: even though this variant has been included in the subsequent analysis, it only surfaced 5 times. In each, it was before a tautosyllabic /l/ in the items 'oil', 'coil' and 'coils'.

However, it can also be seen that it is only the Museum and Older speakers who use the most traditional rounded and centralised variant ([ɵɪ]).

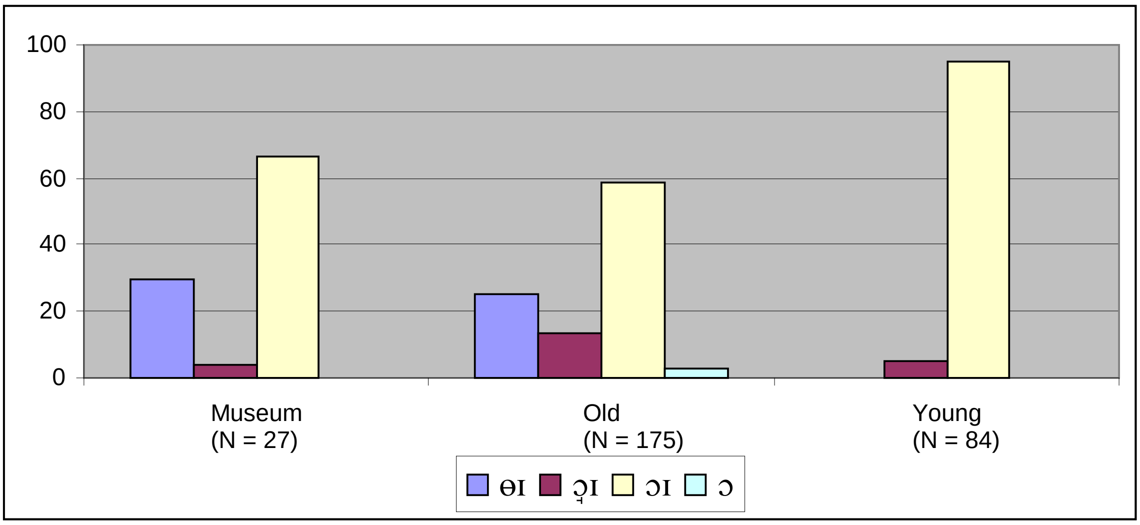
8.1a

Percentage of (ɔɪ) variants according to age

	ɵɪ	ɔ̝ɪ	ɔɪ	ɔ
Young	0.00	4.76	95.24	0.00
Old	25.14	13.14	58.86	2.86
Museum	29.63	3.70	66.67	0.00

8.1b

Percentage of (ɔɪ) variants according to age



While the older speakers retain almost the same level of [ɵɪ] compared to the Museum speakers, they exhibit higher levels of the seemingly intermediate [ɔ̝ɪ] variant. This is another possible indication of the transitional nature of this speaker group.

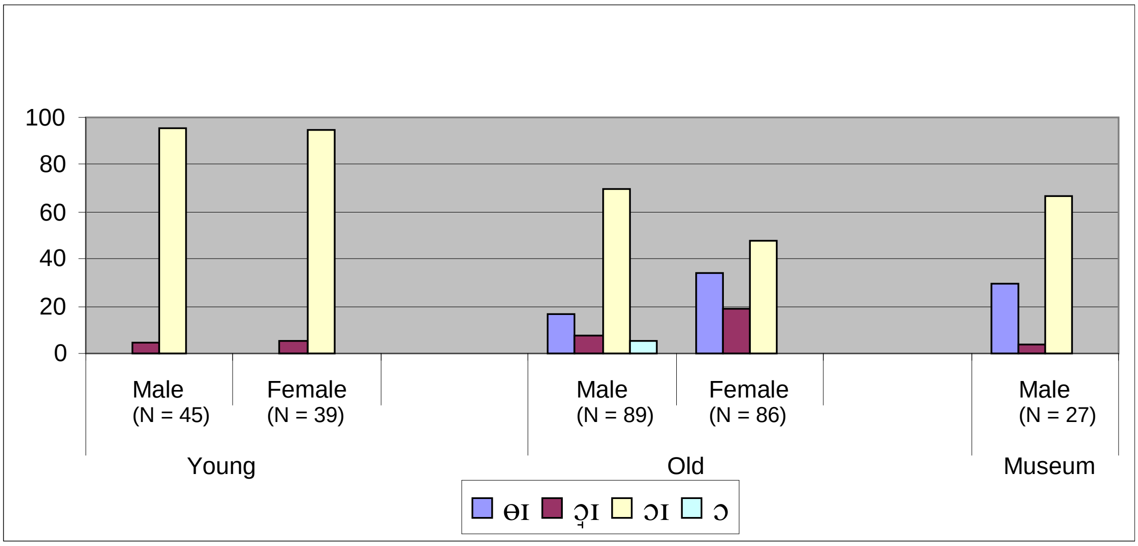
8.2.2

Age and Gender

When the data are broken down by both age and gender, it is the behaviour of the Older females that stands out, since it is this group which uses the highest percentage of [əɪ] and [ɔ̜ɪ] (33.7% and 18.6%, respectively) compared to any other group.

8.2

Percentage of (ɔɪ) variants according to age and gender



Thus, it seems to be the Older females who are utilizing the [əɪ] form more than their male counterparts. Indeed, this is a higher percentage than even the Museum speakers (who were all male).

8.3

Linguistic Factors

This section will discuss and present the details of (ɔɪ) variation according to the linguistic factors of syllable type, phonological environment and lexical item.

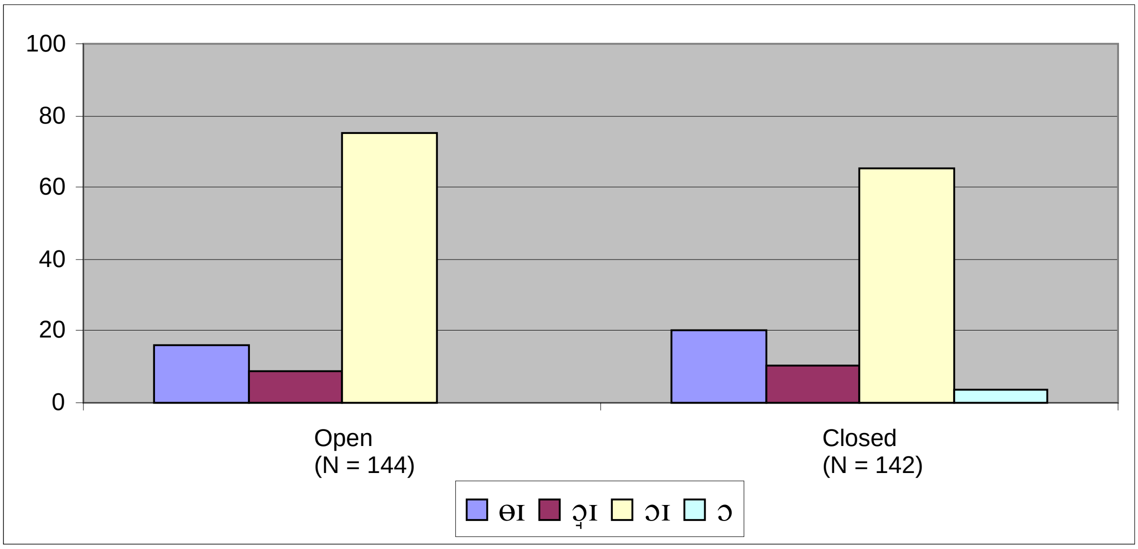
8.3.1

Syllable Type

When we look at the overall data, we can see that neither syllable type appears to influence the choice of variant, except in the case of [ɔ] which only occurs in closed syllables. However, as already noted above, these tokens were all in the context of coda /l/.

8.3

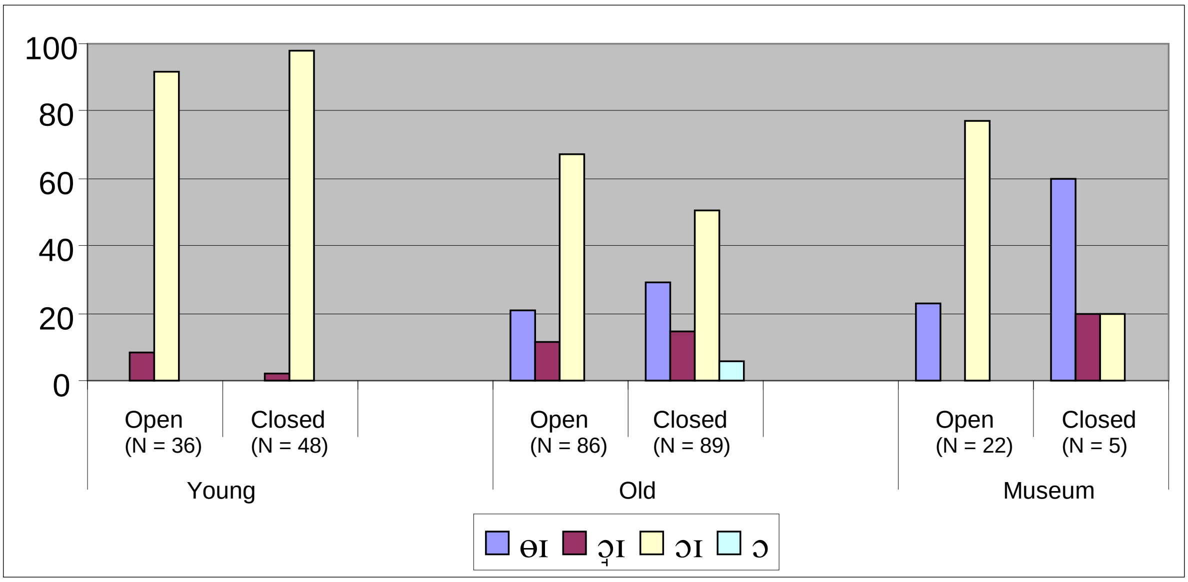
Overall usage of (ɔɪ) variants according to syllable type



Once the data are broken down to show the individual age groups, we can see that the older groups show a distinct preference for [ɵɪ] in closed syllables compared to open syllables (8.4).

8.4

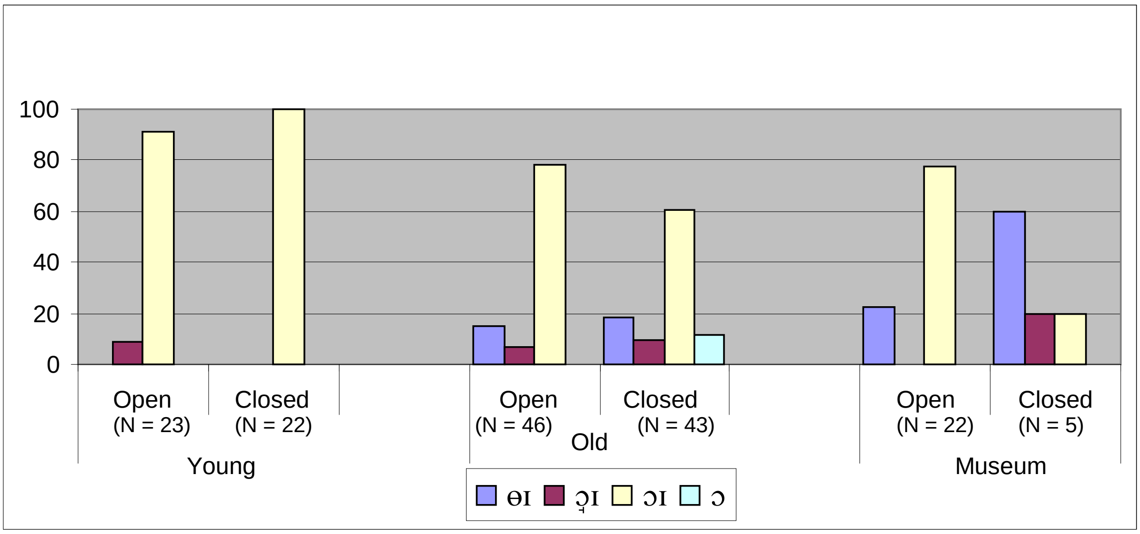
Percentage of (ɔɪ) variants according to age and syllable type



This observation is also apparent among the individual age and gender groups. The male Museum speakers (8.5a) demonstrate a preference for [ɵɪ] in closed syllables and this preference is also reflected in the data for the Older females (8.5b). With respect to the Museum data, even though there were only 5 tokens of (ɔɪ) in closed syllables, it is interesting to note that the 3 [ɵɪ] tokens represented the lexical item 'boys' (while the remaining two were 'join'). This observation and the seemingly special status of BOY will be discussed in more detail throughout the remainder of this analysis.

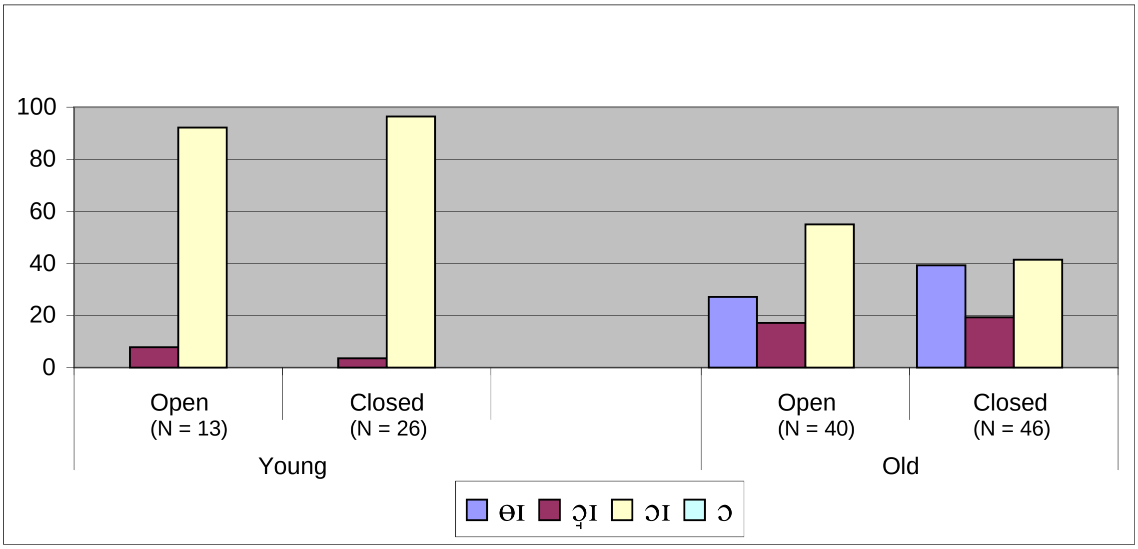
8.5a

Percentage of (ɔɪ) variants used by Mersea males according to age and syllable type



8.5b

Percentage of (ɔɪ) variants used by Mersea females according to age and syllable type



8.3.2

Phonological Environments

When investigating preceding and following phonological environments, the correlation between variant patterns and the lexical item ‘boy’ (together with its derivative ‘boys’) which was previously alluded to with respect to syllable type, is reoccurring. For example, due to the BOY effect, which sees a higher correlation of [ɵɪ] following the labial stop in the items ‘boy’ and ‘boys’, (ɔɪ) in word final position and before fricatives show a higher percentage of [ɵɪ]. Therefore, due to the biased nature of the following phonological environment data, together with the distributional restrictions outlined in section 2.3.1.2.3 above, only preceding phonological environments will be discussed here to illustrate and establish the BOY effect. (For a break down of following phonological environments plus graphs, see Appendix C.16-C.27).

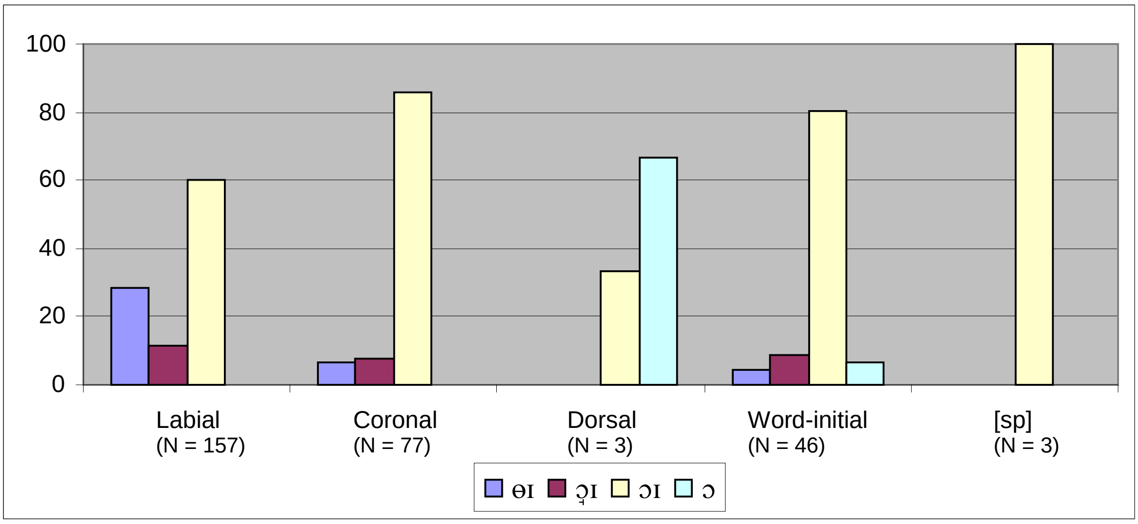
8.3.2.1

Preceding Place of Articulation

The preceding place of articulation demonstrates that it is a preceding labial place which promotes the rounded [ɵɪ] variant considerably more than any other category. This can be seen in the overall data provided in 8.6 below. However, it is also interesting that the 3 tokens of preceding [sp] (all produced by older females) do not provoke an [ɵɪ] variant, despite the labial quality of the adjacent [p]. This is perhaps an indication of the /s/-cluster’s status as a complex segment, as opposed to two separate segments where the second element has a full LABIAL specification.

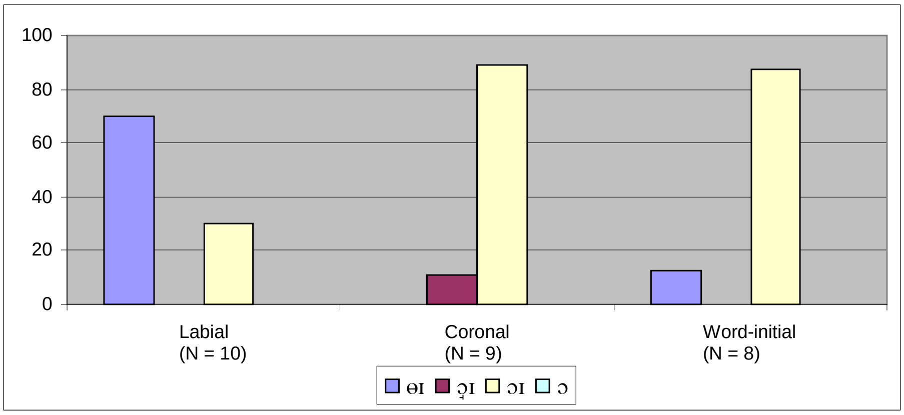
8.6

The overall percentages for (ɔɪ) variants by Mersea Island speakers according to preceding place of articulation

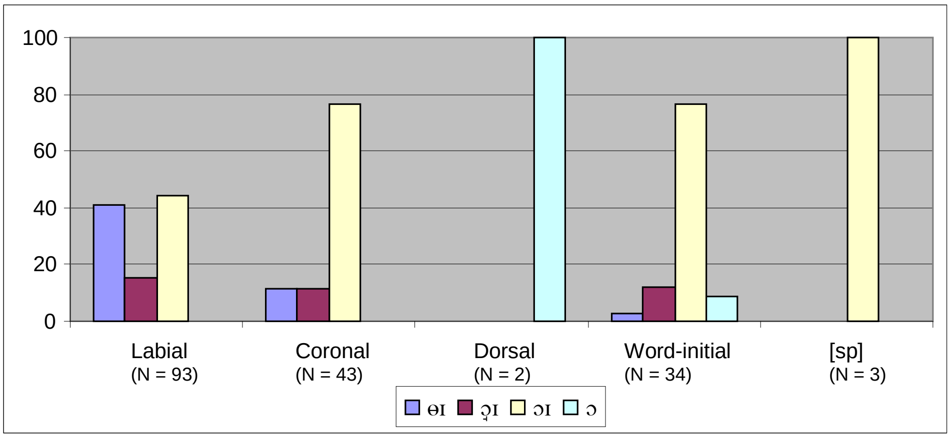


The correlation between preceding labials and [ɵɪ] is also apparent throughout each individual age group, and it is the only environment in which young speakers were found to deviate from the standard [ɔɪ] variant as a comparison of the graphs in 8.7, 8.8 and 8.9 will illustrate. However, it is not surprising, perhaps, that a preceding labial articulation would promote a more rounded vowel articulation due to a coarticulatory effect which spreads the LABIAL feature. However, the data for preceding manner also highlight a particular correlation which cannot be explained so easily.

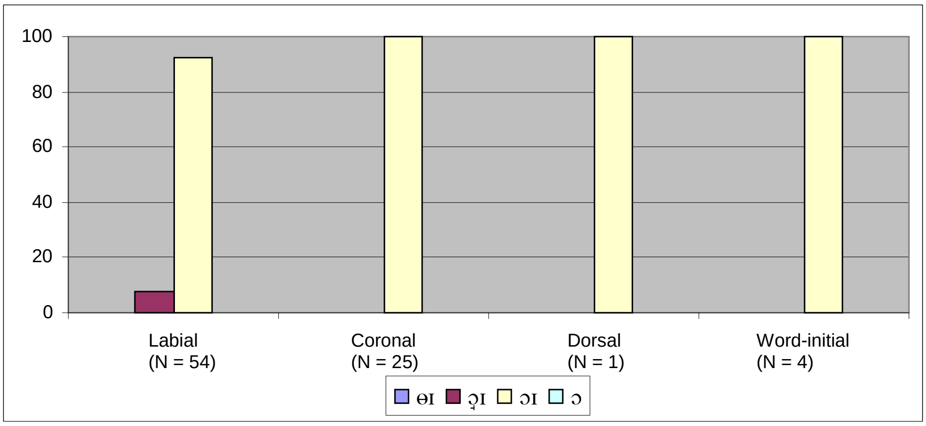
8.7 Percentage of (ɔɪ) variants by Museum speakers according to preceding place of articulation



8.8 Percentage of (ɔɪ) variants by Older speakers according to preceding place of articulation



8.9 Percentage of (ɔɪ) variants by Younger speakers according to preceding place of articulation

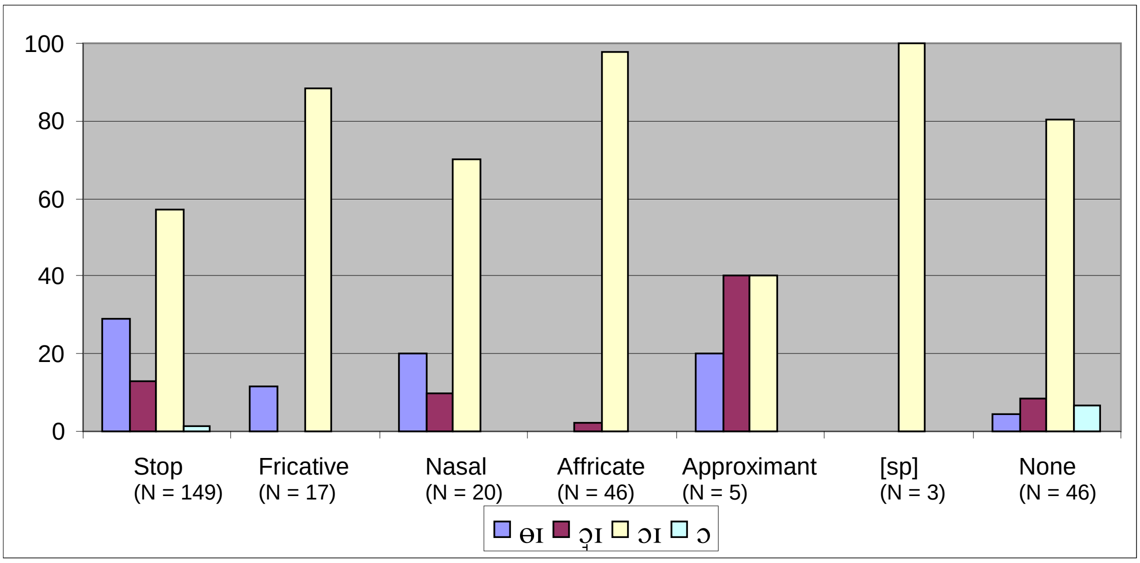


8.3.2.2

Preceding Manner of Articulation

With respect to preceding manner of articulation, it is preceding stops which consistently promote [ɵɪ] and, once again, this is the only environment in which the younger speakers seem to deviate from the standard. Figure 8.10 presents the graphic representation of the overall figures for Mersea Island English (see Appendix C.10 for the complete data set and Appendix C.28, C29 and C.30 for the individual age statistics).

8.10
Overall percentages of (ɔɪ) variants by Mersea Island speakers according to preceding manner of articulation



The data, together with data from preceding place of articulation, suggest that it is preceding labial stops in particular which promote [ɵɪ]. However, when we look at the nature of the preceding stop data, it is found that, out of a total of 149 preceding stop tokens, only 9 of these were not a preceding labial (6 were preceding /t/ and 3 were preceding /k/), thus demonstrating once again the effect of a preceding labial on the data.

8.3.3

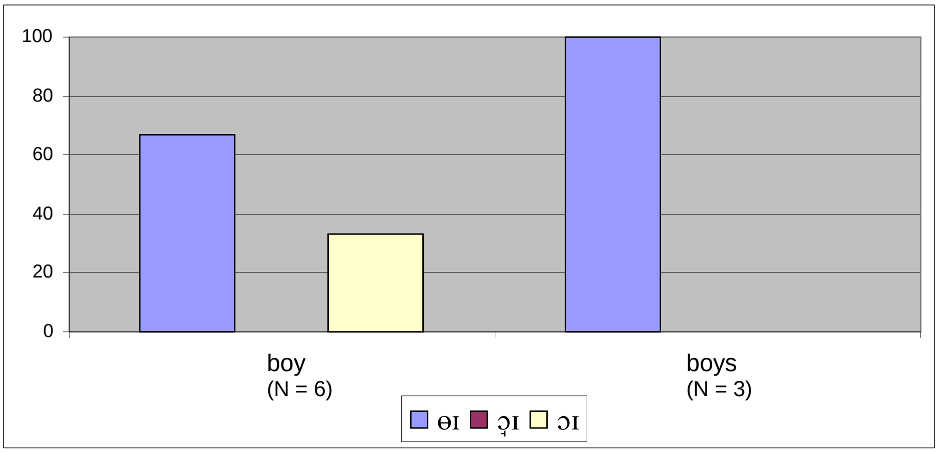
The BOY Effect

Even though the analysis so far has shown preceding labials[37], in particular labial stops, to be a favourable environment for the preservation of [ɵɪ], the analysis cannot stop there.

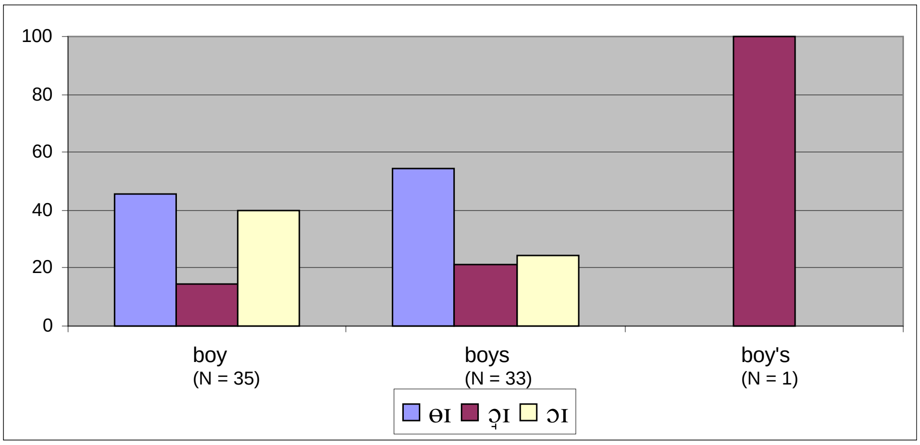
Consider the graphs in 8.11 to 8.13 below which illustrate the variant usage for the lexical item ‘boy’ and any derivatives applicable to the individual age data sets. These graphs illustrate that [ɵɪ] is the preferred realisation for both the Older and Museum groups. In addition, it is the graph in 8.13 which shows that the only non-standard (ɔɪ) tokens produced by Younger speakers (given as 4.8% in 8.1a) occur in BOY tokens (3 ‘boy’ and 1 in ‘boys’). These data suggest that the non-standard variants surface across derived forms of the BOY morpheme and not only the base form ‘boy’.

[37] The data set for preceding labials consists of 157 tokens of which 139 were preceding stops and 94 were BOY tokens.

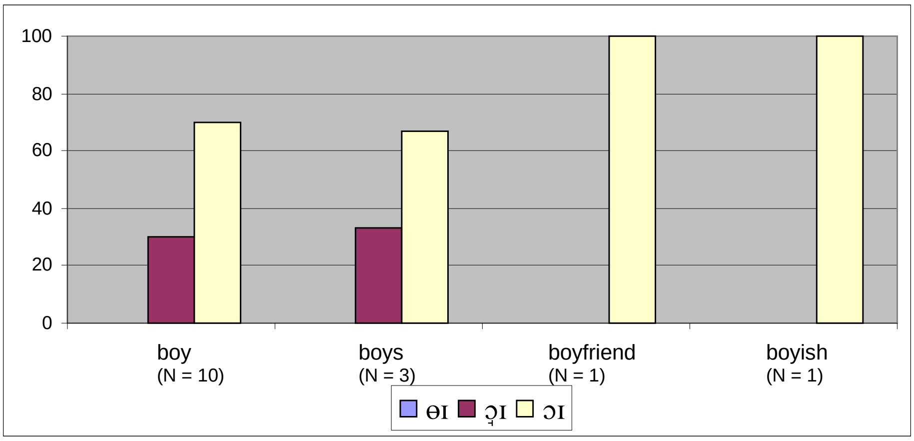
8.11 Percentage of (ɔɪ) variants across lexically derived BOY tokens by Museum speakers



8.12 Percentage of (ɔɪ) variants across lexically derived BOY tokens by Older speakers

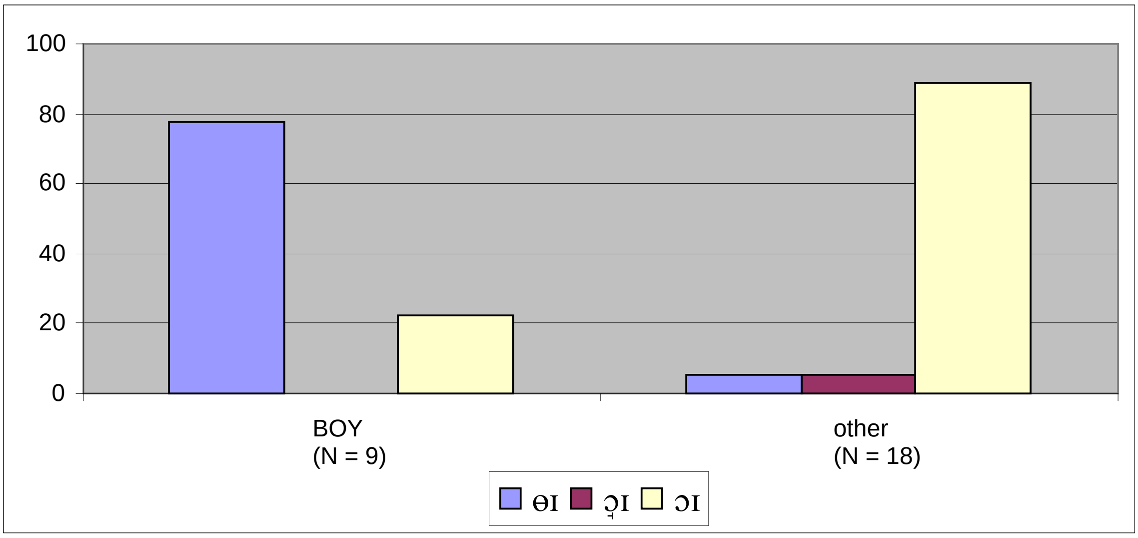


8.13 Percentage of (ɔɪ) variants across lexically derived BOY tokens by Younger speakers

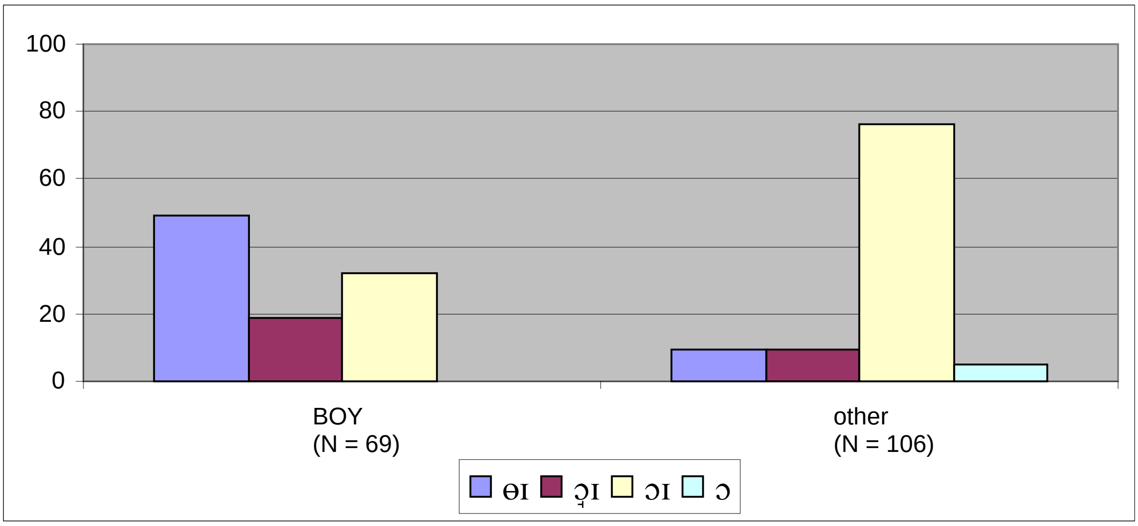


Therefore, the comparable status of BOY to all other (ɔɪ) tokens can be seen in the following. However, since the Younger speakers only have 4 non-standard tokens, they have been omitted from the following.

8.14 A comparison of (ɔɪ) variants between BOY tokens and all other tokens by Museum speakers



8.15 A comparison of (ɔɪ) variants between BOY tokens and all other tokens by Older speakers



The asymmetry between BOY tokens and Other tokens is clear for both age groups. This suggests that a type of lexical effect has attached to BOY and has thus enabled it to preserve the traditional dialect feature to a greater extent than other words. Another factor which may have caused the preservation of [ɵɪ] in these words is that *boy* is often used in the performance phrase 'my boy' [mɔɪ bɵɪ] when Mersea Islanders are discussing the speech of their elders or peers. For example, "oh, it's always [mɔɪ bɵɪ] this or [mɔɪ bɵɪz] that" (from an Older Mersea speaker). Wolfram and Schilling-Estes (2006, for example) note that a *dialect performance* is where speakers enhance the vernacular for demonstration purposes and that *performance phrases* are specific rote phrases, which highlight a number of dialect features. These practiced phrases act as preservers of certain salient dialect features for native speakers and, thus, will help to preserve certain forms within these specific contexts. However, even though the amount of data is restricted with respect to token numbers, this effect seems to be receding as the Younger group does not appear to have the [ɵɪ] variant to the same degree as the previous generation, even in the context of BOY tokens.

8.4

Summary

The analysis of the (ɔɪ) variable has shown that the standard diphthong [ɔɪ] is the favoured variant across each age and gender group. However, once again the transitional nature of the Older generation can be seen. This group not only has a relatively high level of traditional [ɵɪ], but also the highest level of the intermediate [ɔ̹ɪ] variant and it is the females in this group who are retaining the traditional forms more than the males.

Linguistic factors appear, at first, to play a role with respect to preceding place and manner of articulation. However, even though the analysis initially shows that preceding labials and stops act as the main preservers of the traditional [ɵɪ] form, a closer look suggests that it is in fact the preceding labial stop associated with the lexical item BOY which is the source of most [ɵɪ] forms within the data.

Chapter 9

Mersea Island English - Sociolinguistic Considerations

9. MIE - Sociolinguistic Considerations

This chapter will discuss the data presented in Chapters 4, 6 and 8 in more detail. The variant patterns discovered in the MIE data will be considered alongside sociolinguistic issues relating to linguistic change (such as change through contact), the creation of iconic markers within a dialect, as well as language change being the product of more 'natural' linguistic tendencies and motivations. We will see how the use of certain variants in dialect performance can act as preservers of traditional forms and may also indicate whether certain phonological rules are encoded in the dialect grammar. In addition, we will discuss how socio-demographic change can lead to the widening of social networks and social practices and how this may be linked to the creation of supra-local variants.

9.1

The Direction of Change

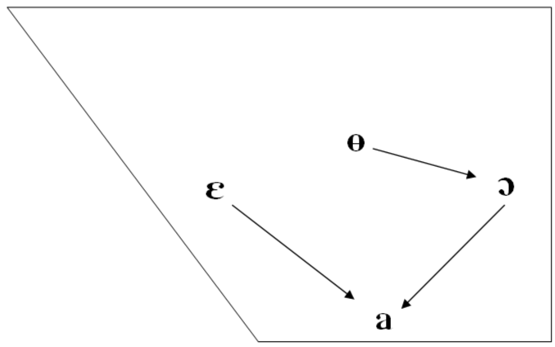
The data analysis of MIE has shown that, while the Museum speakers predominantly use the older and more traditional forms of all three variables, the Younger speakers use more of the innovative forms. However, even though there is variation in these age groups, neither exhibits quite the extent of variation as the Older speaker group.

Though variation in a language or dialect can indicate a state of stable variation (that is, variation which occurs between variants with none evolving to become the primary variant over time), when it is indicative of change, age is the primary social factor with which the variation correlates. Therefore, when looking at variation in sociolinguistic data in either real or apparent time, change is indicated when a variant, which is least common in the oldest age group, becomes more frequent as the age of the speakers decreases. However, in order to ensure against age-grading patterns being interpreted as change, apparent time data, which is supplemented by real time data, is more reliable.

The Mersea data incorporates both of these perspectives - apparent time data sets were collected from the interviews of the Older and Younger groups while real time data sets were added through the museum recordings and data from historical sources (such as Ellis (1889) and the Survey of English Dialects).

The data from MIE also highlights the main path of change, with respect to the onsets of the three diphthongs under investigation, from the oldest generation of informants (the Museum speakers) to the youngest generation of informants (the Younger Speakers). This can also be represented as follows:

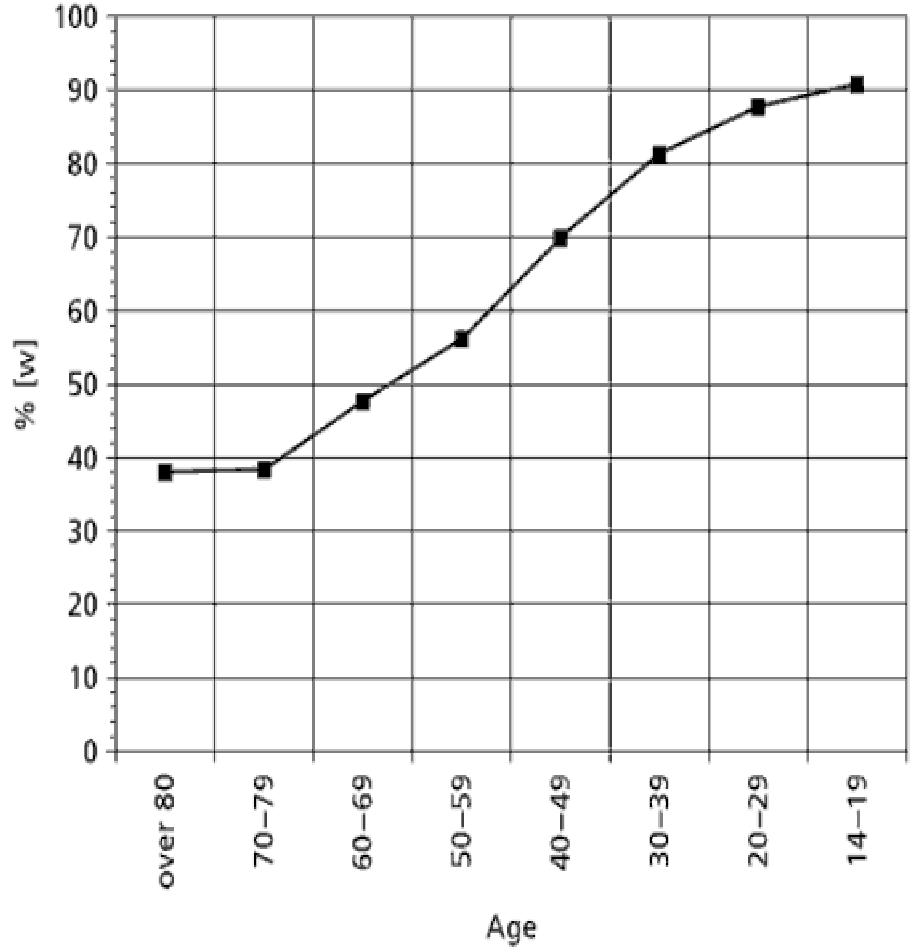
9.1 The direction of change for the nuclei of Mersea Island /aʊ/, /aɪ/ and /ɔɪ/ diphthongs



From this we can see the movement of the diphthong nuclei. Even though we might claim (especially with regard to the behaviour of the back nuclei system) that there is a type of chain shift involved, further analysis on the diphthong system as a whole would need to be conducted to ascertain the exact nature of the shift. However, by looking at the Mersea data, it seems that the Museum speakers were furthest advanced in the change relating to the /ɔɪ/ diphthong in comparison to the /aʊ/ and /aɪ/ diphthongs (see Chapter 8) and therefore, it might be proposed that it was the shift of the [ɵɪ] nucleus to [ɔɪ] which prompted the lowering of /aɪ/ (from [ɔɪ] to [aɪ]) as a merger avoidance strategy. Regardless of what movement prompted these changes, the direction of change is not what we would expect if the Mersea dialect was undergoing the Diphthong Shift (Wells 1982a) or the Southern Shift (Labov 1994). Both these chain shifts predict that, for example, the nucleus of /aɪ/ would back towards [ɔɪ] while the nucleus of /ɔɪ/ would raise towards [oɪ]. However, the MIE data show no evidence of either process. Instead, the reverse is true. A comparison of the oldest (Museum) speakers, as well as the data from historical dialect surveys, with data from present day Islanders, suggests that the nucleus of /ɔɪ/ has backed to become less centralised, while the nucleus of /aɪ/ has lowered from the [ɔ] region. These contrasting developments can also be seen in the data from the variable (aʊ). Whereas, for example, the Diphthong Shift would represent a fronting and raising of the /aʊ/ nucleus towards [æ] or [ɛʊ], the data comparison for Mersea demonstrates that, in this dialect, the direction of change has been from [ɛʊ] to [aʊ].

With respect to the nature of this change, as previously mentioned, the data from all three diphthongs showed a wider range of variation in the Older speakers' group when compared to the other two groups. This is not unexpected in a speech community which is experiencing change in progress. During the change period, the initial stages are relatively slow, with the innovative variants used infrequently (this could be said to reflect the Museum speech). However, as the momentum of the change increases, it leads to a robust period of variation where the change rapidly spreads through the speech community before a cooling-off period, where the rate of progress slows once more, as the change nears completion. It could be said that these two stages are reflected in the nature of the Older and Younger speakers' data, respectively. This type of momentum change leads to a graphic pattern known as an S-Curve and can be demonstrated by the following data from Chambers (2002:360)

9.2 An S-Curve: pattern of change for the variable (wh) in Central Canada



This graph illustrates the pattern of change for the variable (wh) in Central Canada. We can see how the change from [hw] to [w] (in words such as *which*) begins very slowly in the oldest age groups before undergoing a rapid rise in the use of the innovative variant [w]. The tailing-off period begins in the two youngest age groups when the change is nearly complete. Chambers (2002) explains that the S-Curve has been observed in a range of linguistic diffusions and, with respect to (wh), even though the projection of a total loss of [hw] by continuing the trajectory of the curve is scientifically logical, with respect to linguistic behaviour, "linguistic variants that are well-entrenched in the language, as this one clearly is, tend to linger" (2002:326). Therefore, a diffused change may never reach its full conclusion. This may be because the diffusion is halted before it can affect all linguistic environments or that, even though the older feature has lost its social standing within a dialect community, it is still preserved as a feature of that community through iconic phrases and relic forms (including, for example, street and place names). Indeed, the preservation of forms in certain phrases and contexts can prevent a change from reaching full completion and, as a result, the forms can acquire particular types of social symbolism, both within and outside a community.

This point will now be discussed in relation to the patterns of Canadian Raising, BOY rounding and 'Island' monophthongisation found in the Mersea Island data.

9.2

Performance and Enregisterment

Schilling-Estes (1998) defines performance speech as "that register associated with speakers attempting to display for others a certain language or language variety, whether their own or that of another speech community" (1998:53). In contrast to the type of natural speech modern sociolinguistics strives to capture, it is the type of speech which is above the level of consciousness for a speaker who, in a sense, chooses to manipulate their speech in order to perform or emulate certain linguistic characteristics. This was discovered in both the speech communities of Smith Island and Ocracoke (off the North Carolina coast, USA) with respect to the variables (aɪ) and (aʊ). Schilling-Estes and Wolfram (1999:503) note that Smith Islanders manipulate and openly discuss the nucleic quality of /aʊ/ diphthong but not the quality of the /aɪ/ nucleus, suggesting a greater awareness of /aʊ/ variation at both speaker and community levels. Conversely, Ocracoke speakers ‘performed’ variation of /aɪ/ but paid little attention to the variable qualities of /aʊ/. Indeed, Schilling-Estes’ (1998) analysis of a male Ocracoke Islander, Rex, shows that during the recitation of a particular rote phrase (which includes the popular Island phrase ‘*It’s a high tide on the sound side*’), he consistently manipulated and raised the nucleus of the /aɪ/ diphthong towards the older, more traditional form but did not perform that same action for the /aʊ/ diphthong, which was also contained within the domain of the ‘performance phrase’ in the lexical item ‘sound’. Schilling-Estes (1998:63) goes on to note that the ‘artistic performance’ accompanying Rex’s linguistic performance encodes the persona of a “jovial old fisherman”. This suggests that there is a level of social meaning attached to and implied by the performed linguistic structures and that these social connotations are available for interpretation by those who are perceiving the speech event as a whole.

This link between certain linguistic structures and encoded social values has been present and discussed with respect to the notion of ‘dialect enregisterment’ (see for example, Agha (2003), Beal (2009) and Johnstone et al (2006)). Agha defines enregisterment as the processes through which ‘a linguistic repertoire becomes differentiable within a language as a socially recognized register of forms” (2003:231). Therefore, by using a specific linguistic feature, or set of features, a person can establish a link between those features and, for example, a certain geographic location and/ or social group belonging to the location. However, this kind of correlation can only be established if the speaker or perceiver is aware (on some level) of the linguistic difference in the first place (that is, members of a speech community cannot attribute distinct social correlations of linguistic forms within their community if it is thought that everyone in it speaks the same way). Therefore, variable linguistic features must be perceptually distinct or salient in order for them to be initially recognised as ‘different’. Once linguistic features of a speaker or a community have been tied to social aspects, such as locality or stylistic variation between variants which are considered ‘local’ and ‘non-local’ (the latter most likely belonging to a standard variety), they become available for dialect performances and overt discussion, both within and outside the community.

The behaviour of /aɪ/ and /aʊ/ diphthongs in Ocracoke and Smith Island, mentioned above, can illustrate how features may become enregistered within a community in different ways. For example, since variation of the /aɪ/ diphthong is openly discussed as a feature of Ocracoke English by native Islanders but not variation relating to /aʊ/, this suggests that it is the former which is enregistered for these speakers and not the latter. As a result, /aɪ/ raising and backing is available for manipulation in performance phrases. Conversely, the opposite can be said for Smith Island English, where /aʊ/ raising could be said to be enregistered (and thus open for social comment between Islanders) and not /aɪ/.

With respect to how the performance of enregistered features can reflect linguistic structure, Schilling-Estes (1998:62) notes that the performance speech of her subject, Rex, emulates the linguistic patterning of the variable (aɪ) with respect to linguistic context (that is, a raised /aɪ/ nucleus is more prolific in certain phonological environments compared to others, see section 5.5.2 for more details). This indicates that aspects of phonological conditioning of this variable must also be enregistered for this speaker.

This is also reflected in Chambers’ (1989) observations with respect to /aɪ/ and /aʊ/ in Canadian Raising dialects. Citing and discussing Vance’s 1987 observation that Americans, while prone to making overt comments regarding words with raised and backed nuclei pronunciations of /aʊ/, ignore words which are prone to /aɪ/ raising, Chambers states that “/aw/-raising and /ay/-raising exist independently of one another in the phonologies of regional accents” (1989:77). Therefore, if we accept that the raising rules for these diphthongs are independent in our phonologies, this can help explain why one may become enregistered and disassociated from the other.

However, these scenarios differ from the apparent situation of Mersea Island English with respect to /aɪ/ and /aʊ/ variation. This will now be discussed below along with the variation discovered in relation to the BOY and ‘Island’ lexical items.

9.2.1

Performance, Enregisterment and Mersea Island English

The data analysis presented in Chapters 4 and 6 demonstrates a correlation associated with the phonological process of Canadian Raising. However, when both Islanders and outsiders comment on their speech and use rote phrases[38], they use raised /aɪ/ and /aʊ/ nuclei consistently across phonological contexts and do not accommodate the Canadian Raising rule during any performance or dialect comment. Therefore, it could be suggested that it is only the raised nuclei of these diphthongs which are enregistered or associated with this dialect and not any type of contextual phonological raising rule.

This could be further evidence to suggest that the phonological context correlations found in the data are the result of natural trajectories and tendencies in the linguistic changes from /ɔɪ/ to /aɪ/ and /ɛʊ/ to /aʊ/, since the phonological rules have not become stabilised or enregistered as part of the dialect. Britain (1991) discovered a strong Canadian

[38] Note, this is based on both data from the interviews which make up the whole Mersea Corpus as well as the researcher’s personal experience.

Raising pattern when analysing his data of Fenland speakers (although, this pattern was only found for the variable (aɪ) and not (aʊ)). Britain explains his data through increased contact between dialect varieties: [ɑɪ] variants from the Western dialects, [əɪ] from the Eastern dialects and whatever the native Fenland form was at the time. When these varieties began to mix, due to increased contact opportunities, the Central Fenland variety became more focussed as Western [ɑɪ] forms were reallocated to the context of pre-voiced consonants while the Eastern [əɪ] forms were reallocated to pre-voiceless consonants.

The motivation for this pattern of variant allocation can be found through the notion of phonological naturalness. Laver (1994:445-447) presents a number of cross-linguistic studies which demonstrate varying vowel durations in the context of following consonants (that is, following consonants which are part of the same syllable rime) and notes that, with respect to English, vowel durations before voiceless consonants are shorter than those before voiced consonants. Working on this observation, Trudgill (1986:155) proposes that, since a general tendency of most English varieties is the production of longer vowels in pre-voiced consonant position, more open diphthongs would then also be favoured in this environment (due to the greater amount of time available for their articulation).

The MIE patterns for both (aɪ) and (aʊ) can therefore be attributed to natural trajectory of change and variation according to phonological environment. If we accept that the traditional MIE forms were /ɔɪ/ and /ɛʊ/ in all phonological positions, as contact increased between Islanders and Mainlanders (through increased off-Island transportation and a significant increase in residential Island housing, leading to large amounts of in-migration), greater exposure to the more mainstream, innovative [aɪ] and [aʊ] variants would have occurred. The subsequent change towards these wider diphthongs therefore followed the more natural allocation path with the wider diphthongs becoming more prominent in pre-voiced consonant positions and the narrower diphthongs more prominent in pre-voiceless consonant environments. The Canadian Raising type pattern uncovered in the data can therefore be viewed as the residue of changes from [ɛʊ] to [aʊ] and [ɔɪ] to [aɪ], and is thus a linguistic constraint on change rather than a phonological rule as it exists in Canada and the Fens.

The intertwining nature of phonological change and phonological structure was observed by Weinreich et al (1968) who state that "linguists are naturally suspicious of any account of change which fails to show the influence of the structural environment upon the feature in question" (1968:172). Thus, part of the *embedding problem* outlined by Weinreich et al suggests that a feature is 'embedded' in a linguistics matrix. Consequently, as one features changes, other forms within the matrix are susceptible to change as well, even though changes affecting other features within the matrix may take a number of years to come about. However, in addition to the linguistic matrix of features which acts to unify the linguistic system, or parts of the linguistic system, Weinreich et al caution that any change is also embedded within a complex social matrix. Therefore, the interpretation of language change data "depends upon the entire sociolinguistic structure" (1968:177), not just observations with respect to the variant distributions across real and apparent time.

The linguistic conditioning on the variation and subsequent change regarding the variables (aʊ) and (aɪ) is, therefore, similar to the conditioning factors of Neo-Grammarian sound changes, where certain phonological environments may be affected before others during change (see Labov (1994) for an overview and evaluation of types of sound change). In this case, it was the more natural environments which led the change and perhaps instigated the shift in the underlying phonemic structure, or matrix. However, unlike the Fenland data discussed above, which show a strong and distinctive Canadian Raising pattern for /aɪ/ due to the degree of focussing in the Central Fenland areas, the Mersea data for both variables do not show a strongly focussed pattern. This may be attributed to the relative demographic stability enjoyed by Fenland areas after the initial contact event occurred, whereas the contact situation on Mersea has not been followed by stability of this kind. As a result, the phonological processes governing the raising patterns have not stabilised in the MIE speech community and the change is working towards completion. Therefore, it seems logical to assume that this Canadian Raising type pattern, which seems to be below the level of consciousness and social comment, will not become a defining feature of this dialect and that the change affecting these diphthongs will eventually affect all phonological environments.

However, even though there seems to be no phonological raising rule embedded in the performance of /aɪ/ and /aʊ/, according to following context, there seems to a possibility of interacting phonological and lexical conditioning applying to the items BOY and 'Island' for /ɔɪ/ and /aɪ/, respectively. These will now be discussed in turn.

With respect to the performance phrase 'My Boy', we can argue that the 'my' element is rendered [mɔɪ] due to an extended performance convention which affects any underlying /aɪ/. That is, all /aɪ/ diphthongs are raised to [ɔɪ] during performance. However, it could also be argued that a pronunciation of [mɔɪ] is only triggered in the specific environment of this phrase. Without evidence to strongly support either of these claims (due to 'my' not appearing in any other performance phrase context), the status of 'boy' in MIE must also be discussed. Schilling-Estes (1998:61) notes that the prominence of the raised /aɪ/ nucleus in pre-voiced consonant position is enhanced by its frequency in this context within performance phrases, compared to the frequency of pre-voiceless consonant positions. The same could be said for the context of /ɔɪ/ following a voiced bilabial /b/. This particular labial segment is by far the most frequent throughout the data sets and derived BOY forms were the most frequent lexical items with a preceding /b/. Thus, the data show that, for all age groups, the preceding /b/ segment promotes more non-standard, centralised variants in natural, non-performance speech and is the variant of choice in the 'my boy' performance phrase.

One possible reason for the preservation of this feature in this phonological context (already advanced in section 8.3.3) is the spread of labiality from the /b/ to the following vowel. However, we could also claim that, as a result of both this phrase's prominence and frequency of environment, these factors have helped enregister and associate the [ɵɪ] variant with traditional Mersea Island English and the context of preceding /b/ in particular. Therefore, if it is the phonological rule which has been encoded (i.e. /ɔɪ/ is fronted following /b/) we would expect to find the fronted centralised variant 'performed' after a /b/ even when it is not in the context of the 'my boy' phrase. Conversely, if the phonological rule has not been encoded, the fronted centralised variant would not be realised outside the context of the lexical item BOY. Unfortunately, the data collected which represents the Mersea corpus does not hold the answer to this, as it does not represent any speaker using elongated performances which might include the sequence /b/ + /ɔɪ/ in another lexical context. However, since the fronting and centralisation of the diphthong in BOY words is apparent in both natural speech and in the performance phrase, it might be suggested that the retention of the non-standard traditional form is not simply a by-product of its enregisterment, but rather it may be strengthened in both speech contexts by a combination of natural phonological processes and the embedding of its social representations.

In contrast to both /aɪ/ and /aʊ/ raising and /ɔɪ/ fronting, the monophthongisation of /aɪ/ in the lexical item ‘Island’ does not appear to be an enregistered feature of MIE. The word ‘Island’ does not feature in any performance phrase, and monophthongisation in this word does not feature in any comments of the dialect by the speakers who were interviewed.

The data presented in Chapter 6 demonstrate that, for the MIE speakers analysed in this study, there is never a case where a monophthongal variant of an [ɑ̹]~[ɑ] quality is produced in the context of a following non-coda /l/ (for example, in words such as ‘pilot’ and ‘skylark’). Instead, these [ɑ̹]~[ɑ] variants are only used where the following /l/ is in the syllable coda and is therefore articulated as a dark /l/ (for example, in words such as ‘mile’ and ‘while’). However, within this set of monophthongal variants is the word ‘Island’. Even though this item represents /aɪ/ followed by a clear onset /l/, the data clearly demonstrate that it patterns with that of the coda /l/ words and prompts substantially more monophthongal variants.

Thus, these data suggest some kind of lexical effect on the variant conditioning in this word. However, as mentioned above, this word does not seem to be a part of any performance phrase known to the researcher (from both academic and personal experience), and the monophthongal realisation in neither the word ‘Island’ nor in ordinary coda /l/ words is commented on by Islanders in discussions relating to their dialect features. These observations suggest that, unlike the features previously mentioned in the section, this is not considered as either a linguistic or a social marker of MIE. Indeed, the data presented in Chapter 6 show that the Younger speakers are losing the monophthong as a variant in 'Island' and are instead converging it with the pattern of the other non-coda /l/ words. It must be noted that there were only nine tokens of 'Island' in the Younger speakers' data and so this assertion is only tentative based on such limited data.

With this in mind, it may be possible to argue that either the monophthong was extended to the non-coda /l/ 'Island' from the smoothing environment of the coda /l/ (perhaps as a result of the frequency of this word in the particular society), or that there has been a change from a monophthong to a diphthong in the context of following /l/, with the clear /l/ contexts progressing through the change ahead of the monophthong preserving dark /l/ contexts. If this latter scenario was the case, the relic form [ɑlənd] could have been prevented from joining the change due to its frequency of use in the speech of Islanders. This scenario, if correct, could then be claimed to be spreading through the Younger generation speakers. Thus, even though this generation still exhibits non-standard behaviour in the form of 44% of monophthongs for 'Island' (compared to the 77% of the Older speakers) and 54% monophthongs before regular coda /l/ words (compared to 74% in the Older speakers' data), it still represents a decline in [ɑ̜]~[ɑ] variants.

However, previous linguistic research which has considered the effect of frequency on change (such as Bybee (2002; 2006)) has suggested that, as a general rule, high frequency words will change at a faster rate, compared to those of lower frequency with respect to changes linked to phonetic processes. Conversely, changes associated with grammatical or analogical change show high frequency items as inhibitors of change and thus generally act as preservers of traditional forms. Therefore, since the case of variation between a monophthong and a diphthong would be considered as a phonetic change, we would expect a frequent word (with respect to the social and geographic context of Mersea Island speech) like ‘Island’ to be at the forefront of change, not acting as the preserver of the, possibly, older form. As a result, it may be a case for arguing in favour of the independence of place names in frequency calculations.

Perhaps this apparent ‘anti-frequency’ effect could be attributed to a type of social saliency which has attached to the [ɑlənd] form in the past, with it becoming so entrenched as to enregister the feature as part of the local speech pattern. Thus, a weakening of the enregisterment would mean that current generations do not have this level of social attachment to the feature and, as a result, it is gradually being lost in MIE speech. Therefore, we could propose that, while enregistered and salient features of a dialect are subject to inter-speaker and inter-community variation, they are also subject to inter-generation variation as well.

9.3

Contact, Diffusion and Supra-localisation

It has already been noted earlier in this section how the demographic structure of the Island has changed so that Islanders now have greater opportunities to be in contact with non-Islanders. Thus, where there once existed a strong natural barrier to inter-regional communication for the Island, this barrier has been overcome and its effects have been weakened, so that contact between mainland varieties and the Island variety has been strengthened. This strengthening of contact between Islanders and non-Islanders has led to a weakening of community network structures for the Island inhabitants. Even though there is a great diversity in the network structure of Island residents (primarily depending on whether they went to the local primary school and how involved a resident chooses to be in Island life and traditional Island activities), the compulsory act of schooling young Island children on the mainland from the point of secondary school onwards (which was not the case for the Older generation speakers in the study) means that from the age of 11 years, all Island children immediately have their social networks opened up, loosened and geographically expanded.

Discussing the process of dialect levelling and supralocalisation, Britain (2010) defines the notion of a 'region' with respect to the classification of 'space'. Basing much of his discussion on Allen et al (1998), Britain notes that a region cannot solely be defined by physical geographical space or politically defined borders. Instead, they are areas which are formed by social practice. Thus, the consistent routinised movement of individuals leads, over time, to the creation of spatialised patterns, and it is the domain of these patterns which leads to the emergence of 'places' and 'regions'. The perception of geographical space as something which is less physically defined and more socially defined automatically puts emphasis on the role of social practice, particularly routine social practice (such as travel to work and school), and enables us to explore processes immediately above the level of the 'local'. Consequently, the term *supralocal* may be used to denote processes that are above the regional level of analysis – for example, changes taking place across a county relative to, say, a large town within that county (Britain 2010).

Studying the diffusion of innovative linguistic forms at this more micro-level of society can be done using observations of social network structure and strength, with respect to both individual informants and general observations of a speech community as a whole. Social Network theory, as proposed by Milroy (see Milroy (1987), for example), suggests that the closer and denser your network ties, the less likely you are to be influenced by externally derived linguistic innovations. Therefore, people living in small, tight-knit communities, whose social and professional activities are confined to a limited area and limited individuals, are less likely to be exposed to and accommodate with innovative forms in their linguistic repertoire and more likely to reinforce traditional and perhaps more marked forms. Conversely, the more open your social network, the more exposed you become to linguistic innovations and the more likely you are to accommodate to a variety of new linguistic features. As a result, those with open, loose networks are more likely to accept innovative forms into their personal linguistic repertoire.

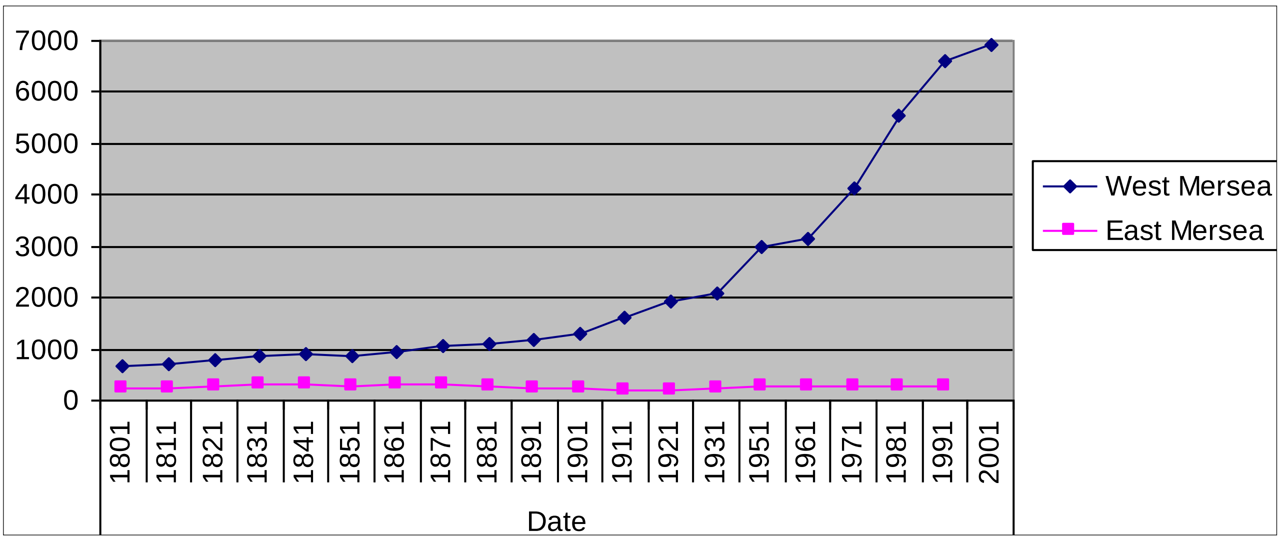
Thus, the gradual 'opening-up' of the Mersea Islanders' social networks has meant the speakers within the community have become more susceptible to the comparatively innovative forms used in mainland varieties.

Indicators of the geographical widening of network structure can be seen in a number of ways on Mersea Island. When the Older informants were growing up, education was restricted to the Island school and employment was mainly provided by local Island trade. In addition, due to the limited availability of transport on and off the Island, travel to the mainland was typically restricted to those who had family living there. Conversely, the Younger generation speakers automatically receive their secondary and tertiary education off the Island and are mainly employed in mainland jobs. The immediate effect of this is a geographical broadening of network ties and this will inevitably lead to structural weakening of personal networks. It is also a possibility for an Islander to construct and establish, as early as their teens, dual networks – an Island network and a mainland network, in which some or no members will overlap. For example, if a network group of children are schooled together on the Island and then go to different (or even the same) secondary school, the original Island ties may still be preserved by travel on the school bus, but they will also have ties with mainlanders while at school and may socialise with them outside school as well. These types of dual structures may well be preserved and created in later life, as well when Islanders enter employment off the Island. It is these types of bridges between groups which, Milroy (1992) proposes, can act as bridges for incoming innovations to be transmitted from one group to another.

Another influence on the Island's network structure is likely to be the substantial rise in population over recent years. The following graph (already shown in Chapter 1 above) is repeated below to demonstrate this.

9.3

The population of Mersea Island, based on Census data from 1801 to 2001



The sheer rise in population creates greater opportunities for interaction with those incoming residents, who are likely to represent a wide range of dialect backgrounds. However, it should be noted that increased population would not automatically signal the weakening of network ties in a community. Individuals tied to Island life may still restrict their interactions with those others who are deeply connected to the community through family history, employment and social activities. It would be these networks that would remain dense and multiplex and would continue to reinforce traditional linguistic forms.

Another point to consider with respect to the regional spread of network ties is how mobile Islanders may be in their day-to-day lives. The community itself has many shops and amenities to provide for the population (such as garage mechanics, a doctor's surgery, a dentist and a vet). Therefore, the graph below illustrates the approximate distance that a member of the Mersea workforce travels to work, compared to the same data from Colchester residents and the overall statistics from the East of England (previously presented in section 1.4 above).

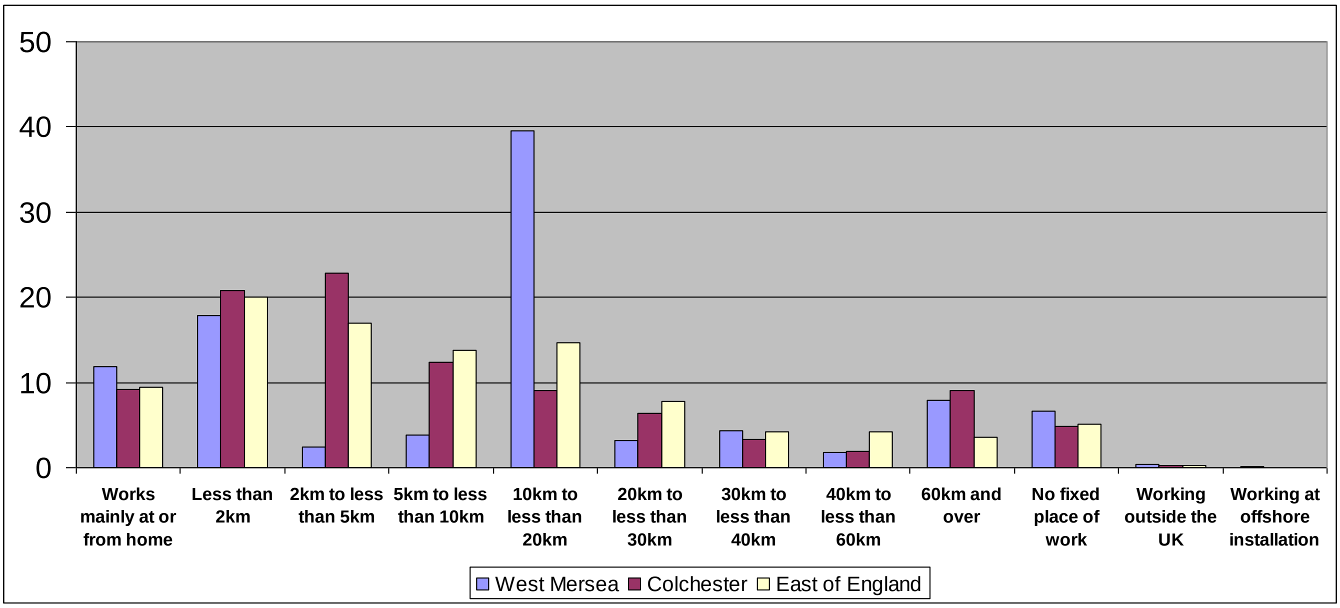
9.4

a) Percentage of the West Mersea workforce population (aged 16-74) according to distance travelled to work, from the 2001 Census

	West Mersea	Colchester	East of England
Works mainly at or from home	11.85	9.16	9.44
Less than 2km	17.85	20.75	20.06
2km to less than 5km	2.38	22.84	16.96
5km to less than 10km	3.83	12.33	13.73
10km to less than 20km	39.56	9.05	14.73
20km to less than 30km	3.22	6.38	7.80
30km to less than 40km	4.36	3.33	4.17
40km to less than 60km	1.85	1.94	4.22
60km and over	7.89	9.01	3.53
No fixed place of work	6.68	4.91	5.07
Working outside the UK	0.44	0.26	0.23
Working at offshore installation	0.10	0.05	0.06

b)

Percentage of the West Mersea workforce population (aged 16-74) according to distance travelled to work, from the 2001 Census



The data demonstrate how just over 64% of the Mersea working population travel off the Island, while the highest percentage of the Mersea workforce travel between 10 - 20km (6.2 – 12.4 miles) to work (which is likely to represent travel to Colchester and its surrounding areas). Conversely, only 29.7% of Islanders work from home or on the Island (the latter group being represented by the less than 2km (1.2 miles) category).

We could suggest, therefore, that a typical Islander is likely to centre not only their educational networks on the mainland (at least from secondary education), but also their professional networks. As a result, it seems logical to suggest that a modern Islander's typical social network will exhibit ties not only on the Island, but in the surrounding areas on the mainland, leaving the once isolated Island dialect more susceptible to influences from these surrounding regions.

Britain (2002c), with respect to movement within geographical locations, states that "Intra-regional mobility, whilst breaking down networks and routines at the very local level, reinforces *supra-local* structure" (2002c:62). Britain refers to these areas which have undergone regional levelling as 'regional koines' as they represent levelled, supra-local varieties which act as larger areas of less geographically internal linguistic diversity, since they represent an amalgam of locales, which were once a lot more linguistically diverse and distinct. This process of dialect supralocalisation is also referred to as 'regional dialect levelling' which Torgersen and Kerswill define as "the reduction of the number of variants following speaker accommodation through face-to-face interaction" (2004:26).

The face-to-face interaction between speakers of dialect regions is also central to the notion of macro-level linguistic diffusion although, in contrast to levelling which may be considered on a micro-level, the geographical area in which diffused forms spread can be much greater. Linguistic diffusion of innovative forms (see, for example, Britain (2002a) and Trudgill (1986)) involves the introduction of a novel linguistic form from another community in which that feature is the norm. The driving force behind diffusion types is necessarily contact between speakers from each community (that is, speakers with a linguistic form coming into contact with speakers without that same form, or vice versa). Indeed, Britain (forthcoming) states that diffusion models supposedly reflect the geographies of interaction and represent who speaks to whom and where. However, Britain also outlines general weaknesses of contemporary diffusion models as relating to their failure to adopt a richly socialised and interactional perspective relating to the spaces across which features diffuse.

As linguistic forms diffuse, they may supplant existing forms or create intermediate, compromised forms (see Britain (2002c) for more details). In addition, newly diffused innovations may be re-evaluated with respect to their social connotations, and this could have a direct influence upon the variation and interactional usage between local features, newly diffused features and standard variants (see, for example, Docherty et al (1997) and Milroy et al (1994) for discussions of this relating to the variable (t) in Newcastle).

Taking these points into consideration, it stands to reason, therefore, that linguistic features which are most compromised during contact situations are those which are distinct between the varieties which come into contact, since they will be perceptually more distinct. Thus, if we propose that the features which are marked, both perceptually and socially, are those which are the most at risk from levelling processes when contact situations arise, the diphthongs under investigation are prime candidates for change, since they are susceptible to social comment, evaluation and are treated as markers of the MIE dialect.

However, two possible paths of explanation are that:

1) since the new incoming variants are those associated with the standard variety, the change is influenced by this standard ideal and is therefore assimilating to it.

or

2) due to the contact situation (which has been developing and increasing between Islanders and non-Islanders over the last 50 years or so), the linguistic change is influenced not only by the incoming innovative variants, but also by the natural motivations of the underlying phonological system. Therefore, the motivations which cause a movement towards less-marked forms are perhaps triggered by the weakening of strong, linguistically reinforcing, network ties.

Indeed, the former suggestion cannot tell the entire story, as we would be hard pressed and perhaps irrational to devise a theory as to why emulating the standard form became so important to these Islanders at a time when their local identity was so under threat. However, if we suggest that supra-local forms of these diphthongs were adopted as a result of contact and the creation of a supra-local dialect region, we might then be able to theorise that the reason behind the generation and adoption of the innovative forms was a preference for a more harmonic and 'natural' diphthong system in the underlying phonology. Thus, a combination of approaches might be advanced to suggest that phonological motivations allowed the innovative [aɪ], [aʊ] and [ɔɪ] forms to be generated and awareness and exposure to the standard (through contact and off-the-Island schooling) allowed these variants to become established within the dialect.

It is this point of phonological naturalness which will be discussed at greater length in the next chapter where an integrated model of phonological derivation and sociolinguistic conditioning factors upon variation will be presented.

Chapter 10

Socio-Phonology: the construction of an integrated model

10. **Socio-Phonology: the construction of an integrated model**

This Chapter will explore the results from the Mersea Island data analysis (presented in previous Chapters) in relation to phonological theory. The application of phonological theory to this sociolinguistic data will allow the phenomenon of dialect change to be explored from a different perspective. For example, the data presented in the Chapters above highlight a shift from [ɛʊ] to [aʊ], [ɔɪ] to [aɪ] and [ɵɪ] to [ɔɪ] between the Museum and Younger speakers. However, even though these changes (as well as specific patterns of variation) have been discussed with respect to change, contact and performance, these have not addressed the issue of what is happening in the underlying structure of the dialect and the changes to the grammars of the dialect's speakers. Furthermore, an exploration of phonological theory can help inform an investigation of variation and change by highlighting any linguistic constraints of influences upon the variation as well as any factors which are likely to shape the trajectory of change.

Both Optimality Theory and Dispersion Theory will be introduced, and it will be argued that they are effective tools for dealing with issues relating to the direction of change we have seen in the Mersea Island diphthongs. Using a combination of these theories, together with sociolinguistic constraints on the data, an integrated socio-phonological model will be constructed and presented as a way of illustrating the interface between Sociolinguistics and Phonology.

10.1

What is Optimality Theory?

Optimality Theory, as originally proposed by Prince and Smolensky (1993; 2004), is an output-based model of language[39]. Although it is generally associated with phonology, it has found applications in other domains of language and, compared to previous input-driven models[40], such as that presented in Chomsky and Halle's (1968) *Sound Pattern of English*, Optimality Theory allows for a graphical evaluation of not only the resulting surface form, but also the other possible contenders which may be logically derived from the underlying form. By way of illustration, 10.1 demonstrates the conventional lay-out of an OT tableau.

10.1

/Input/	Constraint 1	Constraint 2	Constraint 3
Candidate 1			
Candidate 2			

In OT, the underlying representation of a linguistic unit is represented as the input. Therefore, the input needs a mechanism which will transform it into differing possible realisations. This list, or set of possible outputs (which includes one completely faithful to the input) is produced by what is known as the Universal Generator, abbreviated to GEN. McCarthy states that the phonological GEN "performs various operations on the input, deleting segments, epenthesising them, and changing their feature values" (2008:16). Therefore, GEN defines the range of the candidates which will compete with each other through a particular constraint ranking. However, the inherently unrestricted nature of GEN means that each set of candidates which can be derived from a single input

[39] Thus, the input and its sequential derivation towards an output, through rewrite rules, is not the primary focus. Instead, a number of possible outputs (including one which is identical to the input) are generated and their performance is compared in relation to each other, not in relation to how they compare to the original input.
[40] Therefore, the focus is on the input and the application of transformation rules in order to generate an output.

is infinite. McCarthy, acknowledging this problem, states that “the grammar as a whole does not overgenerate because the constraints filter the contents of the candidate sets” (2008:11). Therefore, by limiting or filtering the outputs of GEN, we do not end up with candidate sets which include what could be considered as illogical or unreasonable, with respect to the language being modelled (such as a competing candidate [dɒg] for an input /kæt/).

However, the nature of the input itself is not without controversy. Prince and Smolensky (1993:209; 2004:225) originally propose that, through the notion of ‘Richness of the Base’, languages do not vary with respect to the structure of their underlying lexicons. Therefore, the ideals behind richness of the base are that languages do not differ with respect to their inputs (that is, the structures of their inputs are universal) and that the diversity of forms in the base (or input) are such because there are no language-specific restrictions in operation at this level.

In the tableau above, the input, which represents the underlying form, is provided in the top left cell and possible outputs which may be derived from it are listed in the column below. Along the row to the right of the input are noted the various constraints imposed by the language which are applicable to a particular analysis. Constraints provide certain criteria or conditions which the surface form must meet in order to be selected, and are ranked in order of importance – the further to the left a constraint is placed, the more important it is that a candidate does not violate its conditions. The solid line between Constraints 1 and 2 reveals that there is a ‘dominance relation’ between Constraint 1 and Constraints 2 and 3, meaning that Constraint 1 is the most significant in shaping the phonology of the language and cannot be dominated. In addition, while we can say that

Constraint 1 outranks Constraints 2 and 3, the dotted line between Constraints 2 and 3 means that they are of equal status when it comes to the evaluation of possible output forms. An alternative way of showing this relationship would be as follows:

10.2

Constraint 1 >> Constraint 2, Constraint 3

The double '>>' shows that Constraint 1 is more dominant than the other two, while the use of a comma to separate Constraints 2 and 3 shows that they are unranked in relation to one another.

It is these constraints which act as the evaluators to ultimately allow the grammar to select the most optimal surface form. This is done by assessing the number of violations each potential candidate incurs. For example, if a constraint stipulates that no voiced consonants may surface, then a violation mark will be allocated for every voiced consonant in a potential candidate. To demonstrate this, if, for example, a language had a markedness constraint (see below for details) such as *VOICED CONSONANTS which was imposed on its inventory, a violation mark is added to the appropriate cell each time a voiced consonant featured in a potential candidate. The following displays what violations would occur for the input /bed/ and some of its possible outputs:

10.3

/bed/	*Voiced Consonants
bed	* *
bet	*
ped	*
☞ pet	

Thus, in this example, [pet] would be the winning candidate from this candidate set as neither consonant is voiced. The winner is then, typically, indicated by '☞'.

Therefore, one advantage of this model is that it allows for flexibility within our personal grammars, particularly with respect to constraints which are unranked in relation to each other (as illustrated in 10.1 above). In OT, constraints are intended to be regarded as universal, and they can be rearranged language-specifically in order to accommodate differing surface forms, which may derive from the same underlying input. This contrasts with rule-based systems which cannot accommodate such variation in this way. For example, a rule-based model may represent the following:

10.4

$$A \rightarrow B \,/\, V \_\_\_\_ \#$$ [41]

Thus, the input is fed into the rule and A would be transformed when positioned in the linguistic context of VA# so that the surface form would be VB#. In order to change the surface form of the underlying input, say in the context of language change, a new rule must be written or rule ordering must be changed. However, if we were to represent this in an OT framework, it could be represented as the following:

10.5

/VA#/	Constraint 1	Constraint 2	Constraint 3
a. VA#			
b. VB#			
c. V #			

[41] Note: V = Vowel and # = a word boundary

In this example, it is the nature and order of the constraints which determine the surface form. The first candidate (a) is recognised as the faithful candidate, as it is a replica of the input. The second candidate (b) allows for the transformation A→B, as given in 10.4, while (c) has deleted the segment between the vowel and word boundary. (Note that fatal violations, which cancel out a candidate's chances of surfacing, are marked with an exclamation mark '!' following typical OT conventions)

10.6

/VA#/	Constraint 1	Constraint 2	Constraint 3
a. VA#	* !		
☞ b. VB#			*
c. V #		* !	

In this tableau, VB# (b) is the winning candidate and thus the surface form because it only violates the lowest ranked constraint. However, if we were to reorder the constraint ranking so that Constraint 3 now outranks Constraint 2, the winning candidate is now V # (c).

10.7

/VA#/	Constraint 1	Constraint 3	Constraint 2
a. VA#	* !		
b. VB#		* !	
☞ c. V #			*

Therefore, it is possible to demonstrate variation in the same graphical representation. An advantage of this is that the differences between languages, and varieties within languages can be demonstrated by using the same basic components (constraints) in order to explain their differences, as opposed to the construction of individual rules or independent rule-ordering sets which accommodate contrasts. Indeed, Prince and Smolensky (2004:4) note that it is Universal Grammar which provides individual languages with the same set of general constraints and it is the way languages rank these constraints which establishes the primary differences between them. Conversely, rule-based systems rely on, for example, rule creation and simplifications, as well as feeding/ bleeding and counter feeding/ counter bleeding relations[42] in order to create language and dialect diversity and change (see, for example, Kiparsky (1968) for a discussion of these processes).

However, the application of optimality theory to certain types of phonological processes and developments has not been without its critics. McMahon (2007) observes that cases which involve degrees of opacity are cases which provide the greatest difficulties for the mechanisms of OT. In this context, the term *opacity* refers to a phonological rule which

[42] If a rule, A, generates forms which will subsequently be subject to another rule, B, then we can say rule A feeds rule B. However, if rule A were to take away or restrict rule B's potential inputs, then we can say that rule A bleeds rule B. When the rule orders are reversed, this is counter feeding or counter bleeding (Clark et al 2007:148)

prompts a surface form which is not expected in a given phonological context. This is formalised by Kiparsky (1973, 1976 - cited in McCarthy (2007:11) as follows:

Opacity

A phonological rule P of the form $A \rightarrow B / C\_\_\_ D$ is *opaque* if there are surface structures with any of the following characteristics:

a. instances of *A* in the environment $C\_\_\_ D$,
b. instances of *B* derived by P that occur in environments other than $C\_\_\_ D$,
or c. instances of *B* not derived by P that occur in the environment $C\_\_\_ D$.

Therefore, in order to get any of the outputs in a, b or c, more than one derivational step must be taken. In a Classic OT framework, a constraint ranking which prompts the output CBD would need to be constructed to reflect the original rule. However, additional language specific constraints (such as those stipulating specific lexical items) would be needed if the output was, for example, CAD instead. Indeed, McMahon notes that "the more opaque a phonological process is, the harder it is to model in OT without considerable extension of the permitted constraint types and theoretical machinery" (2007:343). Thus, in order to derive an OT framework which reflects opaque processes (such as vowel alternations which result from the interaction of phonology and morphology[43]), novel constraints (which may or may not be proposed as part of the universal constraint grammar) are introduced, or adapted frameworks are constructed and applied to problematic data, such as the recent theory of Candidate Chains (as proposed by McCarthy (2006; 2007)). On the other hand, McMahon (2007:357) does observe that classic OT's failure to represent opacity does allow for the future development of the theory (although she stipulates that its development will depend on how people approach problematic data and the strength of their argumentation).

[43] An example of this would be the vowel alternations involved with, what McMahon (2007) refers to as the Modern English Vowel Shift Rule (which can be seen in words pairs such as divine ~ divinity and sane ~ sanity)

10.1.1

The Nature of Constraints

A central feature of Optimality Theory is that every constraint has the potential to be violated. Therefore, it is a matter of dominance relationships, as opposed to the rigidity of traditional rule-based models where the interaction of rules needs to be regulated so that their order and interaction yields only the desired output. These constraints are described as belonging to two broad categories – Faithfulness constraints and Markedness constraints.

10.1.1.1

Faithfulness Constraints

Faithfulness constraints, in their most basic sense, are those which prohibit any differences between the input and the output. Therefore, the input specifications must remain intact and unaltered in the surface form. The implication of such constraints helps to force contrasts in the surface forms. Indeed, McCarthy (2008) observes that "no other theory of language has anything like OT's faithfulness constraints" (2008:13). In addition, he adds that the actual notion of faithfulness constraints could only make sense in a theory such as OT which allows for constraint violations. Two examples of active faithfulness constraints are those known as DEP and MAX and these guard against epenthesis and deletion, respectively. The constraint DEP, which is short for DEPENDENCY, requires every segment in the surface form to be represented in the input and, therefore, the output 'depends' upon the input as the source of its components. When DEP is active in a constraint ranking, one violation mark is usually assigned for every segment in a potential candidate which has no direct correspondent in the input (that is, each segment which has be generated through epenthesis).

Conversely, the constraint MAX, which is short for MAXIMALITY, acts as an anti-deletion faithfulness constraint. It stipulates that segments in the input must be maximally expressed in the output. Thus, any segment in an input which does not have a direct correspondent in the output (due to its being deleted) prompts a violation mark to be allocated to that output candidate.

In order to see these two types of constraints in operation, consider the following examples of nasal stop clusters in English:

In English, word-final nasal-stop clusters must share a place of articulation (such as in *bent* [bɛnt], *sank* [sæŋk] and *pump* [pʌmp]). If we have an input /sænk/ in which the alveolar nasal /n/ is paired with the velar /k/, the following candidates may be advanced[44]:

a) Regressive assimilation resulting in a change from /n/ to [ŋ]

b) Insertion of a vocalic segment between /n/ and /k/

c) Deletion of the word-final /k/

d) Deletion of the /n/

In order to generate the correct output of [sæŋk], the tableau in 10.8 could be constructed using the following constraints:

Faithfulness Input-Output (FAITH I-O): All specifications of the input are preserved in the output

Maximality (MAX): All segments in the input must be represented in the output. No deletion.

[44] Note: this is only a sub-set of possible outputs for illustration purposes

Dependency (DEP): All segments in the output must be represented in the input. No insertion.

Agree PLACE: The elements of a consonant cluster must share a place of articulation.

10.8

/sænk/	**DEP**	**MAX**	**AGREE PLACE**	**FAITH I-O**
sænk			*!	
☞ sæŋk				*
sænək	*!			*
sæn		*!		
sæk		*!		

Tableau such as these are there created as a type of post hoc rationalisation as it is only the surface form which is available for analysis. Thus, once a constraint ranking is established for one output, it can then be tested against others and used to predict how the grammar would process particular inputs.

Thus, we can see from this example how Dep and Max guard against the construction of a new syllable ([sænək]) and the reduction of the nasal cluster ([sæn] and [sæk]), respectively. The faithful candidate ([sænk]) violates Agree PLACE which, since its ranking dominates the lowest ranked Faith I-O constraint, the input cannot surface in favour of the assimilated candidate [sæŋk]. Once this ranking is in place, it can be tested against other items with nasal clusters to check its validity and be used to predict the surface forms of proposed nasal cluster inputs.

However, it must be noted that this example uses the constraint FAITH I-O and not an IDENTITY constraint, which is an alternative segmental faithfulness constraint. In this example, the constraint FAITH I-O is generalising over the collective features represented by the segments in the input and ensuring that these features are not altered (such as the alveolar nasal's transformation to the velar nasal). However, the family of IDENTITY constraints (IDENT for short) allows for a constraint representative of each distinctive feature to be included within the constraint hierarchy. Thus, we can define it as follows:

INDENT (F) – Correspondent segments are identical in the feature (F)
(See McCarthy and Prince (1995:16))

Therefore, since the place feature is being altered in the above example, we could substitute FAITH I-O for $\text{IDENT}_{(\text{PLACE})}$ for a more specific analysis. However, the resulting output would remain the same.

10.1.1.2

Markedness Constraints

Whereas faithfulness constraints operate to keep the input and output as closely related as possible, markedness constraints aim to promote the most 'natural' forms in language, giving rise to surface forms which are the least marked. Therefore, they can work in direct opposition to the faithfulness constraints which will conspire to retain marked features which are present in the input. By way of illustration, it has been observed that the basic syllable structure is CV (Consonant + Vowel) and that, in some languages, a coda consonant is disallowed during the parsing of syllable strings, making marked structures such as CVC redundant. This can be achieved through the introduction of a constraint such as *Coda:

*CODA: Parsed syllables must not contain a coda consonant.

This negative constraint which will aim to eradicate any coda consonant represented in the input will then work in opposition to the faithfulness constraint Max, which guards against the deletion of phonetic detail from the input form. An example of how this may work in a language which does not allow coda consonants is given in 10.8

10.8

/CVC/	*CODA	MAX
CVC	*!	
CV		*

Using this ranking, the winning candidate is the unmarked CV form. However, a reversal of this ranking would allow the coda to surface:

10.9

/CVC/	MAX	*CODA
CVC		*
CV	*!	

10.1.2

Optimality Theory and Language Variation

The increased application of constraint-based models such as OT), as opposed to rule-based models, has gradually made the process of phonological transformation by rules and derivation less common in phonological analyses. However, Anttila notes that "work on phonological variation has continued largely independently of phonological theory, often consciously emphasising its empirical character" (2002:214). Therefore, research on the nature of phonological variation and change has largely focussed on empirical sociolinguistic studies without the application of an accompanying phonological model. However, the advent of OT has provided the linguist with an approach which can provide novel strategies for modelling linguistic variation and change.

Some of these strategies are briefly outlined below.

10.1.2.1

Tied Violations

Hammond (1994) presented an analysis of stress placement in the Australian Aboriginal language of Walmatjari. The stress placement in this language appears fixed in disyllabic words, as initial-syllable stress is non-variable. However, stress on words with three or four syllables has variable placement. Hammond proposes that this variability, grounded in the observation that it is possible to group and construct metrical feet in more than one way[45], can be shown as a *tie* between two candidates with respect to the number and type of violations that they incur. The following tableau from Hammond (1994) illustrates how candidates may be tied:

10.10

			a	b	c	d
	1	x x x				*
☞	2	(x x x				
☞	3	x (x x				
	4	x x (x	*			*
	5	(x (x x		*		
	6	(x x (x	*			
	7	x (x (x	*	*		
	8	(x (x (x	*	*		

We can see that Candidates 2 and 3 both have no violations of the constraints a, b, c and d. Therefore, they are equal when it comes to the constraint evaluation (see Hammond (1994:5) for a detailed explanation of what these constraints represent). Thus, when candidates are equal, with respect to their constraint violations, variability occurs between them as surface forms. However, Anttila (2002:217) notes that this approach has two inherent limitations. Firstly, the model is able to achieve 'ties' due to its representation of only a subset of constraints which, he suggests, are designed to be universal and

[45] For example, with the sequence ABC, metrical feet can be constructed from the left, as in (AB)C, or from the right, as in A(BC)

sufficiently detailed enough to distinguish candidates, even if that means relying on much lower ranked constraints present in the grammar. Secondly, one aspect of variation which is not represented in this model is the degree to which each battling candidate surfaces, and thus, it cannot account for one variant being dominant over the other in natural speech.

10.1.2.2

Multiple Grammars

Analyses incorporating a multiple grammars approach propose that variation arises from invariant grammars, whose individual winning candidates are presented as the choices for the surface form. Therefore, the initial stages, when using this approach, are to determine what the possible grammars are (that is, all the possible ways there are of ranking the constraints in use) and what kinds of possible surface forms or trends these grammars will produce. These predictions can then be tested against real data to see if the predicted types of variation approximate the real speech data. Kiparsky states that “variation comes from competition of grammatical systems (in the individual or in the community)” (1993:2) and, using American English, applies this model to variation patterns in t/d deletion. He notes that there are three ways of dealing with t/d clusters which lend themselves to the deletion of final segments:

1) The word final t/d can remain as the coda (for example, [lost][everything])
2) The word final t/d is not affiliated with any syllabic position (for example, [los]t[everything])
3) The word final t/d can be re-syllabified as an onset (for example, [los][teverything])

The first option would lead to violations of syllabic constraints on complex codas, the second would violate Align constraints as the syllable boundaries of the input would be altered and, finally, option three would lead to the non-parsing and, thus, deletion of a segment. The constraints proposed by Kipasky which reflect each of these options are SYLLABLE-WELL FORMEDNESS[46], PARSE[47] and ALIGN[48], respectively. Therefore, three possible rankings representing three competing grammars can be proposed using these constraints

Grammar 1 -

SYLLABLE – WELL FORMEDNESS >> ALIGN >> PARSE

Grammar 2 –

ALIGN >> SYLLABLE – WELL FORMEDNESS >> PARSE

GRAMMAR 3 -

SYLLABLE – WELL FORMEDNESS >> PARSE >> ALIGN

Each of these grammars would be activated so that candidates can be evaluated against them in parallel and, as a result, variation would occur between the winning candidates of each grammar.

---

[46] This constraint ensures that any syllables in the output are formed according to the requirements of the language.

[47] The PARSE constraint, from containment theory (see Prince and Smolensky (1993, 2004) or McCarthy (2008)) guards against deletion by making sure all phonological material in the input is parsed and represented in the output.

[48] ALIGN constraints ensure that constituents (such as syllable and morpheme boundaries) retain the same relation to each other in the output as they do in the input (see Prince and Smolensky (1993, 2004)

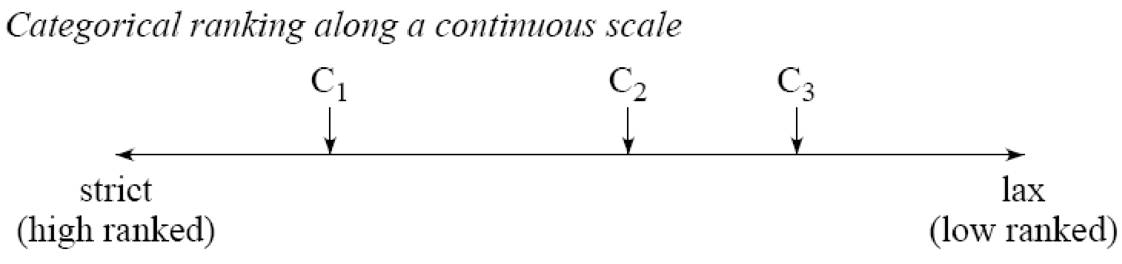
However, Anttila (2002) notes that this model, while excluding several unattested t/d deletion patterns, does persist with predictions of dialects which do not appear to exist. These 'improbable' dialects exhibit, for example, "no quantitative difference [in deletion] between the vowel and consonant environments" (Anttila 2002:224). However, Anttila does note that once again, we cannot say that the model fails (as each tableau does not fully represent the full set of constraints held within the grammar), and that we might want to make a claim, for English, that there are some partial set rankings which would remain inflexible in the ranking and thus restrict the scope of the available grammars.

10.1.2.3

Stochastic OT

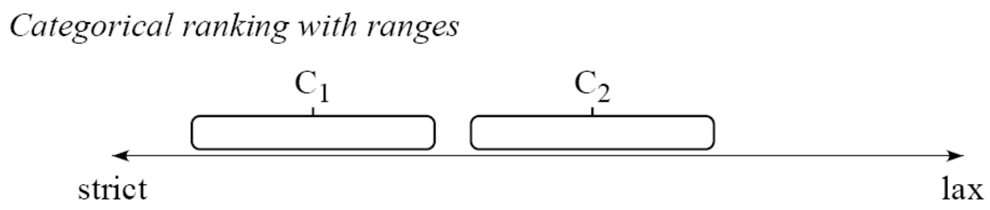
Stochastic OT operates within one grammar. However, whereas classical Optimality Theory, as outlined above, represents constraint ranking as a type of order relation (and thus each constraint occupies a static position within the ranking order), Stochastic OT allows for constraints to enjoy limited movement within the ranking hierarchy (see in particular Boersma and Hayes (1999; 2001)). Therefore, each constraint projects a fixed *ranking value* which establishes the initial constraint ranking in the grammar. For example, in the graphic representation from Boersma and Hayes (1999:3) below, the ranking is that of $C_1 >> C_2 >> C_3$:

10.11

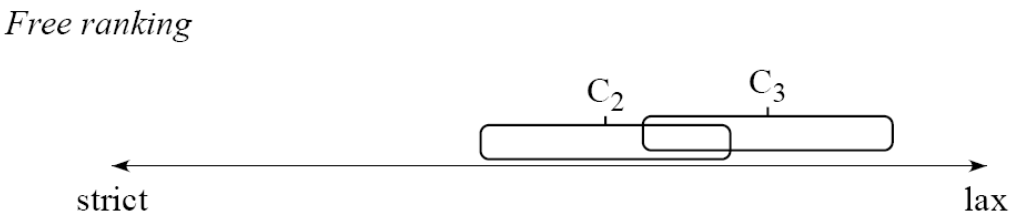


Variation within the grammar emerges because, in addition to the fixed ranking value, each constraint is also allocated a random positive or negative value at the moment of evaluation prior to its actual realisation. This resulting ranking value (or selection point) generates the ranking of constraints as applicable at the time of that particular speech event. Therefore, even though variability will occur, it is the initial setting of the fixed ranking value which will determine which adjusted rankings will have a higher or lower probability when compared to each other. Continuing the example of a constraint ranking in 10.11 above, we can see how initial rankings can become compromised when the random positive and negative values are added. The illustration in 10.12a shows how C_1 and C_2 are far enough apart that no overlap occurs (and therefore no variation in their ranking results). However, 10.12b shows how C_2 and C_3 are close enough that, when their random values are added, there is an overlap in the constraint ranges (meaning that a variable ranking of $C_3 >> C_2$ is possible).

10.12a



10.12b



Both these examples are from Boersma and Hayes (1999:3)

It is the overlap in 10.12b which leads to variation if the constraints involved are those which can influence the selection of a surface candidate.

However, since it is a requirement that each constraint employs the same standard deviation, Anttila (2007:534) observes that there are some patterns that provide a challenge for Stochastic OT. For example, he notes that, in a ranking of A B C, where A must outrank B (A>>B) but C may appear in any ranked position[49], Stochastic OT would not be able to maintain this grammar without either a reanalysis of data and subsequent application of different constraints, or the provision for each constraint to have a different standard deviation.

Even though these three approaches allow for variation of outputs, and have been used to approximate the results of some established empirical data (as opposed to being predictive), they do not allow for the evaluation of the underlying system when variation leads to change. Instead, they are limited to recognising change as the re-ranking of constraints to avoid tied candidates, the loss of an active parallel grammar or the alteration of ranking values and random deviation values, which do not take into account how these changes will affect underlying phonological structure.

In addition, even though these models have been applied to some empirical data, they do not allow for any qualitative aspects of variation, such as style or intra-speaker correlations within the variation pattern.

[49] C>>A>>B or A>>C>>B or A>>B>>C

One possible approach that could model the variation and change in Mersea Island English and represent some of the variation patterns highlighted by the data analyses is Dispersion Theory. Therefore, the following sections will introduce the phonological theory of Dispersion (as presented by Flemming (2004; 2006)), whose focus is on underlying phonological structure and maintenance of structure. The main principles of this theory will be discussed before attention is turned to how a theory of dispersion can be incorporated into a three-tiered model of language in which the derivation and variation of linguistic units is represented in both phonological derivation and sociolinguistic practice.

10.2

Dispersion Theory

Flemming (2004; 2006), by means of phonetic classification and mapping of speech sounds, aimed to explore, through an optimality theoretic framework, the "general character of the constraints imposed on phonology by the need to minimise confusion" (2004:232). By taking a more perceptual (as opposed to a productive) stance, the model approaches a theory of speech by considering the conflict between constraints which minimise effort on behalf of the speaker and those which ensure the perceiver can recover enough distinctive information in order to avoid perceptual confusion. Thus, the theory promotes the existence of constraints which maintain contrasts between individual units, while the relative markedness of a sound is dependent upon the sounds with which it is intended to contrast. Thus, contrasts are more marked the less distinct they are.

Using the distribution of a language's vocalic elements, Flemming (2004:236) notes that the selection of phonological contrasts within the vowel space is subject to three functional goals:

1. *Minimise Articulatory Effort* – articulatory effort on the part of the speaker should be minimised
2. *Maximise Distinctiveness of Contrasts* – individual forms must be as distinct from each other as possible
3. *Maximise the Number of Contrasts* – the phonological inventory must contain as many contrasts as possible

These fundamental goals each relate to a set of OT constraints which help to construct the grammar. Thus, this type of functionalist approach influences the construction and evaluation of the phonological system. However, McCarthy (2002:227) refers to Dispersion Theory as a method which provides a type of meta-grammar whose motivation is to evaluate candidate grammars as opposed to linguistic expression. This contrasts with the classic ideals of OT in which it is the linguistic expressions (or units) which are subjected to evaluations and not the linguistic generalisations. Therefore, the basis of these two theoretical approaches to phonology cannot be directly compared (even though they use the same basic machinery with respect to the application of constraints) since their domains of application differ – whereas Dispersion Theory aims to provide justification for the distribution of sounds in the underlying phonological system and not to evaluate sound strings in preparation for realisation, Classic OT makes no assertions on the underlying sound system but rather it proposes a number of surface form candidates which compete for eventual realisation.

10.2.1

Dispersion Constraints

The conflicting nature of an inventory's three functional goals (as outlined above) makes OT an ideal framework since its very nature allows for the resolution of conflicts through the relative ranking of representative constraints. Therefore, this section will introduce the basic constraints involved in Dispersion Theory following Flemming (2004; 2006).

<u>Minimise Articulatory Effort</u>

Flemming suggests that "two of the fundamental forces shaping phonology are the need to minimize effort on the part of the speaker and the need to minimize the likelihood of confusion on the part of the listener" (2004:232). The articulatory effort on the part of the speaker relates to the articulatory requirements of a particular sound in a particular context. As a result, effort minimization on the part of the speaker may reduce the degree of contrast between segments. For example, Flemming notes that "effort minimization dictates that vowels should accommodate to the articulatory requirements of neighboring consonants" (2004:235). As a result, a language will have a tendency to nasalize vowels in between two nasal consonants (such as in *man* and *sang*). However, if the language in question maintains a phonemic distinction between oral and nasal vowels, this process will be minimized in order to maintain the contrast for perceptual purposes.

<u>Minimum Distance</u> – MIN DIST

The constraint MIN DIST ensures that the distinctiveness of contrasts is maximised. This family of constraints make particular use of Formant structure as descriptors and phonetic reference points. Formants are concentrations of acoustic energy which are combinations of frequencies as air vibrates in the vocal tract. The three dominant formants in vowel perception and description are Formants 1, 2 and 3 (F_1, F_2 and F_3, respectively) - Formant 1 relates to the descriptor of vowel height, Formant 2 relates to the degree of frontness or backness of a vowel and Formant 3 relates to the amount of lip-rounding present in a vowel articulation (see Ladefoged (2006) for more information). Flemming (2004:238) cites studies which provide evidence of F_1 and F_2 as the primary dimensions which distinguish, and thus lead to the similarity and misperception of vowels. As a result, he adopts the following “coarsely quantised three-dimensional vowel space” (2004:238).

10.13 A representation of vowel space according to Flemming (2004:238)

			F2				
6	5	4	3	2	1		
i	i̠	y	ɨ	ɯ	u	1	
	ɪ	ʏ			ʊ	2	
	e̝	ø̝		ɤ̝	o̝	3	
	e	ø	ə	ɤ	o	4	F1
		ɛ	ɜ	ʌ	ɔ	5	
		æ	ɐ		ɑ	6	
			a	a̱		7	

	F3			
3	2	1		
i		y,ɯ,u	1	
	ɪ	ʏ,ʊ	2	
	e̝	ø̝,ɤ̝,o̝	3	
	e	ø,ɤ,o	4	F1
	ɛ	ʌ,ɔ	5	
		ɑ	6	
		a	7	

Using these matrices, vowels, or more particularly vowel space, can be referred to with respect to their dimension values. For example, using only the first two formants, /æ/ and /u/ can be described as F_1 *6*, F_2 *4* and F_1 *1*, F_2 *1*.

The constraints which can be subsequently devised by using these classifications thus take the form of:

Dimension : Distance

Therefore, the constraint MIN DIST F1:2 means that there must be a gap of at least two squares between forms being evaluated on the F_1 dimension. For example, the pair u ~ ɨ would be acceptable by this constraint but the pair u ~ ɯ would not be acceptable.

Since one requirement is that auditory distinctiveness should be maximised, less distinct contrasts incur more serious violations. This is formalised by Flemming (2004:239) as follows:

MIN DIST = D:*n* is ranked above MIN DIST = D:*n* +1

Therefore, by using this formula ranking we are saying that a violation of MIN DIST D:*n* is more serious than a violation of MIN DIST D:*n* +1 since the former constraint will permit a smaller distance between forms being evaluated which may compromise auditory distinctiveness.

Maximise Contrasts – MAX CONT

Implemented as a positive constraint, MAX CONT aims to select an inventory of sounds which represent the largest amount of contrasts. However, the requirements of MAX CONT will conflict with those of MIN DIST and so, depending on their relative rankings, MAX CONT will instead be allowed to select the largest viable inventory (that is, the largest inventory permitted by the interaction and restrictions of other constraints). For example, a language may guard against vowels which are too close together with respect to F_1 distance by ranking a MIN DIST constraint, such as MIN DIST F1:3, higher than MAX CONT. This would ensure that contrasts are achieved up to, and including vowels three spaces apart on the F_1 dimension and any further attempt by the system at maximisation is disallowed. This can be demonstrated by the selection of front vowels below. It is also worth noting the use of '✓' under the MAX CONT constraint. This is due to MAX CONT being a positive scalar constraint. Therefore, each contrast between forms in a candidate set is marked with a '✓' since, as far as the constraint is concerned, the more ticks, the better the candidate.

10.14

	MIN DIST F1:3	MAX CONT
☞ i - e - a		✓✓✓
i - e - ɛ - a	* * !	✓✓✓✓

Even though the inventory /i - e - ɛ - a/ has a four-way distinction while /i - e – a/ has only three contrasts, it loses out in the selection due to the violation of MIN DIST F1:3 by the pairs e ~ ɛ and ɛ ~ a.

Once the inventory is evaluated, the phonological system then evaluates complete word forms using strings of inventory forms that have been altered by certain phonetic and contextual processes. It is at this stage that Flemming identifies a potential problem with the theory, as the evaluation of contrasts between word forms must be cyclic (since neighbouring word forms must, in theory, also be evaluated). However, he suggests that an analysis using Dispersion Theory "avoids this problem by only evaluating inventories of contrasting sounds (or short strings of sounds) in a particular context" (2004:269). For example, a vowel inventory can be derived but in order to evaluate whether a specific *vowel + nasal* is well-formed, we need to establish whether the nasal in question comes from an inventory of consonants which are available to be selected in a postvocalic position.

Building on these ideas, Flemming (2006) proposes and implements a tiered phonological system consisting of three sub-components. He observes that, even though distinctiveness constraints favour maximisation of perceptual differences between sounds which are intended to contrast, these constraints would also prompt positional neutralisation effects as results from processes such as assimilation. In other words, an established contrast between forms in the phonological inventory would then be neutralised in the surface realisation due to a lack of distinctiveness in a particular phonological environment. However, the freedom to which distinctiveness constraints may interact with other phonological constraints must be limited so that effects such as contextual enhancement of contrasts (as opposed to contextual neutralisation), which are not attested, cannot be imposed on the surface forms. Indeed, the acknowledgement that distinctiveness is not the only mechanism required by perceptual devices, together with the desire to keep any system of contrasts as consistent as possible across all contexts, leads Flemming to the following:

> "The distinctiveness constraints evaluate contrasts between words only to check that the contrasts are adequately realised on the surface – if not, they are neutralised (giving rise to positional neutralisation). However, distinctiveness constraints play no other role in the mapping from underlying to surface form. That mapping is governed by constraints requiring faithful realisation of the underlying contrasts in conflict with markedness constraints (articulatory constraints, metrical constraints, etc). The faithfulness constraints favour consistent realisation of the inventory of contrasts in all contexts."
> (2006:1)

Thus, distinctiveness constraints apply to surface forms in context while any enhancements of the system are carried out in the segmental inventory, free from context. The result of this is a three-tiered phonological model in which particular constraints are activated at specific times. Firstly, constraints which apply to the underlying system are activated in the first tier, where only individual units, free from other linguistic contexts, are present. The subsequent tiers then evaluate the underlying segments as they appear in phonological strings (such as word forms) before further distinctiveness checks take place in the final tier.

The following sections will outline the three sub-components of this model as presented by Flemming (2006) before a subsequent discussion and demonstration of how it may be applied to the variable data previously presented in this thesis. Accompanying this will be highlights of any problems encountered in the application of this model to empirical data, as well as how these problems may be overcome. The result will be a modified phonological model which is designed to represent the interface of phonology and sociolinguistics.

10.3

A Three- Part Phonology

Flemming (2006) outlines three sub-components which complement each other in an individual yet hierarchical structure. Therefore, it is a stratal-type system through which the derivational output of one stage provides the input for the next (see, for example, Kiparsky (2000; 2008)). However, he notes that, even though these individual components are distinguished, due to them enjoying limited interaction, “they are not organised in a serial derivation” (2006:9), which is the case with normal stratal models. These components are the *Inventory*, the *Realisation* and the *Evaluation of Surface Contrasts (ESC)*. This section will briefly outline each component in turn using Flemming’s own examples, before demonstrating how they interact as a whole.

10.3.1

The Inventory[50]

"*The Inventory selects a basic inventory of contrasting segment types" (2006:10)*

To create an inventory of sounds is to select a set of individual forms which will be consistent in their realisation irrespective of context. Therefore, a phonological inventory will be made up of single, context-free sound segments, or phonemes. These will also reflect the perceptual considerations of the linguistic system and effectively represent the categorical divisions of perceptual space.

The selection of inventory segments relies upon the relative ranking of MIN DIST and MAX CONT constraints (see 10.2.1 above) as well as what Flemming describes as *segment-internal articulatory markedness constraints* (such as effort constraints). Importantly, contextual markedness constraints are not activated by the system at this stage.

By way of demonstration, consider the following selection of the vowel inventory of Cantonese. Of particular interest here are the contrasts relating to backness and roundedness. In addition, since the constraints rely on the classifications used in Flemming's perceptual grid, as presented in figure 10.13 above, it is reproduced here for convenience.

---

[50] From this point onwards, a capital letter (Inventory) will signify the underlying stage of derivation where possible phonemic sets are evaluated. However, lower case (inventory) will refer to the actual set of phonemes selected at this stage of derivation.

10.15 A representation of vowel space according to Flemming (2004:238)

F2: 6	5	4	3	2	1		
i	i̠	y	ɨ	ɯ	u	1	
	ɪ	ʏ			ʊ	2	
	e̝	ø̝		ɤ̝	o̝	3	
	e	ø	ə	ɤ	o	4	F1
		ɛ	ɜ	ʌ	ɔ	5	
		æ	ɐ		ɑ	6	
			a	a̠		7	

F3: 3	2	1		
i		y,ɯ,u	1	
	ɪ	ʏ,ʊ	2	
	e̝	ø̝,ɤ̝,o̝	3	
	e	ø,ɤ,o	4	F1
	ɛ	ʌ,ɔ	5	
		ɑ	6	
		a	7	

10.16 *From Flemming (2006:11)*

Inventory:

	MIN DIST = F2:2 or F3:2	MAXIMISE CONTRASTS	MIN DIST = F2:3 or F3:3	MIN DIST = F2:4
i ɨ u		✓✓✓	**!	**
☞ i y u		✓✓✓	*	**
i y ɨ u	*!	✓✓✓✓	***	*****
i y ɯ u	*!	✓✓✓✓	***	*****
i u		✓✓!		

We can see that there is no input in the top left cell of the tableau. This is indicative of the fact that candidate sets are not being evaluated against another underlying, or indeed 'ideal' inventory. Thus, it is the forms which are selected in the Inventory which provide the input to the subsequent Realisation component (see below). The importance of not activating contextual markedness constraints at this stage can now be understood – if underlying vocalic contrasts are neutralised or altered in specific linguistic contexts, the separation of contextual markedness constraints from the MIN DIST and MAX CONT constraints allow for the relative stability of the underlying inventory across all contexts (Flemming 2006:11).

10.3.2

The Realisation

"The Realisation component maps an input string onto its phonetic realisation"

(2006:11)

At this stage, individual inventory segments are put together in order to form segment strings, or words. Thus, the input segments for this component are those which have been generated by the Inventory constraints. Since formally individual and context-free segments are now adjacent to each other, they have phonological context and, therefore, contextual markedness constraints can now be activated. Flemming notes that it is these constraints which motivate contextual variation, such as certain co-articulatory effects. However, these alternations are not evaluated by MIN DIST. These constraints are only reactivated in the third and last component which evaluates the output from Realisation. Instead, the preservation of contrasts in Realisation is maintained by a mixture of faithfulness constraints.

Therefore, the mechanics of this stage allow not only for contextual alternations, such as co-articulation effects, to be established, but also aspects such as syllabification and stress assignment to be calculated. This is due to the inclusion of certain phonetic information which is accessed and mapped as the segmental strings are formed. The mapping of input strings and evaluation of candidates at this stage resembles more of a Classic OT approach with respect to the faithfulness constraints (aiming to preserve the qualities of the input) being in direct opposition to markedness constraints (aiming to alter the input in accordance with their specifications).

This can be illustrated by following Flemming's example of Cantonese vowels. The analysis models the neutralisation of front rounded and front unrounded vowels. Thus, the contrast between front rounded and front unrounded vowels is neutralised following a labial, as coarticulation renders a following unrounded vowel too similar to its rounded counterpart (2006:12). Using the inventory established in 10.16 above, which provides the Realisation phase with the possible vowels /i y u/, the tableau in 10.17 represents the mapping of /pin/.

10.17 *From Flemming (2006: 14)*

Realisation:

/pin/	LABIAL COARTICULATION	IDENT (F2)	IDENT (F3)
pin	*!		
☞ pi$^{\beta}$n			*
pɨ$^{\beta}$n		**!	***

N.B A superscript /$^{\beta}$/ denotes an unrounded labial constriction

By employing the specific constraint LABIAL COARTICULATION, this ensures that labiality is spread to a vowel from an adjacent labial articulation. More specifically, Flemming stipulates that it discourages any direct movement from fully closed to fully open lips between segments which are adjacent. Thus, [pin] loses out due to the lack of labial spread while, even though it has a minor violation of Ident on the F3 dimension, [pi$^{\beta}$n] succeeds in this evaluation. The result, therefore, is a direct conflict between input-output correspondence constraints and a positional/ contextual coarticulatory constraint.

Once the realisation has been mapped and a candidate has been selected, each string will then activate the final stage – The Evaluation of Surface Contrasts.

10.3.3

The Evaluation of Surface Contrasts - (ESC)

The ESC is where the distinctiveness of contrasts is assessed, based on the phonetically mapped outputs of the Realisation stage. In order to do this, MinDist must once again be activated in order to see if the outputs of Realisation are too similar to other potential word forms. Importantly, however, Flemming notes that "there is no re-ranking of constraints between components, although only certain classes of constraints apply in each component" (2006:14). Therefore, the MinDist constraints must remain in the same dominance relations in the ESC as they were in the Inventory.

The mechanics of the ESC allow for the target input to be evaluated in relation to a set of other inputs with which it minimally contrasts. Ideally, this set would contain all possible input forms which differ from the target by at least one segment as well as some additional forms. Each input form from the set has the potential to be realised or indeed neutralised with a neighbouring member of the set.

A merger can be obtained by having a violation of a higher ranked MinDist constraint in relation to a constraint such as *MERGE (which prevents neutralisations). Therefore, if the alterations made by contextual markedness constraints render, for example, a vowel too close to a neighbouring Inventory vowel, the contrast between the two ceases to surface. For example, in the case of Cantonese vowels, if the output [pi$^{\beta}$n], from the Realisation violates a highly ranked MinDist constraint, by virtue of being too close to either /y/ or /u/ in the Inventory, the three-way contrast between /i y u/ will be lost in favour of a two-way contrast. Conversely, if *MERGE outranked any MinDist constraint, then the three-way distinction of /y i^{β} u/ would remain. Thus, with respect to Cantonese, in which a neutralisation occurs, we can generate the following tableau.

10.18 *From Flemming (2006: 14)*

ESC:

	$/pyn_1\ pin_2\ pun_3/$	MINDIST = F2:2 OR F3:2	*MERGE	MINDIST = F2:3 OR F3:3	MINDIST = F2:4
a.	$/pyn_1\ pin_2\ pun_3/$ $pyn_1\ pi^{\beta}n_2\ pun_3$	*!		*	**
b.	☞ $/pin_{1\ 2}\ pun_3/$ $pi^{\beta}n_{1\ 2}\ pun_3$		*		
c.	$/pyn_{1\ 2}\ pun_3/$ $pyn_{1\ 2}\ pun_3$		*		*!

In this tableau, the first candidate set (a) shows how the distinctiveness of the modified /pin/ compares with the other inventory vowels. However, candidate sets (b) and (c) demonstrate mergers. Set (b) is a merger of /pyn/ and /pin/ in favour of the modified [$pi^{\beta}n$] form while set (c) is a merger of /pyn/ and /pin/ in favour of [pyn]. The contrast between /y/ and /i^{β}/ is too small and hence set (a) is ruled out due to the violation of the highest ranked MinDist constraint. This is also the case for set (c), since there is not enough distance between /y/ and /u/ in order to satisfy MinDist = F2:4, and so, set (b) is victorious.

The position of *Merge cannot be considered random, Flemming notes that the particular constraint is likely to occupy the same place in the ranking hierarchy as Max Contrasts. The subsequent implication is that “the minimum level of distinctiveness that is acceptable for a contrast in the inventory should also be the threshold below which a surface contrast is neutralised” (2006:14).

10.3.4

Evaluation of this Approach

The innovative incorporation of phonetic mapping in the Realisation allows for phonetically detailed representations to be generated before further evaluation by phonological mechanisms in the ESC. A benefit of this is, for example, that the consistency of contrasting Inventory forms across all linguistic contexts is established before they are modified and evaluated by the subsequent components. Another benefit is that phonetically derived alternations can be established in the Realisation before being passed onto the phonologically-based ESC, which then evaluates these outputs with respect to the final distribution of contrast but cannot directly influence them. Thus, the phonetics ~ phonology interface is well represented but, at the same time, limited due to the restricted interaction between Realisation and ESC.

One drawback of this model, as it stands, is that it has been constructed by Flemming to model and explore the nature of segmental neutralisations and positional enhancements and not language or dialect variation and change. There are, however, aspects of this approach which can benefit a variation analysis:

<u>Consistency of the Inventory</u>

Flemming (2004:232) notes that one desire of a phonology is that perceptual differences between units should not be too subtle or else they are more likely to lead to perceptual confusions. As a result, we can say that by allowing a maximally distinct inventory of sounds, this reflects the natural tendencies and desires of the phonological system. Thus, differences across language inventories will be established through contrasting rankings of the MinDist and Max Contrasts constraints. This may even be extended to more similar dialect varieties of languages, where we may want to claim similar underlying inventories (reflecting membership of a particular ‘language’ or ‘language family’) but contrasting derivations in the Realisation (reflecting variation within a ‘language’ or ‘language family’).

Contextual Variation

As we have seen, the Realisation phase takes into account linguistic context and can force contextual deviations from the Inventory’s output selection. A benefit of this, with respect to dialect variation, is the power to model differences between dialects of the same language variety which adhere to particular linguistic patterns according to context, such as Canadian Raising (as previously outlined).

Building on these observations, the following sections will present and discuss how some of the patterns of variation observed in the Mersea Island English data (presented in Chapters 4, 6 and 8 above) can be modelled using Flemming’s inventory-based model as a guide. We will see that it is not only necessary to include the phonetic mapping of underlying forms (which establishes linguistic context), but it is also necessary to introduce a new component which can represent the interface between phonology and sociolinguistics. This sociolinguistic component will be introduced as a way of demonstrating not only contextual and stylistic variation, but also as a way of introducing variation leading to dialect change over time.

10.4

An Inventory- Based Model of Mersea Island English

This section will explore how the empirical sociolinguistic data presented in this thesis may be phonologically modelled.

Initially, I shall present examples of data following Flemming's model (as outlined above). However, once this has been done, it will be seen that, in order to represent the data appropriately, modifications to the ESC must be made.

10.4.1

The Inventory

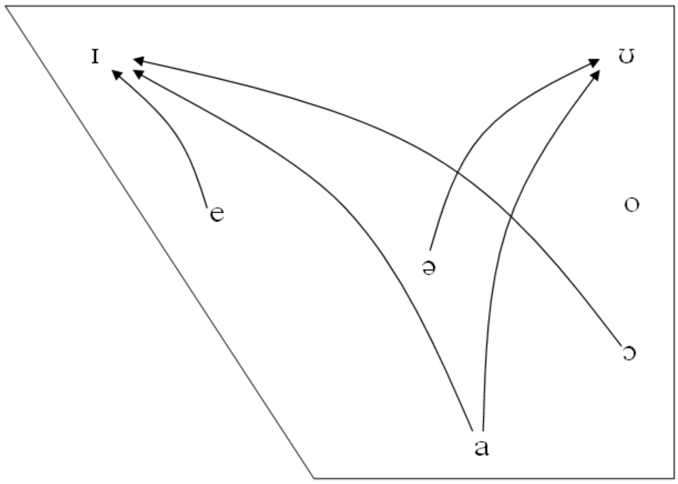
As previously discussed, the constraints which are active at this level are those which regulate the underlying segmental inventory – MinDist, Max Contrast and any applicable segmental articulatory markedness constraints.

In the previous examples and discussions, simple vowels have been discussed with respect to the grid utilised by Flemming (2004; 2006). However, since the analysis of Mersea Island English presented in this thesis centres on the variation of diphthongs, certain descriptive modifications need to be made. Therefore, the following will apply as outlined below:

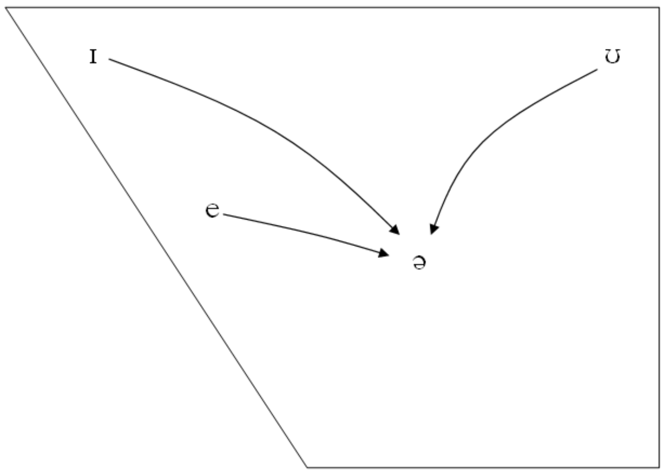
> **MIN DIST** – activated to regulate the spread of diphthongs across articulatory and perceptual space.
>
> **MAXIMISE CONTRAST** – aims to generate the largest inventory of distinctive forms.
>
> **Segmental Articulatory Markedness Constraints** – these constraints would include those which aim to enhance the internal structure and integrity of the diphthongs.

Traditionally, the diphthongal inventory of Standard English is made up of /aɪ, aʊ, eɪ, ɔɪ, əʊ/ and three centering diphthongs /ɪə, eə, ʊə/, although these latter diphthongs tend to surface as monophthongs (for example, *there* [ðeə] ~ [ðe:]). These can be illustrated in the vowel space as follows:

10.19a Illustration of Standard English Diphthongs



10.19b Illustration of Standard English centering diphthongs



As this inventory demonstrates, nucleic distinctiveness plays a greater role than offglide variation – that is, there is greater flexibility in what can be a nucleus than what can be an offglide. Therefore, we could claim, with respect to Standard English, that it is more important, when selecting forms in the Inventory, to have contrasting diphthongal nuclei than it is to have differing qualities of the offglide (/aʊ/ ~ /aɪ/ and /eɪ/ ~ /eə/ being the only pairs to be constructed with contrastive offglides). Therefore, I would like to propose the following Inventory constraints based on those previously outlined:

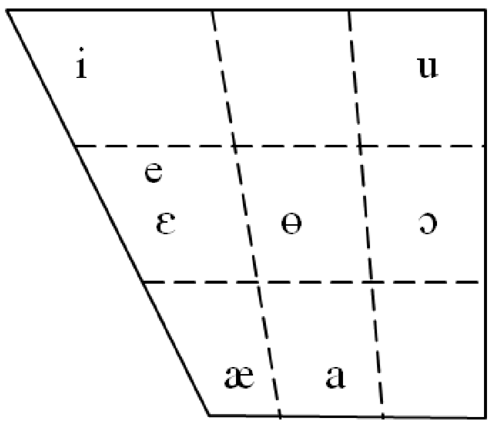
> MIN DIST $_{\text{nucleus}}$ – In this case, minimal distance is referring to the diphthongal nucleus/ onglide and it stipulates that diphthongal nuclei must not be in the same or adjacent zones.
>
> MIN DIST $_{\text{offglide}}$ – The constraint similar to that outlined above applies to the diphthongal offglides.
>
> MAX CONTRAST – The aim of Maximise Contrast is to exploit the articulatory/ perceptual space as much as possible.

DIPHTHONG CONTRAST (Internal) – This would be implemented as a segmental markedness constraint. DC acts to maintain a particular distance between the two diphthongal elements. Thus, focusing on height:

> DIPH CONT $_{\text{HEIGHT 2}}$ – diphthongal elements are separated by two zones with respect to height
>
> DIPH CONT $_{\text{HEIGHT 1}}$ – diphthongal elements are separated by one zone with respect to height

In addition, the segmental grid utilised in the following analysis will be simplified in order to reflect the more familiar IPA division of vowel space:

10.20 A simplified segmentation of vowel space used for the analysis of MIE



Therefore, even though this grid does not reflect segments with the same phonetic accuracy as that used by Flemming, the use of phonological target zones will help to simplify the MinDist and Diph Contrast calculations.

Since this thesis is concerned with the behaviour and interaction of the three diphthongs /aɪ/, /aʊ/ and /ɔɪ/, this is where the following tableaux will focus. In addition, the tableaux are not directly concerned, as in Flemming's work, with the number of contrasts which can be established through the optimisation of the vowel space. Instead, the primary concern of the model is to examine how, by using dispersion theory, the integrity of the diphthongal system is established and maintained. Thus, by using a subset of this system (/aɪ/, /aʊ/, /ɔɪ/), we can explore how the direction of change in Mersea Island English is motivated and optimised, as opposed to seeing how the entire system is maintained over various linguistic contexts.

To start, let us consider how we might derive a Standard English Inventory of sounds, namely /aɪ/, /aʊ/ and /ɔɪ/.

10.21 *The Inventory tableau:* To achieve the Standard English inventory.

	PRICE ~ CHOICE ~ MOUTH	MAX CONTRAST	DIPH CONT $_{HEIGHT-2}$	DIPH CONT $_{HEIGHT-1}$	MIN DIST$_{NUCLEUS}$	MIN DIST$_{OFFGLIDES}$
A	ɔɪ ɵɪ ɛʊ	✓✓✓	*P *C *M !		*P~C *C~M	*P~C
B	☞ aɪ ɔɪ aʊ	✓✓✓	*C	*P *M	*P~M	*P~C
C	ɔɪ ɔɪ ɛʊ	✓✓ !	*P *C *M		*P~C	*P~C
D	aɪ ɔɪ aa	✓✓✓	*C *M !	*P *M	*P~M	*P~C
E	aɪ ɔɪ ɛʊ	✓✓✓	*C *M !	*P		*P~C

How to read this tableau - Explanatory Points

- The top left cell is not representative of an input, since there are no inputs in the Inventory. However, the lexical set references are included in this cell to indicate which diphthong in the cells below correspond to which phoneme.

- This is also reflected in the use of *P(rice), *C(hoice) and *M(outh) as violation markers so that the reader can see which diphthong (or pair of diphthongs) is in violation of which constraint.

- The Max Contrasts constraint does not allow the same diphthong to be associated with more than one lexical set. Therefore, candidate set C only has a two-way contrast between /ɔɪ/ and /ɛʊ/ meaning that this variety, should it surface, would have a underlying /aɪ/~/ɔɪ/ merger.

- Candidate set D still has a three-way distinction. However, /aʊ/ has monophthongised to /aa/.

- The violations allocated in Diphthong Contrast relate to the differences between both elements of the diphthong. For example, each candidate in set A violates $\text{DiphCont}_{\text{HEIGHT-2}}$ as they only have a difference of 1 between the elements /ɔ/ and /ɪ/, /ɵ/ and /ɪ/ and /ɛ/ and /ʊ/. However, only /aa/ violates $\text{DiphCont}_{\text{HEIGHT-1}}$, since the diphthong has been monophthongised and thus there is no qualitative difference in the vocalic articulation across timing tier slots.

- The constraint $\text{MinDist}_{\text{NUCLEUS}}$, which guards against contrasting nuclei occupying the same or adjacent zones, is violated by, for example, the relation between /ɔ/ and /ɵ/ (*price~choice) and /ɵ/ and /ɛ/ (*choice~mouth) in candidate set A.

  When this is applied to the offglide, we can see that all candidate sets are in violation of this constraint since they all replicate either /ɪ/ or /ʊ/ offglides within a set of proposed inventory segments.

Therefore, what we can deduce from this tableau is that, the wider the elements are in terms of articulatory and perceptual space, the more optimal the diphthong. This is an observation which has been noted by those such as Yamada (1984:61, 67) who formalises this in her investigation of diphthongisation as a result of the Great Vowel Shift under two 'Dissimilative Diphthongisation' rules. It is the first of these which is relevant to the present discussion:

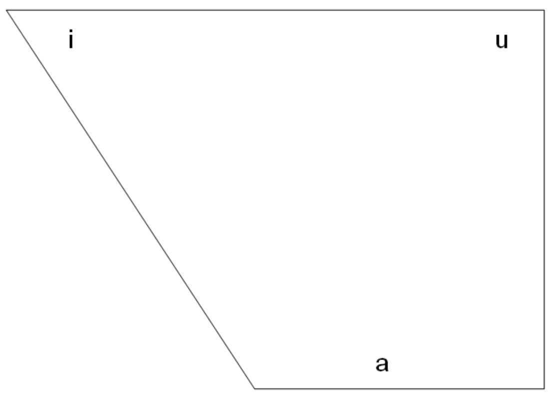
Dissimilative Diphthongisation (1) – Dissimilate the two Vs of a falling diphthong by increasing the sonority of its first V.

As a result, the newly developed diphthong will continue to develop by lowering the nucleus to a more sonorous position and thus creating a wider sonority (and articulatory) gap between the two vowels.

Therefore, it seems reasonable to assume that the wider the diphthong, the less marked it is in terms of perceptual distinctiveness (even though the articulatory effort involved will be greater).

We can also present this claim by examining the nature of the quantum vowels /a i u/.

10.22



These vowels are generally proposed as being ‘unmarked’ due to their positioning and status in phonological systems across languages. By extension, therefore, we might make the assertion that the diphthongs /ai/ and /au/ are indeed ‘unmarked diphthongs’[51] and that any changes which occur to the phonological system are towards these more natural forms. Indeed, we could claim that the winning inventory presented in 10.21 (which contains these two diphthongs) reflects the inventory of the Younger speakers of Mersea Island English, considering the analysis of their data.

[51] It could also be claimed that /iu/, usually represented as /ju/ completes this diphthongal set. However, a discussion of this feature is outside the scope of this thesis and will not be discussed here.

However, in order to establish the inventory of the traditional variants used by the Museum speakers, alterations to the constraint rankings need to be made.

The primary difference between the Younger speakers' /aɪ, ɔɪ, aʊ/ system and the Museum speakers' corresponding /ɔɪ, ɵɪ, ɛʊ/ system is the (phonetic) distance between the diphthongal nuclei and their offglides. Thus, the model needs to be able to represent differences between the phonetic qualities of the nuclei, as this is where the linguistic change over time appears to have been focussed. One solution, which is presented in 10.23, can be found in the re-ranking of the Diphthong Contrast constraints.

Therefore, with less importance placed on the height contrast between the nucleus and the offglide, a ranking reversal of $\text{DiphCont}_{\text{HEIGHT-1}}$ and $\text{DiphCont}_{\text{HEIGHT-2}}$ allows for the Museum inventory to be the optimal candidate set.

10.23 *The inventory tableau:* To achieve the Traditional Mersea inventory.

	PRICE ~ CHOICE ~ MOUTH	MAX CONTRAST	DIPH CONT $_{\text{HEIGHT-1}}$	DIPH CONT $_{\text{HEIGHT-2}}$	MIN DIST$_{\text{NUCLEUS}}$	MIN DIST$_{\text{OFFGLIDES}}$
A	☞ ɔɪ ɵɪ ɛʊ	✓✓✓		* P *C *M	*P~C *C~M	*P~C
B	aɪ ɔɪ aʊ	✓✓✓	* P *M !	*C	*P~M	*P~C
C	ɔɪ ɔɪ ɛʊ	✓✓ !		*P *C *M	*P~C	*P~C
D	aɪ ɔɪ aa	✓✓✓	*P *M !	*C *M	*P~M	*P~C
E	aɪ ɔɪ ɛʊ	✓✓✓	*P !	*C *M		*P~C

If we consider the development of /aʊ/ and /aɪ/, as discussed in Chapters 3 and 5, respectively, we can see that the nuclei developments in this dialect from [əʊ] and [əɪ] to [ɛʊ] and [ɔɪ] (following the developments of the Great Vowel Shift) enhance the distance between the diphthongal elements. Therefore, this change is in accordance with the optimisation of the system outlined by Dispersion Theory. This optimisation then continues as the [ɛ] and [ɔ] nuclei lower to [a].

However, this leads to speculation regarding the variable nature of the Older speakers' data. The data from this group represent variables from both inventory systems and may be modelled using both variable rankings between the Diphthong Contrast constraints or by proposing a multiple grammars type of analysis. This point will be examined in more detail in 10.4.3 below once the analysis of the Museum and Younger speakers' data has been completed.

10.4.2

The Realisation of Contrasts

As previously outlined, this stage activates contextual markedness constraints and deactivates Min Dist constraints. It is at this level that the individual forms selected by the Inventory are mapped together as phonetic strings and therefore, certain types of information, such as gestural articulation, become available for phonological constraint assessment. Since the Min Dist constraints are redundant here, a ranking of correspondence (faith) constraints is needed, as well as their opposing markedness constraints.

In this section, the apparent contextual effects of Canadian Raising, the lowering after dorsals, smoothing of /aɪ/ before /l/ and the preceding labial effect on /ɔɪ/, which have been highlighted in the data analysis above, will be modelled according to the Museum and Younger speakers' inventories.

10.4.2.1

Canadian Raising

As discussed above, Canadian Raising (CR) is the phonological process which sees the nuclei of /aɪ/ and /aʊ/ realised as raised [ɔ~ʌ] and [ɛ], respectively, before voiceless consonants. This can be achieved through a ranking of the following constraints:

> RAISE VOWEL – No diphthongal nuclei of [+low] before a voiceless consonant (However, [+low] required elsewhere)
>
> $\text{IDENT}_{\text{1ST/ 2nd element}}$ – The specifications of the diphthongal elements in the input are preserved in the output

The Raise Vowel constraint penalises the nuclei of diphthongs if they are low before a voiceless consonant. In Standard English, the only diphthongs with phonologically low nuclei are /aɪ/ and /aʊ/ and so these are the only diphthongs which would be affected by this constraint. Working in opposition to this are the two faithfulness constraints Ident $_{\text{1st element}}$ and Ident $_{\text{2nd element}}$. These act to preserve the quality of the inventory forms which provide the input for the Realisation stage. In order to achieve a CR correspondence, these constraints can be ranked as follows:

$$\text{RAISE VOWEL} >> \text{IDENT}_{\text{1st element}} >> \text{IDENT}_{\text{2nd element}}$$

The two Ident faithfulness constraints have been ranked in this way to reflect the idea that it is a worse violation to alter the quality of the diphthong nucleus than it is to alter the quality of the offglide. In the tableaux below this ranking becomes apparent.

The Museum Derivation

The Inventory which was derived above with respect to the Museum data resulted in the underlying diphthongs /ɔɪ/ and /ɛʊ/ for the PRICE and MOUTH vowels. Once these inputs are passed to Realisation, they can be assessed in accordance with the activated constraints of the level. Tableaux 10.24 and 10.25 demonstrate how a CR pattern can be derived using the words *house* and *houses* and the constraints proposed above.

10.24

/hɛʊs/	RAISE VOWEL	IDENT$_{\text{1st element}}$	IDENT$_{\text{2nd element}}$
haʊs	*!	*	
☞ hɛʊs			
haas	*!	*	*

10.25

/hɛʊ.zɪz/	RAISE VOWEL	IDENT$_{\text{1st element}}$	IDENT$_{\text{2nd element}}$
☞ haʊ.zɪz		*	
hɛʊ. zɪz	*!		
haa. zɪz		*	*!

The faithful [hɛʊs] candidate is the winner in 10.24 due to its contextually appropriate raised vowel. However, it is the losing candidate in 10.25 when [haʊzɪz] becomes optimal due to its low nucleus and faithful offglide.

The Younger Derivation

The same constraints and relative ranking can be retained for the Younger speakers' Realisation stage, even though the input from the Inventory differs from that of the Museum generation. Unlike that of the Museum Inventory, the Younger speakers' Inventory generates the standard-like /aɪ/ and /aʊ/ diphthongs. The following tableaux demonstrate how, once again, a CR pattern may be established.

10.26

/haʊs/	RAISE VOWEL	IDENT$_{1st\ element}$	IDENT$_{2nd\ element}$
haʊs	*!		
☞ hɛʊs		*	
haas	*!		*

10.27

/haʊ.zɪz/	RAISE VOWEL	IDENT$_{1st\ element}$	IDENT$_{2nd\ element}$
☞ haʊ.zɪz			
hɛʊ. zɪz	*!	*	
haa. zɪz			*

Here we see that in tableau 10.26, the faithful candidate is not considered optimal due to its low vowel before the voiceless /s/ and therefore, even though it violates an Ident constraint, [hɛʊs] is the winner.

10.4.2.2

The Dorsal Effect - A lowering of diphthong nuclei after /k/

The data from Mersea Island English (MIE) has consistently shown how a lowered nucleus of both (aɪ) and (aʊ) variables correspond with a preceding dorsal. This lowering effect, which could be considered as one of the promoters of the change from /ɔɪ/~/ɛʊ/ to /aɪ/~/aʊ/, may be classified as a contextual effect, brought about by phonological position of the diphthong. Thus, any backness associated with the dorsal, may be translated and transferred to the following vowel. However, if we propose that it is simply the backness which is transferred to the following vowel, this would predict that a diphthong input such as /ɛʊ/ or /aʊ/ would surface as, for example, [ɜʊ] or [ɑʊ], respectively. This does not occur in the data. Instead, the main difference between the diphthong realisations following dorsals is in the dimension of height. As a result, we might propose that a preceding dorsal is prompting the vocalic feature [+low] to be adopted by the following diphthongal nucleus. If we are to consider this as an effort saving device (as the tongue does not then have to move to a mid-front position), this may also be strengthened by the nature of constraints which have been applied in order to minimise articulatory effort on the part of the speaker. For example, Kirchner (2001; 2004) proposes, through an effort-based approach to the process of lenition, a constraint named LAZY which aims to minimise the speaker's articulatory effort during the production of speech. This type of constraint will, when applied to contextual co-articulation, logically favour the process since the articulatory precision of phonological segments is compromised in favour of articulatory fluidity.

However, since the primary constraints used for this model in Realisation are contextual markedness ones, the constraint introduced here will be LOWER VOWEL, and this will thus interact with the Ident constraints used in previous tableaux.

LOWER VOWEL – Any vowels following a dorsal consonant must represent the feature [+low]

The terms of this constraint are general in that it is worded to apply to all dorsal consonants preceding a vowel. Unfortunately, due to the nature of the real data recorded for MIE, as well as a general lack of English words with /gaɪ/, /gaʊ/ and /gɔɪ/ sequences, the proposal here has included both dorsals in this constraint under the assumption that the voiced dorsal would cause similar effects on the following vowel. However, it must also be acknowledged that this may not be the case, since any /gaɪ/, /gaʊ/ and /gɔɪ/ sequences are likely to be in uncommon lexical items and, thus, they may behave differently due to their comparatively lower frequency.

The Museum Derivation

Once again, the Museum Inventory will select /ɔɪ/ and /ɛʊ/ to be inputs. The following tableau demonstrates how the word *council* may be derived:

10.28

/kɛʊn.səl/	LOWER VOWEL	$\text{IDENT}_{\text{1st element}}$	$\text{IDENT}_{\text{2nd element}}$
☞ kaʊn.səl		*	
kɛʊn.səl	*!		
kaan.səl		*	*!

Thus, the faithful candidate loses out due to the highly ranked Lower Vowel constraint.

The Younger Speakers

As previously established, the Younger speakers' input will be that of standard-like realisations of the diphthongs /aɪ/ and /aʊ/. Using the same ranking of constraints as used in 10.28, we can see that, this time, the faithful candidate does indeed win to become the surface form and thus, the low vowel is maintained after the dorsal.

10.29

/kaʊn.səl/	LOWER VOWEL	$\text{IDENT}_{\text{1st element}}$	$\text{IDENT}_{\text{2nd element}}$
☞ kaʊn.səl			
kɛʊn.səl	*!	*	
kaan.səl			*!

10.4.2.3

Smoothing - /aɪ/ to /ɑ:/ before coda /l/

The data presented in Chapter 6 demonstrated how the diphthong /aɪ/ was realised as a backed monophthong before a coda /l/ in words such as *while* and *mile*. The data set also showed that this variation occurred in the lexical item *Island*, despite the following /l/ being an onset of the following syllable. However, the special case of *Island* will be discussed separately below. Thus, the following tableaux are concerned with /aɪ/ followed by coda /l/.

There are two approaches to the OT representation of /aɪ/ monophthongisation before coda /l/. The first would only be concerned with the quality of the vowel and not allow for alternations in the quality of the [l] ~ [ɫ] allophones. The second approach would take this alternation into account and thus not only model the vowel change but also the consonant change.

10.4.2.3.1

Smoothing - Proposal 1

In order to obtain lengthening before /l/, we could propose the following constraints:

*/aɪ/$_{\text{before cd /l/}}$ - [aɪ] diphthongs are prohibited before coda /l/

*COMPLEX VOWEL $_{\text{before cd /l/}}$ - only simple vowels may precede coda /l/

Though, on the surface, the first of these constraints may appear too specific, since it refers to a particular diphthong rather than a class of sounds, it could be argued to be part of a wider group of markedness constraints which construct the overall distribution patterns within our phonology. For example, the /aɪ/ diphthong is also not found before /ŋ/, and thus we could propose that this is due to an inviolable constraint */aɪ/$_{\text{before /ŋ/}}$ which does not allow /aɪŋ/ forms to surface. This process of monophthongisation before /l/ is also not restricted to the Mersea Island dialect, and so this constraint is applicable to other dialects of English (see, for example, Britain (1991) for evidence of /aʊ/ and /aɪ/ monophthongisation before /l/).

The second of these constraints is used here to apply to /aɪ/, although it may be applicable to other segments, such as /ɔɪ/. For example, we saw in Chapter 7 how lexical items with /ɔɪ/

before coda /l/ lowered and monophthongised in some dialects due to language contact. Thus, with further research, this constraint may be used to apply in more than the specific domain of /aɪ/ smoothing.

The incorporation of these constraints, together with the Ident constraint, can be seen in the tableaux below.

10.30 *Smoothing (version 1) Museum Speakers* – (ɔɪ) becomes /ɑ:/ before coda /l/

/mɔɪl/	*/aɪ/$_{\text{before cd /l/}}$	*COMP VOWEL $_{\text{before cd /l/}}$	IDENT$_{\text{1st element}}$	IDENT$_{\text{2nd element}}$
maɪl	*!	*	*	
mɔɪl		*!		
☞ mɑ:l			*	*

10.31 *Smoothing (version 1) Younger Speakers* - /aɪ/ becomes /ɑ:/ before coda /l/

/maɪl/	*/aɪ/$_{\text{before cd /l/}}$	*COMP VOWEL $_{\text{before cd /l/}}$	IDENT$_{\text{1st element}}$	IDENT$_{\text{2nd element}}$
maɪl	*!	*		
mɔɪl		*!	*	
☞ mɑ:l			*	*

The winning candidate for both groups of speakers is [mɑ:l]. However, what the above cannot seem to account for is a winning candidate with a different vowel quality, such as [mɔ:l]. A form like [mɔ:l], which is the monophthongal form of /mɔɪl/, would, using the constraints above, be tied with [mɑ:l]. However, forms like this were not found to surface in the data – only low, back monophthongs were found in this context. Therefore, we need to consider other factors which might cause this trend.

10.4.2.3.2

Smoothing - Proposal 2

The noticeable aspect of the /aɪ/ - [ɑ:] alternation is the co-occurrence with coda /l/. Generally, in dialects of English, when /l/ appears in the coda, it is the allophonic dark [ɫ] which is produced[52]. Ordinarily, when a clear /l/ is produced, the articulation is one of a coronal gesture followed by a dorsal gesture. However, in the case of dark [ɫ], the dorsal gesture is articulated first (see, for example, Cruttenden (2001) for further articulatory information). Therefore, we might propose that a type of regressive assimilation is taking place as the articulators, while completing the preceding vowel, anticipate this dorsal gesture. The result would be a lowering effect of the diphthong offglide and a lowering of the diphthong nucleus.

Thus, following in the path of the set of SPREAD constraints (see Padgett (1995)), which aim to represent feature spreading by extending a feature's domain in the output, we could propose the inclusion of a SPREAD$_{Dorsal}$ constraint which conspires to regressively lower and back an adjacent vowel articulation.

SPREAD$_{Dorsal}$ – Any velar gesture of a dorsal sound segment is spread to the preceding vocalic segment, if adjacent, resulting in the specification [+low, +back].

This constraint, together with those developed in Proposal 1, results in the following:

[52] It is also common in modern dialects of English for the dark [ɫ] to vocalise (see Johnson and Britain (2007)). It loses the tongue-tip contact and resembles a vocalic segment, although, since this vowel typically has a back quality, it may be suggested to be in keeping with the analysis presented here. However, without a separate analysis of /l/ vocalisation in the MIE data, no further assertions can be made at this stage.

10.32 *Smoothing (version 2) Museum Speakers* - (ɔɪ) becomes /ɑ:/ before coda /l/

/mɔɪl/	*/aɪ/$_{\text{before cd /l/}}$	*COMP VOWEL $_{\text{before cd /l/}}$	SPREAD $_{\text{Dorsal}}$	IDENT$_{\text{1st element}}$	IDENT$_{\text{2nd element}}$
maɪl	*!	*	*	*	
mɔɪl		*!	*		
☞ mɑ:l				*	*
mɔ:l			*!		*

10.33 *Smoothing (version 2) Younger Speakers* - /aɪ/ becomes /ɑ:/ before coda /l/

/maɪl/	*/aɪ/$_{\text{before cd /l/}}$	*COMP VOWEL $_{\text{before cd /l/}}$	SPREAD $_{\text{Dorsal}}$	IDENT$_{\text{1st element}}$	IDENT$_{\text{2nd element}}$
maɪl	*!	*	*		
mɔɪl		*!	*	*	
☞ mɑ:l				*	*
mɔ:l			*!	*	*

Therefore, all the diphthongs are in violation of Spread due to their adjacent offglide while [mɔ:l] now loses out since it is a back mid vowel.

10.4.2.4

Island Monophthongisation

In contrast to the previous examples and discussions of Smoothing of /aɪ/ before coda /l/, the monophthongisation of *Island* occurs before a syllable initial /l/ (or clear /l/). Therefore, we cannot propose a spread of the dorsal gesture since it is the initial coronal gesture which is the primary articulation for clear /l/.

It was discussed in Chapter 9 how the [ɑ̹]~[ɑ] variants in the ‘Island’ lexical item do not seem to be enregistered as a dialect marker of MIE. However, this word clearly patterns with the coda /l/ words throughout the data sets. This suggests that the smoothing in ‘Island’ could be either an over-extension of a phonological process (which has been restricted to this word), or it is the residue of a more general phonological process now restricted to this item (possibly through its frequency in the everyday speech of the locals).

Taking these points into account, we cannot therefore propose a set of constraints which will induce smoothing in non-coda /l/ environments as that would lead to words such as ‘pilot’ and ‘highland’ being realised as [pɑlət] and [hɑlənd], which never occur in the data.

Instead, by treating this as a type of lexical effect, we could propose that the Realisation level allows for dialect specific constraints on lexical items to be activated, since all phonetic information is available at this level and certain segment strings may be identified or recognised. By allowing lexical effects at this level, it is implied that the monophthongisation of ‘Island’ is not stipulated by the underlying phonology, and so the Inventory is allowed to remain stable. Also, by not having the monophthongisation governed by the sociolinguistic level, it reflects the consistent nature of the data and solidifies it as an operative phonological process, which is then available for sociolinguistic manipulation (see 10.5 below).

Thus, we can introduce a constraint such as:

PRICE → [ɑ] / ISLAND : The PRICE diphthong will monophthongise and back in the lexical item ‘Island’

The use of the lexical set title PRICE in the constraint simply allows us to represent the diphthong across each speaker group, as, for example, the Museum speakers and the Younger speakers have different underlying Inventory forms for this diphthong. Even though the form of this constraint is somewhat ad hoc, the application of it in the Realisation can be illustrated for both the Museum speakers and the Younger speakers as follows in 10.34a and 10.34b, respectively.

10.34a

The Museum Speakers

/ɔɪ.lənd/	PRICE → [ɑ] / ISLAND	IDENT$_{1st\ element}$	IDENT$_{2nd\ element}$
ɔɪ.lənd	*!		
ɔː.lənd	*!		*
ɑɪ.lənd	*!	*	
☞ ɑː.lənd		*	*

10.34b

The Younger Speakers

/aɪ.lənd/	PRICE → [ɑ] / ISLAND	IDENT$_{1st\ element}$	IDENT$_{2nd\ element}$
aɪ.lənd	*!		
aː.lənd	*!		*
ɑɪ.lənd	*!	*	
☞ ɑː.lənd		*	*

Once again, the monophthongal variants are in violation of Ident$_{2nd\ element}$ as they are being treated as a spreading of the diphthong nucleus to the timing tier slot of the offglide. However, since this is the lowest ranked constraint, it does not prevent a monophthong from surfacing. Indeed, it is a violation of the top-ranked lexical constraint which determines the surface form. Thus, a violation of this constraint from any candidate which does not conform to the criteria of the lexical conditioning constraint will mean it is instantly dismissed. However, since the lexical item is stipulated as ‘Island’, it would only be an active constraint when this phonetic form is provided as the input to the Realisation and not if other lexical items (such as 'pilot') serve as the input. Another approach would be to suggest that the Realisation phase does not contain types of lexical constraints, and that there is another derivational level which activates at the lexical level. Therefore, the Realisation phase would only hold constraints which are built around the phonetic information available at this stage, while a lexical level would activate constraints according to any lexical considerations, such as that relating to specific lexical items.

10.4.2.5

BOY

The data presented in Chapter 8 demonstrated how a preceding labial stop, notably /b/, promoted more traditional centralised [ɵɪ] variants for the (ɔɪ) variable in MIE. One explanation advanced above for the preservation of [ɵɪ] following /b/ was a coarticulatory labiality effect. Thus, the labiality features associated with the articulation of /b/ spread to the following vowel causing a rounded vowel to surface.

This centralisation and rounding of /ɔɪ/ was also found to correlate with the lexeme BOY and its derived forms (such as the plural form 'boys'). It has also been noted (in Chapter 9) that the lexical item 'boy' features in a prominent performance phrase 'My boy' and thus, this is a possible factor in the maintenance of [ɵɪ] in this phonological position.

Therefore, two derivational options are available to us:

1) We can propose a type of SPREAD constraint to promote more rounded vowels following a labial consonant (in this case /b/).

or

2) We can construct another lexical conditioning constraint which applies to the lexeme BOY

The implications of these will be quite different with respect to our phonologies and so we shall now consider each in turn.

A SPREAD constraint

If we proposed a constraint which stipulates that vowels are more rounded and centralised following /b/, this would then apply not only to any /b/ + /ɔɪ/ sequence, but any /b/ + Vowel sequence. The way of avoiding the latter scenario of constraint application would be to specify that it is only the diphthong /ɔɪ/ (in the sequence /b/ + /ɔɪ/) which is affected by the constraint. For example, consider the following derivation which uses the Younger Inventory segments as the input:

10.35

/bɔɪ/	SPREAD LABIAL __ /b/ + /ɔɪ/	IDENT$_{\text{1st element}}$	IDENT$_{\text{2nd element}}$
bɔɪ	*!		
☞ bɵɪ		*	

However, this would still cause other /b/ + /ɔɪ/ sequences to be realised as [bɵɪ]. For example, consider the name 'Boyd' or the verb 'boil' in 10.36a and 10.36b, respectively.

10.36a

/bɔɪd/	SPREAD LABIAL __ /b/ + /ɔɪ/	IDENT$_{\text{1st element}}$	IDENT$_{\text{2nd element}}$
bɔɪd	*!		
☞ bɵɪd		*	

10.36b

/bɔɪɫ/	SPREAD LABIAL __ /b/ + /ɔɪ/	IDENT$_{1st\ element}$	IDENT$_{2nd\ element}$
bɔɪɫ	*!		
☞ bɵɪɫ		*	

Even though other /b/ + /ɔɪ/ strings in the data are, in comparison to the BOY tokens, particularly infrequent (only 2 tokens of preceding /b/ were not BOY derivatives – *boiled* and *boiler*), there is no evidence in the data to suggest that other /b/ + /ɔɪ/ sequences favour the rounded diphthongal nucleus[53]. Therefore, even though this approach may initially seem the most appealing in terms of OT theory, it does have drawbacks in its extended domains of application.

A Lexically Conditioned Constraint

However, as arbitrary as the construction of lexically conditioned constraints may seem, the construction of a constraint such as CHOICE → [ɵɪ] / BOY eliminates the complexities of constraints which will need to prompt labiality spread but limit its domain of application to only a few individual lexical items. Therefore, we can define this constraint as follows:

CHOICE → [ɵɪ] / BOY : The CHOICE diphthong will be realised as [ɵɪ] in the lexeme BOY and any of its derived forms

The application of this constraint would work in a similar fashion to the lexical constraint used for 'Island' (outlined above). Therefore, the tableaux in 10.37a and 10.37b demonstrate its application with respect to both the inputs of the Museum speakers and the Younger speakers, respectively.

[53] 'Boiler' and 'Boiled' were realised as [bɔɪlə] and [bɵɪɫd], respectively.

10.37a

<u>The Museum Speakers</u>

/bɵɪ/	CHOICE → [ɵɪ] / BOY	IDENT$_{\text{1st element}}$	IDENT$_{\text{2nd element}}$
☞ bɵɪ			
bɔɪ	*!	*	

10.37b

<u>The Younger Speakers</u>

/bɔɪ/	CHOICE → [ɵɪ] / BOY	IDENT$_{\text{1st element}}$	IDENT$_{\text{2nd element}}$
bɔɪ	*!		
☞ bɵɪ		*	

The exact composition of a constraint like this (as mentioned above) would be open to interpretation and modification according to the nature of the underlying form to be changed. Thus, we could not write a transformation constraint such as /ɔɪ/ → [ɵɪ] / __ BOY and include that in the grammar of the Museum speakers since, as established above, they are unlikely to have /ɔɪ/ as the underlying form of the CHOICE diphthong. Instead, the constraint may be re-written to accommodate any previous variants to which that group of speakers were exposed (indicating a change situation) or simply to present it as /ɵɪ/ → BOY (which would act as a maintenance constraint for this variant in this specific context). However, once again, even though lexically conditioned constraints seem the more practical approach to modelling the variation of BOY morphemes, one area for future research would be to assess the validity of a lexical level in the context of this model where constraints such as these are activated.

10.4.3

The Older Speakers – multiple grammars or variable ranking?

The transitional nature of the Older speakers' data for each of the three variables under investigation suggests that they generate what could be an extremely complex Inventory. However, the nature of their data may be resolved by one of two means:

1. The activation of two Inventory grammars which, with variable selection, provide the Realisation with different inputs (Multiple Grammars)

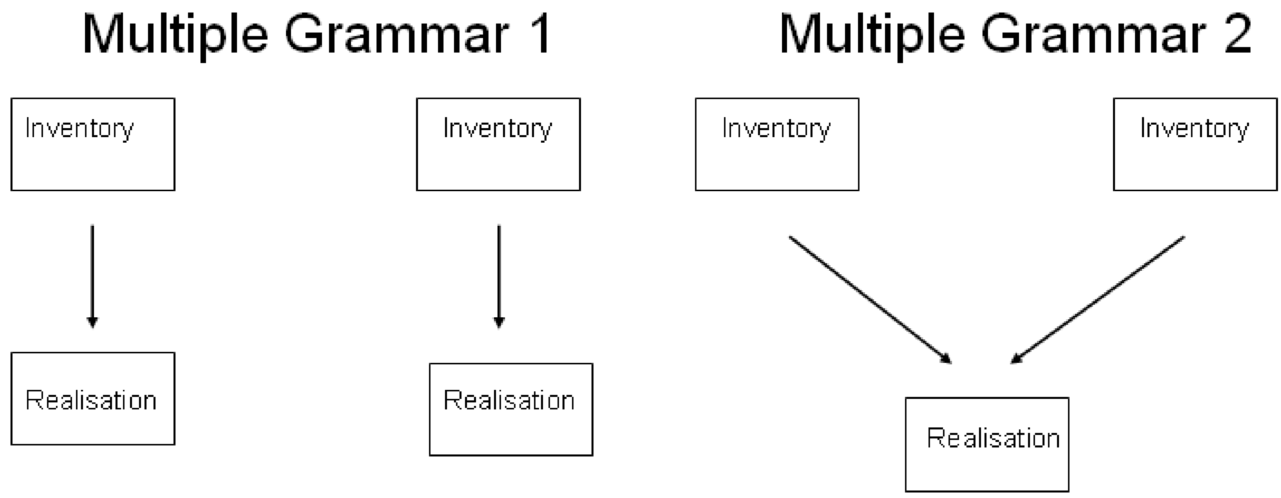
or

2. A variable ranking of the Diphthong Contrast constraints within the same underlying grammar, or Inventory (Variable Ranking)

We have seen, while deriving the Realisation tableaux, that the ranking of constraints in this phase is able to remain the same for both the grammars proposed for the Museum and Younger generations. Thus, for the contextual patterns of variation observed in the data, the constraint rankings may remain consistent. As a result, we can claim that the differences between the Museum and Younger grammars are due to the selection of the underlying inventory, rather than differences created by contrasting evaluations of phonetic forms. The Older speakers' grammar, therefore, needs to reflect access to both inventory sets if we are to maintain that their data represent the intermediate stages of linguistic change – that is, a change from the Museum Inventory to that of the Younger Inventory.

The multiple grammars approach would thus allow for two separate Inventory grammars to exist in parallel. These would either feed into separate Realisation phases, or feed into a singular Realisation phase. These can be illustrated as follows:

10.38 A comparison of underlying Grammars for the Older Mersea generation



The deciding factor would be whether we wanted to propose that the Realisation maintains the same structure during linguistic change (Multiple Grammar 2). However, this appears improbable as data relating to the sociolinguistic process of linguistic diffusion commonly suggest that certain linguistic environments promote change more rapidly than others. This kind of process could only be instigated by changes in contextual constraints which are activated in Realisation. Therefore, even though the Realisation tableaux so far have maintained consistent rankings, this may not necessarily be the case during periods of linguistic change. The change would thus reach completion as fewer and fewer speakers, over subsequent generations, activate both old and new inventories.

Conversely, the variable ranking approach would retain a singular underlying grammar, but with a variable re-ranking of constraints which lead to the selection of different candidate sets (and subsequently, different Realisation inputs). With respect to the dialect under observation, this would mean a variable ranking between the two Diphthong Contrast constraints, which determine the wideness of permissible diphthongs in the Inventory, and produce the Inventories previously proposed in 10.21 and 10.23 above.

Therefore, it seems that the representation of Multiple Grammar 1 (above) is the more elegant representation of the Older speakers' grammar, since it allows for a separation of linguistic systems which follow their own derivational structure. As a result, even though many processes would overlap, an Inventory form generated in the Older speakers' grammar would not be subject to Realisation constraints generated by the new, incoming grammar.

10.4.4

Evaluation of Surface Constraint (ESC)

It is at this stage in Flemming's model that the focus of evaluation turns back towards the system as a whole and not only the individual 'well-formedness' of Realisation candidates. Therefore, Min Dist constraints are once again required to assess how the modifications made in the Realisation will impact on the distinctiveness of the system as a whole. In Flemming's example above, we saw that the vowel alternation which took place in Realisation resulted in a form which was no longer distinct enough from other members of the Inventory set and so a neutralisation resulted.

However, the available sociolinguistic data are not concerned with vowel mergers and so the mechanisms which Flemming introduces to describe phonological neutralisation and enhancements are not appropriate or adequate to model this data. This can be demonstrated by the following example from a museum speaker's use of a wider (aʊ) variant following /k/.

10.39 A representation of a three tiered Museum speaker's Grammar – lowering after /k/

INVENTORY

PRICE ~ CHOICE ~ MOUTH	MAX CONTRAST	DIPH CONT $_{\text{HEIGHT-1}}$	DIPH CONT $_{\text{HEIGHT-2}}$	MIN DIST$_{\text{NUCLEUS}}$	MIN DIST$_{\text{OFFGLIDES}}$
☞ **ɔɪ ɵɪ ɛʊ$_1$**	✓✓✓		*P *C *M	*P~C *C~M	*P~C
aɪ ɔɪ aʊ	✓✓✓	*P *M !	*C	*P~M	*P~C
ɔɪ ɔɪ ɛʊ	✓✓ !		*P *C *M	*P~C	*P~C
aɪ ɔɪ aa	✓✓✓	*P *M !	*C *M	*P~M	*P~C
aɪ ɔɪ ɛʊ	✓✓✓	*P !	*C *M		*P~C

REALISATION

/kɛʊ/	LOWER VOWEL	IDENT$_{\text{1st element}}$	IDENT$_{\text{2nd element}}$
☞ <u>kaʊ$_2$</u>		*	
kɛʊ$_1$	*!		
kaa		*	*!

ESC

PRICE ~ CHOICE ~ MOUTH ɔɪ ~ ɵɪ ~ ɛʊ	*MERGE	MIN DIST $_{\text{NUCLEUS}}$	MIN DIST $_{\text{OFFGLIDE}}$
kɔɪ ~ kɵɪ ~ <u>kaʊ$_2$</u>		*P~C, *C~M	*P~C
kɔɪ ~ kɵɪ ~ **kɛʊ$_1$**		*P~C, *C~M	*P~C

How to read this tableau – Explanatory points

- The winning candidate set in the Inventory is highlighted in **bold** so that its trace can be seen in subsequent phases.

- The winning candidate in the Realisation is highlighted by <u>underlining</u> so that its trace can be identified in the following phase.

- Thus, when it comes to the Evaluation of Surface Contrasts, we can see two sets competing against each other – the first includes the modified form [kaʊ], while the second contains the original inventory form [kɛʊ].

- The *Merge constraint has been included, as Flemming notes that it is required to adopt the position of Max Contrasts. However, it does not take effect as the newly modified form does not merge with an existing inventory form. Therefore, it does not provoke a violation from either candidate set.

As a result, both candidate sets share the same violations. Indeed, if only these phonological constraints are active, both sets are tied in terms of violations incurred. At this stage we could claim a tied candidate solution and use that to explain the surface variation which the empirical data produced (see section 10.1.2.1 above). However, that does not seem a satisfactory conclusion as there appears to be no mechanism for examining or explaining which candidate may be picked for any one speech event. For example, studies have proposed and demonstrated how, when more attention is paid to speech during style tests, contextual co-articulation effects and variant usage changes (compared to that of speech in more natural, relaxed contexts – see discussion below). These types of correlations in sociolinguistic data cannot be accounted for through a purely phonological approach of tied candidates.

Therefore, if we allow for linguistic contextual constraints to influence phonetic mappings within our phonology, we must also, by logic, integrate mechanisms which have the power to manipulate or override these constraints if necessary.

10.5

The Sociolinguistic Level of Speech Production

The following section will outline a proposal for an innovative third tier to be included in the above model, which replaces the ESC and would lead to an integrated socio-phonological model of variation. The sociolinguistic notion of Audience Design will be explored alongside phonological theories of exemplars and frequency before attention is turned to how aspects of these models can work together to provide the basis for an integrated socio-phonological model.

10.5.1

Introduction

It has been demonstrated above that a faithful application of Flemming's model is inappropriate with respect to the sociolinguistic data presented in this study. That is because, unlike Flemming, these data are reflecting variation and are not representative of a phonological neutralisation or phonetic merger. Therefore, if the third tier was instead governed by sociolinguistic constraints, this would give a speaker's communicative competence more recognition and the power to override certain linguistic constraints which have been imposed at the previous level. For example, even though Tatham and Morton note that co-articulation is not a phenomenon that can be switched on and off at the will of the speaker, it can be described as "an *involuntary* process which, like many others, can be *voluntarily* influenced"[54] (2006:29). Thus, it is possible for a speaker to limit or enhance co-articulatory effects during speech. In addition, there has been extensive sociolinguistic research demonstrating style shifts in the speech of individuals

[54] Original italics.

during interviews and speech production tasks. Thus, with respect to this model, the Inventory provides the optimal set of sounds in the underlying grammar according to specific distinctiveness constraints and these are maintained by the correspondence constraints in the Realisation. However, the Realisation also introduces constraints which modify the Inventory segments according to their phonetic mapping while the Sociolinguistic level is able to modify and manipulate the phonological outputs of Realisation. As a result, the Sociolinguistics level is where knowledge about how to manipulate the phonology is collected and stored together with the social meaning of the contending phonological forms.

10.5.2

Communicative Competence

Communicative Competence, a term introduced by and associated with Hymes (1972), represents our ability to use our linguistic knowledge and our social knowledge together in order to communicate effectively and appropriately. Thus, communicative competence, by definition, must take into account any social factors which will influence linguistic behaviour, such as the relationship between speaker and audience and the time and place of the speech event. Indeed, Chambers (2002) notes that a speaker's repertoire of variants is usually linguistically based. However, in order for social interaction to work "both the content of speech and its form must be appropriate to the speakers and their interlocutors in the particular social context" (2002:11).

Through the adoption of a more descriptive anthropological approach, Hymes notes that, when a person acquires linguistic knowledge, it is not only knowledge of what is grammatical, but also knowledge of what is appropriate. For example, the person must acquire competence in a wide repertoire of speech acts (see Searle (1979; 1999) for example) and events, as well as the ability to evaluate others' ability to demonstrate their competence in communication. Hymes goes on to say that this communicative competence "is integrated with attitudes, values, and motivations concerning language, its features and uses" (2001:60). In addition, Hymes suggests that communication (as well as language in general) reflects four assessment criteria. Therefore, in the context of an utterance, this would be whether it is formally or linguistically possible, whether the rendering of it is feasible in its implementation, whether it is appropriate to the context in which it will feature and what the entailment of the utterance will be once it is performed. The role of competence in communication is summed up by Hymes as "the ways in which the systematically possible, the feasible and the appropriate are linked to produce and interpret actually occurring cultural behaviour" (2001:67). The role of varying cultural behaviour is also crucial to identifying and defining communicative competence between societies since the nature of the acquired communicative competence will vary according to particular societies and the social expectations as competency is shaped by social experience.

The observation that people change how they speak has also been validated by empirical sociolinguistic research. Labov demonstrated through his Attention to Speech model that speakers changed their use of particular variants according to the type of speech that was elicited from them. Thus, fewer vernacular variants were produced in the reading of word-lists and minimal pairs, which were considered the most formal of contexts, since "the speaker's attention is focused directly on pronunciation" (Labov 1994:157), while a higher percentage of vernacular variants were elicited in less formal contexts, such as free-flowing sociolinguistic interview speech. Thus, Labov (and many others since) demonstrated that the more self-conscious people were (that is, the more attention that was paid to their speech), the less likely they were to produce vernacular variants. Once again, therefore, this type of data shows how linguistic outputs may change in accordance with non-linguistic factors.

This view that language use is a reflection of social structure can be said to be encapsulated by Bell's (1984:151) *Style Axiom*. This states that:

> **STYLE AXIOM** – Variation on the style dimension within the speech of a single speaker derives from and echoes the variation which exists between the speakers on the "social" dimension (1984:151)

Thus, Bell demonstrates, through a number of studies, how the range of variation along the style dimension is always smaller than the range along the dimension of social status. Bell's Audience Design Framework thus allows a speaker to draw upon the linguistic resources which are available within their community. Therefore, as Bell (2001:145) suggests, the speakers are not passive participants. Instead, they are active in their exploitation of the linguistic resources at their disposal. In addition, the model allows for speech modification to occur in response to an absent audience – *referee design*. Referee Design, as modified and described by Bell (2001), is "the linguistic expression of identification with a reference group who are important to the speaker" (2001:163).

Therefore, even though representatives of such a group may be absent from the direct audience, the linguistic forms associated with that group may be projected by a speaker in order to demonstrate certain social or cultural affiliations.

Building on Bell's original 1984 work, and the idea of numerous social factors influencing linguistic choice, Preston (1991) investigated the role of status on speech through numerous statistical analyses of sociolinguistic data. He explains that, in this context, status "refers to a number of demographic features having to do with social class, age, sex and so on" (1991:38) and develops the *Status Axiom*:

> **STATUS AXIOM**: Variation on the "status" dimension derives from and echoes the variation which exists within the "linguistic" dimension (1991:36)

Thus, the range of statistical probabilities relating to status will be contained within the range of probabilities created by some linguistic factor. As a result, Preston presents his status axiom as a stronger version of Bell's earlier style axiom. When this is related to sociolinguistic variation, Preston (1991:52) implies a hierarchy of importance when linguistic forms are selected:

Strongest	Linguistic Environment -	Representing universal and language-specific conditions on features
Mid	Status -	Represents more or less permanent aspects of identity
Weakest	Style -	Controls (through the identity of the register) only the selection of a point along a continuum

When these approaches and points are taken as a collective, it is indicative that, as a speaker, we can alter our linguistic output in response to ever changing social contexts, as well as actively initiate changes in our linguistic forms as a way of dynamically projecting our self-image. However, if we are to follow Preston's hierarchical suggestion, aspects such as the speaker's own status characteristics will take priority over style factors in the selection of variants, while linguistic considerations and constraints will take overall priority.

10.5.3

Where does that leave phonology? Information through exemplars

If the underlying notion that speakers can alter their language outputs in accordance with social and contextual factors is correct, it is logical, by extension, to propose that linguistic forms are somehow encoded with social information which enables the speaker to select appropriately for any given speech event.

The introduction of exemplar theory into phonology (for example, Pierrehumbert (2001)) proposed that detailed phonetic memories of individual linguistic forms can be stored. These mental representations of phonological targets and patterns are thus added to and modified each time they are perceived. This leads to the construction of exemplar 'clouds'. Within these clouds, those exemplars which are activated more frequently are, as a result, able to be retrieved more quickly when the time comes for production. This model is therefore able to reflect the behaviour of speaker accommodation since "speech patterns, which are heard recently and frequently, dominate the set of exemplars for any given label, and therefore guide the typical productions" (Pierrehumbert 2001:13). In addition, although Pierrehumbert does not attempt to model social and stylistic factors within the exemplar model, she does suggest that these 'deeper causes' which influence exemplar selection may allow for selection of different parts of the exemplar cloud in different situations (2001:7). Therefore, even though it is not explicitly dealt with, once again, this assertion suggests that there is a type of sociolinguistic knowledge attached to linguistic forms, because, if there is not, we need to ask how these deeper causes might select from less active members of the exemplar cloud appropriately and with accuracy.

Indeed, the answer to this question might be found in the idea that, when we perceive linguistic forms, we not only decode them on a linguistic basis, but also on a social basis. For example, consider the following phrase:

he's right [ʔiːz ɹɔɪʔ]

Even though it is a syntactically and morphologically standard construction, the phonological form is non-standard English – initial /h/ is dropped, raised /aɪ/ nucleus, word-final glottal stop. All three of these features, once perceived, can be coded and stored linguistically. However, what if we add some extra information about the context in which it was perceived:

he's right	[ʔi:z ɹɔɪʔ]	- **Speaker** Close friend 'X' Male 30 years old Colleague Cricket fan - **Context** One-on-one chat in 'X's living room No one else present in room No one else present in house - **Topic** Cricket

Once this information is acknowledged and coded, the linguistic features can be stored with these social associations. Therefore, [ɔɪ] would be associated with relaxed conversational exchanges with 'X' and a sporting topic.

Now let us consider the same utterance produced by 'X' in the same context, but, instead of a sporting topic, the topic relates to that of a professional, work-related issue.

he's right	[hi:z ɹaɪʔ]	- **Speaker** Close friend 'X' Male 30 years old Colleague Cricket fan - **Context** One-on-one chat in 'X's living room No one else present in room No one else present in house - **Topic** Work conflict

Two changes have been made to the form of the utterance – the initial /h/ of the pronoun has been retained and the pronounciation of the diphthong has widened so that it is produced more like the standard form. The associations with 'X' as an interlocutor and the associations with the contextual situation remain the same, but new topic associations have been established.

By establishing numerous associations between linguistic forms and, for example, interlocutors, social contexts and topics, the perceiver continually gains experience of what to expect from each factor. Thus, a speaker can then use this information when it comes to their own production of appropriate, or indeed inappropriate, linguistic selection. Therefore, accommodation is possible (not just to a speaker or group of speakers), but also accommodation to, for example, a situation or topic is possible. As a result, speakers are able to switch between speech styles and registers dynamically as the speech event or conversational exchange unfolds in time.

This type of awareness of social factors through linguistic associations may also account for speaker-initiated variation such as divergence. If a speaker wishes to adopt an image or persona of a group which holds significant appeal (such as that which Bell discusses under referee design, see above), the associations can be made through perceptions of experience (whether direct or indirect) and then linguistic forms can be manipulated accordingly.

However, if we are to follow Preston's hierarchy, outlined above, certain associations will take priority over others when it comes to the selection of linguistic forms. Thus, linguistic forms will be primarily considered on linguistic criteria, such as language specific criteria. The selection will then be biased towards associations of 'status' and, lastly, surface forms will be chosen according to associations of 'style'.

10.5.4

How this can be implemented through the three-tiered model

The acknowledgement of linguistic factors as the primary influence on the derivation or nature of linguistic variants could be said to reflect the first two tiers of the model as previously discussed (i.e. the Inventory and the Realisation). In the context of this analysis, language or dialect-specific conditions on diphthong form shape the underlying inventory and provide the phonemic entries. Then, in the Realisation, additional factors, such as co-articulatory and contextual effects, are considered as the result of phonetic mappings of elements in phonemic strings. Therefore, these linguistic phases have primacy in the shaping of underlying forms before they are produced. However, as discussed above, surface forms may not always behave in a linguistically consistent way as variation occurs in, for example, contrasting stylistic and social contexts, and co-articulatory effects may be enhanced or reduced. In other words, to be truly linguistically consistent would result in the production of the underlying inventory forms in every linguistic context. However, allophonic alternations are prompted in the Realisation which allows for linguistically motivated variation and extra-linguistic factors can lead to variation between these allophonic structures. Therefore, we need to construct a component which allows the speaker to retain trace memories of the output from both the Realisation and the Inventory so they too can be evaluated according to real-time sociolinguistic considerations.

Using the notions of status (this time on the part of the speaker), style and context, we may construct something like the following matrix:

10.40

Audience Status *e.g. who?*					Style *e.g. How?*					Context *e.g. where?*				

The knowledge about each category is gained from a person's continuous linguistic experience. For example, only by experiencing certain speech contexts, either directly or indirectly (such as speaking in a job interview or a sermon in Church), can a speaker collect information about which linguistic form is appropriate when. By way of illustration, consider the lowering of diphthong nuclei after dorsals for a Museum Mersea Island speaker. Their Inventory produced /ɔɪ/ while the Realisation generated [aɪ]. Here is how we might evaluate both according to context and style:

10.41

	Style		Context	
	Formal	Informal	Formal	Informal
ɔɪ		✓		✓
aɪ	✓		✓	

By using tick marks '✓', the characteristics of each candidate in terms of social and stylistic value are mapped. Therefore, rather than acting as a 'selection through violation' process, as in classic OT, the ticks represent the extra-linguistic mapping of, for example, the social and stylistic attributes of a linguistic form onto a matrix of categories. As a result, the example above shows how a speaker has categorised [ɔɪ] as being associated with informal, relaxed speech styles and familiar contexts, while the reverse is true of [aɪ]. Furthermore, we can see how these would potentially interact as a formal unfamiliar situation would prompt the selection of [aɪ] while an informal familiar situation would prompt [ɔɪ]. However, this type of binary classification seems methodologically crude in that we are unlikely to make such clear-cut distinctions for each interaction in which we are involved. For example, a speaker would find a conflict in variant selection above if the speech event represented a formal style in an informal context, such as the reading of a book passage at a friendly, local book club held in a member's house. Therefore, we might propose a more individual or tailor-made division which reflects our personal situation and experience. By way of illustration, as a 28 year old, PhD researcher, lecturer and speaker of Mersea Island English, I might include the following in my sociolinguistics matrix:

10.42a

Style					
Chatting	Lecturing	Telephone	Interview	Performance	etc.

10.42b

Context					
Home	Classroom	Supervisor's Office	Restaurant	Friend's House	etc.

Thus, the further a classification is to the left of a category, the more salient it is to me. The inclusion of 'Performance' under Style allows for me to perform, or enhance certain linguistic characteristics. For example, it was mentioned above that certain traditional dialect features may become entrenched in certain set phrases. These performance phrases may not be in keeping with the rest of a person's speech pattern, but they can be accessed during a speech event if necessary. This could also include aspects such as mimicry of accents which are not socially related to the speaker – for example, the performance of an American accent during story telling. In addition, I have advanced many classifications under 'Context' that pertain to working at the University where, depending on the season, I spend most of my time. This will obviously not be the case for others who hold different jobs or indeed even for those who partake in similar activities to my own. Also, allowing for this much detail leads to a particular linguistic form being associated with more than one cell on the sociolinguistics matrix. However, if I do not experience any of these classifications for an extended period of time (for example, I move to a different geographic region or change jobs), then I will gradually lose traces of previous associations and acquire new ones according to my new experiences. With these new experiences may come new variant exposure, which the phonological and sociolinguistic system will need to decode and re-classify.

It is a significant implication of this proposal that, since both the Inventory output and the Realisation output are evaluated at this final stage, the former must have a trace which can then be retrieved by the production system. However, the model must also be able to account for surface variants which do not seem to be represented by either the Inventory or the Realisation outputs.

If we return to Exemplar theory, it was mentioned above that the forms we perceive are stored in exemplar clouds from which the speaker can pick the strongest when it is time for production. To accommodate this notion in the current model, it can be proposed that the perceived exemplar forms in a particular situation are stored before they too present themselves for evaluation alongside the Realisation and Inventory outputs. Thus, if I, as a perceiver who has /ɔɪ/ as an Inventory form, consistently hear at work [aɪ] forms used in all linguistic contexts (not only in those where I would expect lowering), I would associate that form, in all linguistic contexts with work and the people associated with that institution. Thus, I would evaluate, for example, [kaɪt] and [saɪt] as permissible and valid forms in a work context. Then, if I chose to accommodate to this pattern, I too would use [aɪ] in both and not just after the dorsal.

This also gives an important role to the people with whom we interact. It is these people who provide us with the exemplar knowledge and who each have the potential to be an audience themselves. As a result, our interlocutors provide a great influence over how we design our speech and must be included in our evaluation of surface candidates. As we grow up and learn the social rules of language interaction and use, we are linguistically groomed with respect to how we can say what to whom (leading to much anecdotal data of parents correcting their children's pronunciation or apologising for their children's often embarrassing breach of interactional conventions).

Once again, therefore, it would not be methodologically appropriate to suggest that we categorise our interlocutors in a binary way (such as known vs. unknown), but rather as individuals or, at the very most, a group. The former would allow us to categorise and respond linguistically to the behaviour of another while a group affiliation (such as that reported in communities of practice studies - Eckert (1989; 2000), Mendoza-Denton (2008) and Meyerhoff (2002)) would prompt linguistic behaviour as expected from the group norm of affiliated members. Indeed, this type of group audience could also be activated in order to signal membership, even when the speaker is removed from the vicinity of the other members, in accordance with Bell's referee design (as previously discussed). Taking these observations into account, the 'Sociolinguistic Speaker Matrix' may be represented generally as follows:

10.43

Audience (Direct or Indirect)					
Individual A	Individual B	Individual C	Individual D	Group 1	Group2

The three aspects of Audience, Style and Context would, therefore, all work together in the evaluation of potential surface forms.

10.44

Audience			**Style**			**Context**		
A_1	A_2	A_3	S_1	S_2	S_3	C_1	C_2	C_3

However, it must be noted at this point that there is a potential clash of terminology. In the above proposal, the terms 'style' is referring to what type of speech is appropriate for the speech event and, therefore, answers the question *How should I speak in situation X?* As a result, this is more in keeping with more traditional Labovian interpretations of style (such as that used by early sociolinguistic methodologies which would elicit and compare speech from word lists, reading passages and casual speech). However, a strict adherence to Bell's model would lead to the interpretation that 'style' is in fact the 'audience' and, therefore, these two should not be separated into individual analytical entities.

Therefore, in order to avoid confusion, the term ‘Speech Type’ will be used in place of ‘style’. The incorporation of this term allows for the maintenance of a three-part system between who is being addressed (Audience), how the speech event is altered to conform to stylistic factors (Speech Type) and the setting or where the utterance takes place (Context).

10.5.5

The Activation of the Sociolinguistics Matrix and Evaluative Parameters

The inherent nature of any natural (non-scripted) interaction is that it is an ever-changing, dynamic process. Even the most mundane exchanges do not remain static with respect to, for example, audience, topic and context. By way of illustration, a chance meeting with a friend on the street may include many rapid changes in topic, while a group interaction may include many changes in the direct and indirect audiences. In addition, the need for emphasis, and thus clearer articulation may arise, or the need to moderate, or alter one’s speech in accordance with perceived stereotypes may be desired.

Therefore, any model of speech must allow for the ever-changing dynamics of social interaction and the influences this will have on the linguistic system. Focussing on phonology, however, the phonological system may provide the speaker with the optimal options for production, in accordance with underlying structure, but there must be a flexible mechanism in place so that the demands of communicative competence can override the phonological system’s recommendations if necessary. In other words, the phonological system provides, stores and maintains a number of possible linguistic options while the range of interacting sociolinguistic factors determine which one is selected. However, the range of linguistic options will be limited by the linguistic system, in this case the phonological system, since it may only generate options which are phonologically well-formed and appropriate to the speaker's linguistic system.

This can be graphically represented by column activation on the sociolinguistics matrix. Consider the following interview scenario and subsequent, simplified, matrices:

A and B, who are Older Mersea speakers, are husband and wife. They are being interviewed by J, a Younger Mersea speaker, in the living room of their house. In the middle of talking to J, the phone rings outside the interview room and A goes to answer. The caller, it is later revealed, is A's son X.

10.45a A's Sociolinguistic Matrix for 'might' – Addressing the interviewer J in the presence of his wife B

	Audience		Speech Type		Context	
	B	J	Informal	Formal	Familiar	Unfamiliar
mɔɪt Inventory	✓		✓		✓	
mɔɪt Realisation	✓		✓		✓	
maɪt Interviewer		✓		✓		✓

10.45b A's Sociolinguistic Matrix for 'might' – After answering the phone to X in a separate room

	Audience			Speech Type		Context	
	X	B	J	Informal	Formal	Familiar	Unfamiliar
mɔɪt Inventory	✓	✓		✓		✓	
mɔɪt Realisation	✓	✓		✓		✓	
maɪt Interviewer			✓		✓		✓

The subscripts in the far left column indicate the source of the evaluated candidates or variants. Note how the interviewer's form acts as an input at this stage since that is the one being perceived, decoded and stored in association with the relevant social factors. This allows for new phonetic forms to be interpreted by the phonological system and evaluated accordingly by the sociolinguistic system so that accommodation to the new form is possible.

The highlighted columns indicate which social aspects are relevant at the time of the speech event. Therefore, the context does not change, meaning that both utterances were carried out in a similarly familiar location, in this case, A's home. However, both the interlocutor and the style change, the former due to the shift in addressee, and the latter due to the break in conversational structure (the phone conversation is not viewed by the speaker as being part of the recorded interview structure, but rather a separate casual exchange). Therefore, the parameters for candidate evaluation also change.

In 10.45a, the speaker's choice is between [aɪ], which the interviewer is using and which is also associated with the current speech style, or [ɔɪ], whose only relevant associations (in this simplified illustration) are to do with the familiarity of the context. Conversely, when the audience and style of speech changes, there are no associations of [aɪ] in the activated cells, making [ɔɪ] the likely surface form and accommodation to the interviewer less likely, even though J maintains the type of status associated with over hearers.

The benefit of this approach is that it is able to illustrate surface variation in a dynamic conversational structure by highlighting what possible factors may have altered as different variants are used. Indeed, the rather simplified examples above can be adapted to reflect any number of additional or personalised factors. For example, the only additional input in the Sociolinguistic Level was from the interviewer. However, in a group situation or dialect contact situation, there may be a number of new forms added from speakers, which will work to bolster their respective exemplar clouds and create numerous new sociolinguistic associations. If the contact with these new forms is temporary, the associations will remain weak. Conversely, if these associations are continually activated, they will strengthen as they are used with increased frequency. Eventually, these strengthened forms will cause a shift or change on the part of the speaker.

The following section will now discuss how language change may be represented and reflected by this three-tiered model.

10.6

The Representation of Types of Change

The model outlined above has so far demonstrated how underlying phonological forms can be generated to provide a structured and optimal phonemic inventory. The members of this inventory are then passed onto a secondary level which activates and imposes certain phonetic constraints on their production once placed in certain linguistic contexts. These two stages, governed by linguistic factors, provide the basis and inputs for the final stage of sociolinguistic evaluation. It is this final stage where the interaction of phonology and sociolinguistics can be seen and surface variation between linguistic forms can be illustrated according to various sociolinguistic (or external) demands.

However, it seems that any model of variation would not be complete without the provision for representing language or dialect change. Chapter 9 has summarised the characteristics and types of change found in MIE as well as providing explanations for some of the lexical variation (namely that associated with 'Island' and BOY).

Therefore, the following sections will illustrate how we can incorporate and describe the general theory of language change into the three-tiered model presented so far in this Chapter.

Minkova and Stockwell (2003), investigating a number of vowel and diphthong shifts, state that "once phonetically motivated surface changes gather enough momentum, they percolate into the underlying structure, creating new phonologies" (2003:184). Therefore, in the early stages of change, contrasts in the underlying structure of the Inventory would remain unaltered. This can be reflected in both the data and the model presented so far. Applying the principles of this quote from Minkova and Stockwell, we can say that 'phonetically motivated' changes are those natural changes which arise in the Realisation stage. With respect to the MIE data, an example of this could be the lowering of diphthong nuclei after dorsals. This change does not affect the underlying structure of the Inventory as, in this model, these two stages (Inventory and Realisation) are separate.

However, even though the initial domains of application are phonetically restricted (for example, diphthongal nuclei are only lowered after dorsals), once these patterns are established, frequently used and reinforced by the speaker and speech community, other domains of application may emerge until the Realisation stage is altering all or nearly all inputs from the Inventory. This type of change which allows for certain phonological environments to change independently of other phonological environments reflects the principles of Neogrammarian sound changes (see, for example, Labov (1994)). Once the momentum of the change has gathered, the change may be filtered up to the inventory and the underlying structure will be reassessed and altered. An immediate advantage would be that processing in the Realisation would be reduced as less context-specific constraints would be activated to apply to specific inputs. It is at this point that the Inventory might need to readjust in order to conform with the constraints active at this level. In the case of this model, these would be the dispersion constraints which maintain the structure of the phonemic inventory.

By way of illustration, consider the changes in the PRICE vowel from [ɔɪ] to [aɪ] in MIE[55]. The data have shown that this diphthong is subject to processes associated with Canadian Raising, lowering after dorsals and smoothing before coda /l/. The following represents these processes with respect to a Museum speaker:

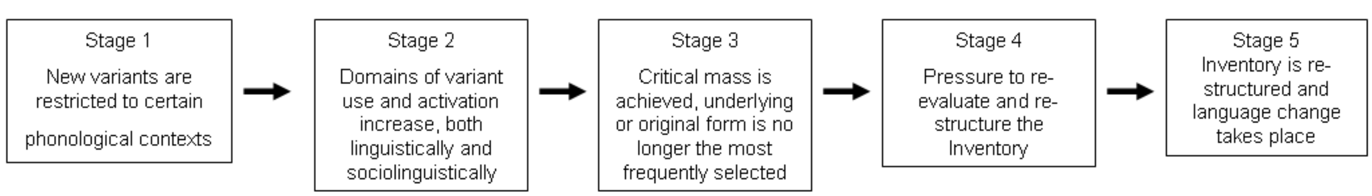
[55] Let it be noted that by selecting this variant, I am not proposing that this is where the change in MIE originated. It is being used only for illustrative purposes.

Canadian Raising -	[ɔɪ] before voiceless consonants [aɪ] in all other contexts
Dorsal Lowering -	[ɔɪ] in all other contexts [aɪ] after dorsals
Smoothing -	[ɔɪ] in all other contexts [ɑ:] before coda /l/

All these processes are derived from the context-specific constraints in the Realisation. Therefore, to minimise the processing load, it would be advantageous to simplify these constraints where possible. It is possible to suggest that dorsal lowering may be extended to other preceding articulations. However, without any convincing articulatory argument (provided by the data) to accompany this suggestion, together with preceding dorsals being infrequent in the data, it seems unfavourable to suggest this as the main driving force behind the change to [aɪ]. Conversely, it was suggested in the previous chapter that the Canadian Raising type patterns found in the data did not appear to be entrenched (or enregistered) as a phonological rule. It was suggested that this helps provide support for it being a natural pattern of reallocation as a product of change through contact, as opposed to a natural pattern which has become a linguistic rule. The result is that the wider diphthong has a more diverse range of application with respect to linguistic contexts and lexical items. Over time, the increased frequency of [aɪ] usage will then overcome [ɔɪ] in the perception of others (such as the next generation of speakers) and result in [aɪ] being the majority variant which has the more complex set of phonetic constraints in the Realisation. This would subsequently put pressure on the Inventory to adopt [aɪ] as an underlying form /aɪ/, which, it has been proposed, has taken place and been completed in the Younger generation speakers. The Younger speakers, by this point, do not have the complex set of constraints in the Realisation, with the exception of the ‘Smoothing’ constraints and the now raising of [aɪ] to [ɔɪ] before voiceless consonants (which reflect the Canadian Raising rule). However, the latter seems to be almost lost in the speech of the younger generation and so even this process may not be present in some speakers. With respect to smoothing, one explanation for its preservation in the younger generation may be that the resulting sound from the Realisation is [ɑː] (from the input /aɪ/) and this is neither of the [aɪ] or [ɔɪ] forms which are competing for Inventory representation. However, as the data in Chapter 6 suggest, this smoothing is also on the decline in the Younger speakers and so it is possible that this contextual constraint is already on the way to being lost from the grammar.

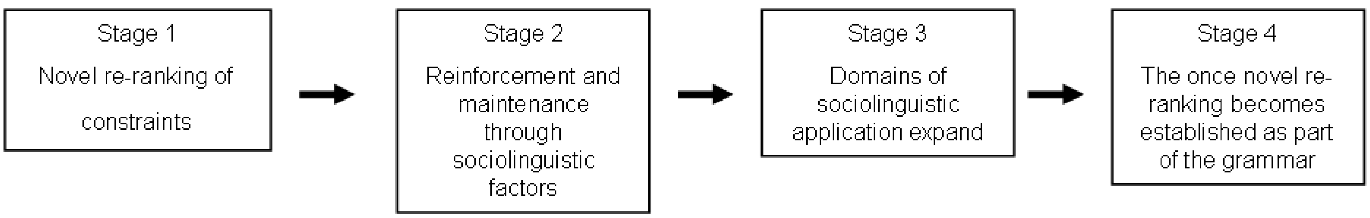
The change in the Inventory structure between Museum speakers and Younger speakers is also bolstered by the behaviour of the change from [ɛʊ] to [aʊ] in the MOUTH vowel. With the exception of Smoothing, the MOUTH vowel demonstrates the same contextual variation as the PRICE vowel and, therefore, it could be said that the Inventory is re-structuring towards more optimal diphthongs (with respect to their internal structure and the structure of the diphthong system overall). Therefore, they meet with less resistance as both are available for alteration.

The following flow chart demonstrates the progression of these changes:



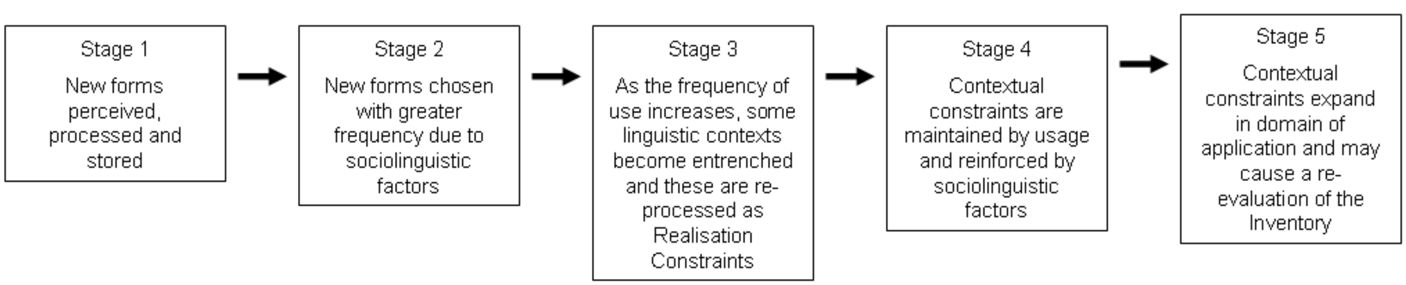
However, this approach is primarily focussed on linguistic factors (namely naturalness) as the main driving force of change with sociolinguistic factors there to reinforce and promote the newly generated variants. Therefore, since the Realisation forms contribute to the input of the Sociolinguistic level, we need to allow for driving forces of change which are outside the domain of phonetic motivation.

During an examination of constraint re-ranking in phonological change, Gess (2003) presents a three level model (primarily based on the methodological approach of Lexical Phonology), in which he makes the primary distinction between lexical and post-lexical components. It is the structure of the post-lexical component which is the most relevant to the model presented here. Gess proposes that this level is split into two levels: ‘register-dependent’ and ‘register-independent’. Importantly, with respect to phonological change, the register-dependent level is where the new form is developed due to a novel re-ranking of applicable OT constraints. Gess (2003:76) notes that the ranking which produces the new form will be a rarity and will be restricted to a minority of speech styles, a minority of speakers and, maybe, only feature in frequently occurring words. The ranking which produces these novel forms will then become more frequent in a speech community and extend its domain of application with respect to speech styles and lexical items. Finally, Gess suggests that “the spread of change through speech contexts and speakers is due to sociolinguistic factors [while] the spread of change through the lexicon (lexical diffusion) is due to both social factors and frequency” (2003:77). As a result, this proposal does not deny the role of sociolinguistic factors during language change, particularly the factor of register (even though this is the factor which both Preston and Bell's models, outlined above, suggest has the least impact on variation). The new linguistic forms may be generated in the Realisation and thus, the notion of register variation would be incorporated in the Sociolinguistics level under the category of Speech Type. This is in line with Gess' idea that the new variant is produced by a novel re-ranking of applicable constraints.



However, this still implies that new variants are generated internally by the linguistic system but maintained, at least in the early stages, by the sociolinguistic system. Therefore, one final aspect of change to account for is the possibility of change which is prompted from outside the linguistic system, such as that generated by contact. In these cases, the new surface variants may be the result of, for example, long-term accommodation and therefore, the original influence will be external as opposed to internal. Cases such as these can be registered directly with the Sociolinguistic level. When a speaker is introduced to a new form by perceiving its production by another, this input is then analysed by the phonology and stored among other appropriate exemplars. The sociolinguistic information will be catalogued (albeit it in less specific terms) along with the linguistic form and all this information will be available for retrieval when it is required by the system. Thus, the perception and subsequent perceptual processing of a new variant creates an exemplar trace in the Sociolinguistics level which will contain information not only relating to sociolinguistic factors, but also the internal processing information needed in order to actually produce the sound, or an approximation of it.

The more a speaker is exposed to the new form, the more likely they will select it from the Sociolinguistic level's inventory as an appropriate form due to motivations such as stylistic projections (unless divergence from the new forms is desired by the speaker as opposed to convergence). This increased frequency of usage may prompt reanalysis within the phonetic stage of the Realisation (either as specific lexical constraints or more general contextual constraints), perhaps representing the most frequent or most natural phonological contexts. Once these are established, increased pressure from the Realisation constraints may cause a shift in Inventory forms either within or across generations. Conversely, if naturalistic patterns of variation are established through constraints (such as those associated with Canadian Raising), the Inventory may be left unaltered and change from the old form to the new one may never take place. Instead, allophonic variations may become established and entrenched in the language or dialect.



As a result, we can propose three types of change:

1. Change which is introduced and maintained by the linguistic system. These changes will reflect natural processes and motivations.

2. Change which is introduced by the linguistic system, but maintained by the sociolinguistic system. These changes are the result of novel constraint re-rankings, which then become established.

3. Change which is introduced externally to the Sociolinguistic level and is maintained by the sociolinguistic system. These new forms may never become adopted by the linguistic system in the form of Realisation constraints if, for example, the contact situation which introduced the innovations diminishes.

Changes of the third type may be the least likely to be adopted by the system since it is these which need constant exposure, reinforcement and selection in order for contextual constraints to be established. Therefore, unless they do become established, they represent only short-term accommodations as opposed to language change through long term accommodation and contact. In a similar fashion, changes introduced to the system through novel re-rankings still need to be reinforced by their selection in specific sociolinguistic contexts. If their application in certain registers, contexts or styles fails to become established, there is no impetus from the Sociolinguistic level with which to pressure the linguistic system into maintaining or permanently adopting the ranking. Finally, change which is motivated and maintained by the linguistic system can be said to reflect natural motivations within the system as a whole. It is these changes which are most likely to be stabilised (both linguistically and sociolinguistically), and result in underlying change, unless they are repeatedly overridden by external sociolinguistic factors, such as those relating to standardisation and ‘correctness’.

This Chapter has discussed how we might represent the interface between phonology and sociolinguistics. The three-tiered model discussed and presented throughout illustrates how underlying forms may be selected as part of an optimal underlying system (the Inventory) through the use of dispersion constraints. These underlying forms are selected regardless of linguistic context and are used as the input to the second, Realisation, stage. It is this stage where contextual phonetic information becomes available and allophonic variation can be generated. This stage has also been shown to accommodate lexically conditioned as well as articulatory motivated constraints. The final stage is where sociolinguistic factors, which influence surface variation, are represented (factors such as the audience and the context of the speech event). Both Inventory and Realisation forms have trace representations in this level and this is where their sociolinguistic associations are activated. These units are then evaluated along with any other externally sourced variants according to sociolinguistic factors.

Finally, the process of language change has been discussed in relation to how types of change may be reflected in the structure of the three-tiered model. It has been suggested that three types of change are possible. These changes are sourced either internally or externally, each with the need for constant reinforcement from internal generation of constraints and sociolinguistic selection in order to result in change to the underlying structure.

Concluding Remarks

CONCLUDING REMARKS

The investigation of Mersea Island English (MIE) has resulted in the discovery of a number of social and linguistic factors which have influenced the shape and type of dialect variation present in the data.

We have seen that, as the demographic structure of the Island has developed, there has been a widening of Islanders' social network structures. This has resulted in a greater dependence on the mainland with respect to factors such as education and employment, as well as more leisurely pursuits, such as shopping and social interaction.

The analysis of life-long Island residents across three generations has demonstrated that it is not just the socio-demographic characteristics of the Island which have been susceptible to change, but also the internal structure of the MIE dialect. The diphthongs /aʊ/, /aɪ/ and /ɔɪ/ have been shown to have shifted from their more traditional realisations of [ɛʊ], [ɔɪ] and [ɵɪ], respectively, which contradict the predictions and generalisations of both the Diphthong Shift and the Southern Shift. However, these changes are not without internal complexities.

Canadian Raising type patterns were found for both /aʊ/ and /aɪ/ diphthongs. These patterns, as discussed in Chapter 9, may be a by-product and highlight the progression of change from [ɛʊ] to [aʊ] and [ɔɪ] to [aɪ], as naturalness can account for the initial preference of lowering the diphthong nuclei before voiced consonants as opposed to voiceless consonants. Other lowering influences, which help to promote this change were found in the domain of preceding dorsal consonants, and this too was attributed to contextual influences.

Other patterns highlighted within the overall variation were the preservation of traditional rounded [ɵɪ] in BOY tokens and the monophthongal variant [ɑ] in the lexical item *Island*. These were shown, also in Chapter 9, to contrast with respect to performance phrases and overt dialect comment. Thus, while rounded [ɵɪ] featured in performance phrases and was open to comments about the characteristics of MIE, *Island* monophthongisation was not. This, it was suggested, together with the behaviour of Canadian Raising, helps to demonstrate different types of social and dialect enregisterment – for example, the difference between enregistering individual phonological rules or processes and the realisations of individual lexical items.

The pattern and direction of dialect change and the manipulation of enregistered variants suggests that phonological conditions and sociolinguistic factors are inter-twined. The underlying structure of the diphthong system was discussed in Chapter 10 and it was shown that, when change to the system occurs, dispersion constraints can help illustrate how perceptual and articulatory distances strive to be maintained. With the integrity of the underlying system maintained by the phonology (first tier – Inventory), a three-tiered model of language was presented, which represents the interaction of phonology, phonetics and sociolinguistics. The second tier (Realisation) allows for phonetic information to become available for any contextual alternations of underlying forms to take place. It is here that Canadian Raising, BOY and *Island* variation can be accounted for and represented. However, neither the Inventory nor Realisation levels allow for variation influenced by social factors. Therefore, the innovative Sociolinguistic level retains a trace from the previous levels' output, as well as any variants in the ambient speech environment. All these candidates can then be evaluated and selected according to relevant social factors. The resulting model, thus, equally represents Internal and External influences on variation, while limiting intra-speaker variation to that only within the processing capabilities of the phonological system.

The construction of this model also allows for different types of change to be sourced to a particular level of origin. For example, externally-driven changes (such as that from long-term accommodation) can be shown to originate in the Sociolinguistic level before it filters upwards through the system until the underlying structure is prompted to re-evaluate and adjust itself accordingly. Conversely, changes which may be prompted by natural linguistic motivations (such as coarticulation or changes towards the unmarked) can be shown to originate in the Inventory or Realisation levels. If the innovative forms are selected and used by the Sociolinguistic level, they will become reinforced and adopted by the system as linguistic change or allophonic variation.

As a result, this model is able to represent phonological change as well as linguistic variation (both allophonic and sociolinguistic). The implications of such a model allow for the future re-examination and representation of existing data, as well as the development of innovative methodologies which can allow for the socio-phonological interface to be investigated further.

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Appendix A

Appendix A

In this appendix, you will find the complete numerical data sets pertaining to the analysis of the variable (aʊ) (see Chapter 4).

A.3a
Number of (aʊ) tokens according to age and gender

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type	Total
Young							
Male			1	4	257	105	367
Female				2	288	73	363
Old							
Male	18	8	579	217	200	14	1036
Female		1	283	195	346	35	860
Museum							
Male	16	16	241	27	15	1	316

A.3b
Percentage of (aʊ) variants according to age and gender

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type
Young						
Male			0.27	1.09	70.03	28.61
Female				0.55	79.34	20.11
Old						
Male	1.74	0.77	55.89	20.95	19.31	1.35
Female		0.12	32.91	22.67	40.23	4.07
Museum						
Male	5.06	5.06	76.27	8.54	4.75	0.32

A.4a

Overall number of (aʊ) tokens according to syllable type

	$^{\text{ɪ}}$ɛʊ	ɪ̞ʊ	$\text{ə}^{\text{ʊ}}$	ɛʊ	$\text{ɛ}^{\text{ʊ}}$	ɛ̞ʊ	$\text{ɛ̞}^{\text{ʊ}}$	aʊ	$\text{a}^{\text{ʊ}}$	aa	**Total**
Open	1	4		233	24	125	9	233	65	55	**749**
Closed	13	16	25	668	179	265	46	506	302	173	**2193**

A.4b

Overall percentage of (aʊ) tokens according to syllable type

	$^{\text{ɪ}}$ɛʊ	ɪ̞ʊ	$\text{ə}^{\text{ʊ}}$	ɛʊ	$\text{ɛ}^{\text{ʊ}}$	ɛ̞ʊ	$\text{ɛ̞}^{\text{ʊ}}$	aʊ	$\text{a}^{\text{ʊ}}$	aa
Open	0.13	0.53		31.11	3.20	16.69	1.20	31.11	8.68	7.34
Closed	0.59	0.73	1.14	30.46	8.16	12.08	2.10	23.07	13.77	7.89

A.5a

Overall number of (aʊ) tokens according to offglide duration and syllable type

	Full	Short	aa	**Total**
Open	596	98	55	**749**
Closed	1468	552	173	**2193**
Total	2064	650	228	**2942**

A.5b

Overall percentage of (aʊ) variants according to offglide duration and syllable type

	Full	Short	aa
Open	79.57	13.08	7.34
Closed	66.94	25.17	7.89

A.6a

Number of (aʊ) tokens according to age, syllable type and offglide duration

	Full	Short	aa	**Total**
Young				
Open	124	39	43	**206**
Closed	243	146	135	**524**
Old				
Open	415	56	12	**483**
Closed	1035	341	37	**1413**
Museum				
Open	57	3	0	**60**
Closed	190	65	1	**256**

A.6b

Percentage of (aʊ) variants according to age, syllable type and offglide duration

	Full	Short	aa
Young			
Open	60.19	18.93	20.87
Closed	46.37	27.86	25.76
Old			
Open	85.92	11.59	2.48
Closed	73.25	24.13	2.62
Museum			
Open	95.00	5.00	0.00
Closed	74.22	25.39	0.39

A.7a
Overall number of (aʊ) tokens according to preceding manner of articulation

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type	**Total**
Stop	29	19	461	153	308	79	**1049**
Fricative		1	173	99	274	34	**581**
Nasal	5		144	88	173	33	**443**
Approximant			58	29	159	26	**272**
/sk/			2		2		**4**
Vowel			1				**1**
None		5	265	76	190	56	**592**

A.7b
Overall percentage of (aʊ) variants according to preceding manner of articulation

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type
Stop	2.76	1.81	43.95	14.59	29.36	7.53
Fricative		0.17	29.78	17.04	47.16	5.85
Nasal	1.13		32.51	19.86	39.05	7.45
Approximant			21.32	10.66	58.46	9.56
/sk/			50.00		50.00	
Vowel			100			
None		0.84	44.76	12.84	32.09	9.46

A.8a
Overall number of (aʊ) tokens according to preceding place of articulation

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type	**Total**
Labial	1	15	246	66	186	59	**573**
Coronal	31	4	441	207	476	93	**1252**
Dorsal	2		14	11	39	3	**69**
/h/		1	135	85	213	17	**451**
None		5	265	76	190	56	**592**

A.8b
Overall percentage of (aʊ) variants according to preceding place of articulation

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type
Labial	0.17	2.62	42.93	11.52	32.46	10.30
Coronal	2.48	0.32	35.22	16.53	38.02	7.43
Dorsal	2.90		20.29	15.94	56.52	4.35
/h/		0.22	29.93	18.85	47.23	3.77
None		0.84	44.76	12.84	32.09	9.46

A.9a

Overall number of (aʊ) tokens according to following manner of articulation

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type	**Total**
Stop	1	16	442	116	305	101	**981**
Fricative		1	112	55	151	11	**330**
Nasal	28	4	287	149	396	58	**922**
Approximant					3		**3**
Affricate			1		7	1	**9**
Schwa			9	4	7	1	**21**
Flap		4	35	9	4	10	**62**
None	5		218	112	233	46	**614**

A.9b

Overall percentage of (aʊ) variants according to following manner of articulation

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type
Stop	0.10	1.63	45.06	11.82	31.09	10.30
Fricative		0.30	33.94	16.67	45.76	3.33
Nasal	3.04	0.43	31.13	16.16	42.95	6.29
Approximant					100.00	
Affricate			11.11		77.78	11.11
Schwa			42.86	19.05	33.33	4.76
Flap		6.45	56.45	14.52	6.45	16.13
None	0.81		35.50	18.24	37.95	7.49

A.10a

Overall number of (aʊ) tokens according to following place of articulation

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type	**Total**
Labial			2	1	7		**10**
Coronal	28	10	491	249	645	99	**1522**
Glottal	1	15	384	79	214	82	**775**
Schwa			9	4	7	1	**21**
None	5		218	112	233	46	**614**

A.10b

Overall percentage of (aʊ) variants according to following place of articulation

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type
Labial			20.00	10.00	70.00	
Coronal	1.84	0.66	32.26	16.36	42.38	6.50
Glottal	0.13	1.94	49.55	10.19	27.61	10.58
Schwa			42.86	19.05	33.33	4.76
None	0.81		35.50	18.24	37.95	7.49

A.11a
Overall number of (aʊ) tokens according to following voice

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type	**Total**
Voiced	28	8	371	176	457	77	**1117**
Voiceless	1	17	515	157	416	105	**1211**
None	5	0	218	112	233	46	**614**

A.11b
Overall percentage of (aʊ) variants according to following voice

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type
Voiced	2.51	0.72	33.21	15.76	40.91	6.89
Voiceless	0.08	1.40	42.53	12.96	34.35	8.67
None	0.81	0.00	35.50	18.24	37.95	7.49

A.12a
Number of (aʊ) tokens according to following voice by Museum speakers

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type	**Total**
Voiced	14	6	77	15	12	1	**125**
Voiceless	0	10	119	6	2	0	**137**
None	2	0	45	6	1	0	**54**

A.12b
Percentage of (aʊ) variants according to following voice by Museum speakers

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type
Voiced	11.20	4.80	61.60	12.00	9.60	0.80
Voiceless	0.00	7.30	86.86	4.38	1.46	0.00
None	3.70	0.00	83.33	11.11	1.85	0.00

A.13a
Number of (aʊ) tokens according to following voice by Older speakers

	ɪ̡-type	ə-type	ɛ-type	ɛ̡-type	a-type	aa-type	**Total**
Voiced	14	2	306	144	270	20	**756**
Voiceless	1	7	396	149	184	19	**756**
None	3	0	173	105	93	10	**384**

A.13b
Percentage of (aʊ) variants according to following voice by Older speakers

	ɪ̡-type	ə-type	ɛ-type	ɛ̡-type	a-type	aa-type
Voiced	1.85	0.26	40.48	19.05	35.71	2.65
Voiceless	0.13	0.93	52.38	19.71	24.34	2.51
None	0.78	0.00	45.05	27.34	24.22	2.60

A.14a
Number of (aʊ) tokens according to following voice by Younger speakers

	ɪ̡-type	ə-type	ɛ-type	ɛ̡-type	a-type	aa-type	**Total**
Voiced	0	0	1	3	176	56	**236**
Voiceless	0	0	0	2	230	86	**318**
None	0	0	0	1	139	36	**176**

A.14b
Percentage of (aʊ) variants according to following voice by Younger speakers

	ɪ̡-type	ə-type	ɛ-type	ɛ̡-type	a-type	aa-type
Voiced	0.00	0.00	0.42	1.27	74.58	23.73
Voiceless	0.00	0.00	0.00	0.63	72.33	27.04
None	0.00	0.00	0.00	0.57	78.98	20.45

From preceding Phonological Environment Chapter 4.3.2

Museum

A.15a
Number of (aʊ) tokens by Museum speakers according to preceding manner of articulation

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type	**Total**
Stop	14	12	99	8	7	1	**141**
Fricative		1	30	4	1		**36**
Nasal	2		29	4	1		**36**
Approximant			15	6	4		**25**
/sk/							**0**
Vowel							**0**
None		3	68	5	2		**78**

A.15b
Percentage of (aʊ) variants by Museum speakers according to preceding manner of articulation

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type
Stop	9.93	8.51	70.21	5.67	4.96	0.71
Fricative		2.78	83.33	11.11	2.78	
Nasal	5.56		80.56	11.11	2.78	
Approximant			60.00	24.00	16.00	
/sk/						
Vowel						
None		3.85	87.18	6.41	2.56	

Old

A.16a

Number of (aʊ) tokens by Older speakers according to preceding manner of articulation

	ɪ̯-type	ə-type	ɛ-type	ɛ̯-type	a-type	aa-type	**Total**
Stop	15	7	361	141	166	24	**714**
Fricative			143	93	106	6	**348**
Nasal	3		115	84	89	7	**298**
Approximant			43	23	97	5	**168**
/sk/			2		2		**4**
Vowel			1				**1**
None		2	197	71	86	7	**363**

A.16.b

Percentage of (aʊ) variants by Older speakers according to preceding manner of articulation

	ɪ̯-type	ə-type	ɛ-type	ɛ̯-type	a-type	aa-type
Stop	2.10	0.98	50.56	19.75	23.25	3.36
Fricative			41.09	26.72	30.46	1.72
Nasal	1.01		38.59	28.19	29.87	2.35
Approximant			25.60	13.69	57.74	2.98
/sk/			50.00		50.00	
Vowel			100.00			
None		0.55	54.27	19.56	23.69	1.93

Young

A.17a
Number of (aʊ) tokens by Younger speakers according to preceding manner of articulation

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type	**Total**
Stop			1	4	135	54	**194**
Fricative				2	167	28	**197**
Nasal					83	26	**109**
Approximant					58	21	**79**
/sk/							**0**
Vowel							**0**
None					102	49	**151**

A.17b
Percentage of (aʊ) variants by Younger speakers according to preceding manner of articulation

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type
Stop			0.52	2.06	69.59	27.84
Fricative				1.02	84.77	14.21
Nasal					76.15	23.85
Approximant					73.42	26.58
/sk/						
Vowel						
None					67.55	32.45

Museum

A.18a
Number of (aʊ) tokens by Museum speakers according to preceding place of articulation

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type	**Total**
Labial		9	63	5	3		**80**
Coronal	14	3	84	12	7		**120**
Dorsal	2		4	2	3	1	**12**
/h/		1	22	3			**26**
None		3	68	5	2		**78**

A.18b
Percentage of (aʊ) variants by Museum speakers according to preceding place of articulation

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type
Labial		11.25	78.75	6.25	3.75	
Coronal	11.67	2.50	70.00	10.00	5.83	
Dorsal	16.67		33.33	16.67	25.00	8.33
/h/		3.85	84.62	11.54		
None		3.85	87.18	6.41	2.56	

Old

A.19a

Number of (aʊ) tokens by Older speakers according to preceding place of articulation

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type	**Total**
Labial	1	6	182	58	86	15	**348**
Coronal	17	1	357	193	261	22	**851**
Dorsal			10	9	25	1	**45**
/h/			113	81	86	4	**284**
None		2	197	71	86	7	**363**

A.19b

Percentage of (aʊ) variants by Older speakers according to preceding place of articulation

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type
Labial	0.29	1.72	52.30	16.67	24.71	4.31
Coronal	2.00	0.12	41.95	22.68	30.67	2.59
Dorsal			22.22	20.00	55.56	2.22
/h/			39.79	28.52	30.28	1.41
None		0.55	54.27	19.56	23.69	1.93

Young

A.20a
Number of (aʊ) tokens by Younger speakers according to preceding place of articulation

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type	**Total**
Labial			1	3	97	44	**145**
Coronal				2	208	71	**281**
Dorsal					11	1	**12**
/h/				1	127	13	**141**
None					102	49	**151**

A.20b
Percentage of (aʊ) variants by Younger speakers according to preceding place of articulation

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type
Labial			0.69	2.07	66.90	30.34
Coronal				0.71	74.02	25.27
Dorsal					91.67	8.33
/h/				0.71	90.07	9.22
None					67.55	32.45

From Following Phonological Environment Chapter 4.3.3

Museum

A.21a
Number of (aʊ) tokens by Museum speakers according to following manner of articulation

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type	**Total**
Stop		9	94	5	2		**110**
Fricative		1	28	2			**31**
Nasal	14	3	59	12	12	1	**101**
Approximant							**0**
Affricate			1				**1**
Schwa							**0**
Flap		3	14	2			**19**
None	2		45	6	1		**54**

A.21b
Percentage of (aʊ) variants by Museum speakers according to following manner of articulation

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type
Stop		8.18	85.45	4.55	1.82	
Fricative		3.23	90.32	6.45		
Nasal	13.86	2.97	58.42	11.88	11.88	0.99
Approximant						
Affricate			100.00			
Schwa						
Flap		15.79	73.68	10.53		
None	3.70		83.33	11.11	1.85	

Old

A.22a
Number of (aʊ) tokens by Older speakers according to following manner of articulation

	ɪ̣-type	ə-type	ɛ-type	ɛ̣-type	a-type	aa-type	Total
Stop	1	7	348	109	140	20	**625**
Fricative			97	40	71	2	**210**
Nasal	14	1	228	134	234	15	**626**
Approximant					2		**2**
Affricate					3		**3**
Schwa			9	4	3		**16**
Flap		1	20	6	1	2	**30**
None	3		173	105	93	10	**384**

A.22b
Percentage of (aʊ) variants by Older speakers according to following manner of articulation

	ɪ̣-type	ə-type	ɛ-type	ɛ̣-type	a-type	aa-type
Stop	0.16	1.12	55.68	17.44	22.40	3.20
Fricative			46.19	19.05	33.81	0.95
Nasal	2.24	0.16	36.42	21.41	37.38	2.40
Approximant					100.00	
Affricate					100.00	
Schwa			56.25	25.00	18.75	
Flap		3.33	66.67	20.00	3.33	6.67
None	0.78		45.05	27.34	24.22	2.60

Young

A.23a

Number of (aʊ) tokens by Younger speakers according to following manner of articulation

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type	**Total**
Stop				2	163	81	**246**
Fricative					80	9	**89**
Nasal				2	151	42	**195**
Approximant					1		**1**
Affricate					4	1	**5**
Schwa					4	1	**5**
Flap			1	1	3	8	**13**
None				1	139	36	**176**

A.23b

Percentage of (aʊ) variants by Younger speakers according to following manner of articulation

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type
Stop				0.81	66.26	32.93
Fricative					89.89	10.11
Nasal				1.03	77.44	21.54
Approximant					100.00	
Affricate					80.00	20.00
Schwa					80.00	20.00
Flap			7.69	7.69	23.08	61.54
None				0.57	78.98	20.45

Museum

A.24a

Number of (aʊ) tokens by Museum speakers according to following place of articulation

	ɪ̯-type	ə-type	ɛ-type	ɛ̯-type	a-type	aa-type	**Total**
Labial			2				**2**
Coronal	14	7	109	17	13	1	**161**
Glottal		9	85	4	1		**99**
Schwa							**0**
None	2		45	6	1		**54**

A.24b

Percentage of (aʊ) variants by Museum speakers according to following place of articulation

	ɪ̯-type	ə-type	ɛ-type	ɛ̯-type	a-type	aa-type
Labial			100.00			
Coronal	8.70	4.35	67.70	10.56	8.07	0.62
Glottal		9.09	85.86	4.04	1.01	
Schwa						
None	3.70		83.33	11.11	1.85	

Old

A.25a
Number of (aʊ) tokens by Older speakers according to following place of articulation

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type	**Total**
Labial					1		**1**
Coronal	14	3	394	215	375	26	**1027**
Glottal	1	6	299	74	75	13	**468**
Schwa			9	4	3		**16**
None	3		173	105	93	10	**384**

A.25b
Percentage of (aʊ) variants by Older speakers according to following place of articulation

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type
Labial					100.00	
Coronal	1.36	0.29	38.36	20.93	36.51	2.53
Glottal	0.21	1.28	63.89	15.81	16.03	2.78
Schwa			56.25	25.00	18.75	
None	0.78		45.05	27.34	24.22	2.60

Young

A.26a

Number of (aʊ) tokens by Younger speakers according to following place of articulation

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type	**Total**
Labial					7		**7**
Coronal			1	4	257	72	**334**
Glottal				1	138	69	**208**
Schwa					4	1	**5**
None				1	139	36	**176**

A.26b

Percentage of (aʊ) variants by Younger speakers according to following place of articulation

	ɪ̞-type	ə-type	ɛ-type	ɛ̞-type	a-type	aa-type
Labial					100.00	
Coronal			0.30	1.20	76.95	21.56
Glottal				0.48	66.35	33.17
Schwa					80.00	20.00
None				0.57	78.98	20.45

Appendix B

Appendix B

In this appendix, you will find the complete numerical data sets pertaining to the analysis of the variable (aɪ) (see Chapter 6).

B.0a

Number of (aɪ) tokens according to age

	ɔ̘ɪ	ʌɪ	ɔɪ	ɔɪ	ɔ̞ɪ	ɔ̞ɪ	aɪ	aɪ	ɑ̘ɪ	ɑ̘	ɑ	o	ɐ	Total
Young			33	2	115	6	1021	104	11	3	1	9	5	**1310**
Old	24	18	433	1	322	6	1150	34	13	1		4	2	**2008**
Museum	35	27	188		23		27	1			1			**302**
Total	**59**	**45**	**654**	**3**	**460**	**12**	**2198**	**139**	**24**	**4**	**2**	**13**	**7**	**3620**

B.0b

Percentage of (aɪ) variants according to age

	ɔ̘ɪ	ʌɪ	ɔɪ	ɔɪ	ɔ̞ɪ	ɔ̞ɪ	aɪ	aɪ	ɑ̘ɪ	ɑ̘	ɑ	o	ɐ
Young	0.0	0.0	2.5	0.2	8.8	0.5	77.9	7.9	0.8	0.2	0.1	0.7	0.4
Old	1.2	0.9	21.6	0.0	16.0	0.3	57.3	1.7	0.6	0.0	0.0	0.2	0.1
Museum	11.6	8.9	62.3	0.0	7.6	0.0	8.9	0.3	0.0	0.0	0.3	0.0	0.0

B.1

Number of (aɪ) tokens according to diphthong type and age

	ɔ̙-type	ʌ-type	ɔ-type	ɔ̞-type	a-type	ɑ̙-type	ɑ̙~ɑ	o~ɐ	**Total**
Young	0	0	35	121	1125	11	4	14	**1310**
Old	24	18	434	328	1184	13	1	6	**2008**
Museum	35	27	188	23	28	0	1	0	**302**
Total	**59**	**45**	**657**	**472**	**2337**	**24**	**6**	**20**	**3620**

B.2a

Number of (aɪ) tokens according to age and gender

	ɔ̙-type	ʌ-type	ɔ-type	ɔ̞-type	a-type	ɑ̙-type	ɑ̙~ɑ	o~ɐ	**Total**
Young									
Male	0	0	19	91	505	9	2	14	640
Female	0	0	16	30	620	2	2	0	670
Old									
Male	21	11	371	185	435	0	0	5	1028
Female	3	7	63	143	749	13	1	1	980
Museum									
Male	35	27	188	23	28	0	1	0	302

B.2b

Percentage of (aɪ) variants according to age and gender

	ɔ̙-type	ʌ-type	ɔ-type	ɔ̞-type	a-type	ɑ̙-type	ɑ̙~ɑ	o~ɐ
Young								
Male	0.0	0.0	3.0	14.2	78.9	1.4	0.3	2.2
Female	0.0	0.0	2.4	4.5	92.5	0.3	0.3	0.0
Old								
Male	2.0	1.1	36.1	18.0	42.3	0.0	0.0	0.5
Female	0.3	0.7	6.4	14.6	76.4	1.3	0.1	0.1
Museum								
Male	11.6	8.9	62.3	7.6	9.3	0.0	0.3	0.0

B.3a

Overall number of (aɪ) tokens according to syllable type

	ɔ̘-type	ʌ-type	ɔ-type	ɔ̝-type	a-type	ɑ̘-type	ɑ̘~ɑ	o~ɐ	**Total**
Open	5	15	95	84	549	7	3	0	**758**
Closed	54	30	562	388	1788	17	3	20	**2862**

B.3b

Overall percentage of (aɪ) variants according to syllable type

	ɔ̘-type	ʌ-type	ɔ-type	ɔ̝-type	a-type	ɑ̘-type	ɑ̘~ɑ	o~ɐ
Open	0.66	1.98	12.53	11.08	72.43	0.92	0.40	0.00
Closed	1.89	1.05	19.64	13.56	62.47	0.59	0.10	0.70

B.4a

Number of (aɪ) tokens according to syllable type and age

	ɔ̘-type	ʌ-type	ɔ-type	ɔ̝-type	a-type	ɑ̘-type	ɑ̘~ɑ	o~ɐ	**Total**
Young (1310, total)									
Open	0	0	7	16	282	5	2	0	312
Closed	0	0	28	105	843	6	2	14	998
Old (2008, total)									
Open	3	8	68	61	261	2	1	0	404
Closed	21	10	366	267	923	11	0	6	1604
Museum (302, total)									
Open	2	7	20	7	6	0	0	0	42
Closed	33	20	168	16	22	0	1	0	260

B.4b

Percentage of (aɪ) tokens according to syllable type and age

	ɔ̘-type	ʌ-type	ɔ-type	ɔ̝-type	aɪ	ɑ̘-type	ɑ̘~ɑ	o~ɐ
Young								
Open	0.00	0.00	2.24	5.13	90.38	1.60	0.64	0.00
Closed	0.00	0.00	2.81	10.52	84.47	0.60	0.20	1.40
Old								
Open	0.74	1.98	16.83	15.10	64.60	0.50	0.25	0.00
Closed	1.31	0.62	22.82	16.65	57.54	0.69	0.00	0.37
Museum								
Open	4.76	16.67	47.62	16.67	14.29	0.00	0.00	0.00
Closed	12.69	7.69	64.62	6.15	8.46	0.00	0.38	0.00

B.5a

Overall number of (aɪ) tokens according to preceding manner of articulation

	ɔ̞-type	ʌ-type	ɔ-type	ɔ̝-type	a-type	ɑ̞-type	ɑ̞~ɑ	o~ɐ	**Total**
Stop	18	17	103	106	555	7	0	0	**806**
Fricative	12	9	120	74	342	4	0	0	**561**
Nasal	6	1	98	59	355	2	1	0	**522**
Approximant	22	13	327	223	1021	10	5	20	**1641**
Affricate	0	0	2	0	3	0	0	0	**5**
None	1	5	7	10	61	1	0	0	**85**

B.5b

Overall percentage of (aɪ) variants according to preceding manner of articulation

	ɔ̞-type	ʌ-type	ɔ-type	ɔ̝-type	a-type	ɑ̞-type	ɑ̞~ɑ	o~ɐ
Stop	2.23	2.11	12.78	13.15	68.86	0.87	0.00	0.00
Fricative	2.14	1.60	21.39	13.19	60.96	0.71	0.00	0.00
Nasal	1.15	0.19	18.77	11.30	68.01	0.38	0.19	0.00
Approximant	1.34	0.79	19.93	13.59	62.22	0.61	0.30	1.22
Affricate	0.00	0.00	40.00	0.00	60.00	0.00	0.00	0.00
None	1.18	5.88	8.24	11.76	71.76	1.18	0.00	0.00

B.6a

Overall number of (aɪ) tokens according to preceding place of articulation

	ɔ̞-type	ʌ-type	ɔ-type	ɔ̝-type	a-type	ɑ̞-type	ɑ̞~ɑ	o~ɐ	**Total**
Labial	21	9	200	177	595	5	2	20	1029
Coronal	36	31	448	275	1538	18	4	0	2350
Dorsal	1	0	1	9	140	0	0	0	151
Glottal	0	0	1	1	3	0	0	0	5
None	1	5	7	10	61	1	0	0	85

B.6b

Overall percentage of (aɪ) variants according to preceding place of articulation

	ɔ̞-type	ʌ-type	ɔ-type	ɔ̝-type	a-type	ɑ̞-type	ɑ̞~ɑ	o~ɐ
Labial	2.04	0.87	19.44	17.20	57.82	0.49	0.19	1.94
Coronal	1.53	1.32	19.06	11.70	65.45	0.77	0.17	0.00
Dorsal	0.66	0.00	0.66	5.96	92.72	0.00	0.00	0.00
Glottal	0.00	0.00	20.00	20.00	60.00	0.00	0.00	0.00
None	1.18	5.88	8.24	11.76	71.76	1.18	0.00	0.00

B.7a

Overall number of (aɪ) tokens according to following voice

	ɔ̘-type	ʌ-type	ɔ-type	ɔ̞-type	a-type	ɑ̘-type	ɑ̘~ɑ	o~ɐ	**Total**
Voiced	37	28	288	228	1138	17	5	0	1741
Voiceless	19	12	327	210	990	7	1	20	1586
None	3	5	42	34	209	0	0	0	293

B.7b

Overall percentage of (aɪ) variants according to following voice

	ɔ̘-type	ʌ-type	ɔ-type	ɔ̞-type	a-type	ɑ̘-type	ɑ̘~ɑ	o~ɐ
Voiced	2.13	1.61	16.54	13.10	65.36	0.98	0.29	0.00
Voiceless	1.20	0.76	20.62	13.24	62.42	0.44	0.06	1.26
None	1.02	1.71	14.33	11.60	71.33	0.00	0.00	0.00

B.8a

Number of (aɪ) tokens according to following voice by Museum speakers

	ɔ̘-type	ʌ-type	ɔ-type	ɔ̞-type	a-type	ɑ̘-type	ɑ̘~ɑ	o~ɐ	**Total**
Voiced	17	17	99	19	18	0	1	0	171
Voiceless	17	8	80	2	8	0	0	0	115
None	1	2	9	2	2	0	0	0	16

B.8b

Percentage of (aɪ) variants according to following voice by Museum speakers

	ɔ̘-type	ʌ-type	ɔ-type	ɔ̞-type	a-type	ɑ̘-type	ɑ̘~ɑ	o~ɐ
Voiced	9.94	9.94	57.89	11.11	10.53	0.00	0.58	0.00
Voiceless	14.78	6.96	69.57	1.74	6.96	0.00	0.00	0.00
None	6.25	12.50	56.25	12.50	12.50	0.00	0.00	0.00

B.9a

Number of (aɪ) tokens according to following voice by Older speakers

	ɔ̘-type	ʌ-type	ɔ-type	ɔ̞-type	a-type	ɑ̘-type	ɑ̘~ɑ	o~ɐ	**Total**
Voiced	20	11	180	154	596	8	1	0	970
Voiceless	2	4	225	149	508	5	0	6	899
None	2	3	29	25	80	0	0	0	139

B.9b

Percentage of (aɪ) variants according to following voice by Older speakers

	ɔ̘-type	ʌ-type	ɔ-type	ɔ̞-type	a-type	ɑ̘-type	ɑ̘~ɑ	o~ɐ
Voiced	2.06	1.13	18.56	15.88	61.44	0.82	0.10	0.00
Voiceless	0.22	0.44	25.03	16.57	56.51	0.56	0.00	0.67
None	1.44	2.16	20.86	17.99	57.55	0.00	0.00	0.00

B.10a

Number of (aɪ) tokens according to following voice by Younger speakers

	ɔ̘-type	ʌ-type	ɔ-type	ɔ̞-type	a-type	ɑ̘-type	ɑ̘~ɑ	o~ɐ	**Total**
Voiced	0	0	9	55	524	9	3	0	600
Voiceless	0	0	22	59	474	2	1	14	572
None	0	0	4	7	127	0	0	0	138

B.10b

Percentage of (aɪ) variants according to following voice by Younger speakers

	ɔ̘-type	ʌ-type	ɔ-type	ɔ̞-type	a-type	ɑ̘-type	ɑ̘~ɑ	o~ɐ
Voiced	0.00	0.00	1.50	9.17	87.33	1.50	0.50	0.00
Voiceless	0.00	0.00	3.85	10.31	82.87	0.35	0.17	2.45
None	0.00	0.00	2.90	5.07	92.03	0.00	0.00	0.00

B.11a

Overall number of (aɪ) tokens according to following manner of articulation

	ɔ̙-type	ʌ-type	ɔ-type	ɔ̝-type	a-type	ɑ̙-type	ɑ̙~ɑ	o~ɐ	**Total**
Stop	22	17	359	230	957	7	2	20	**1614**
Fricative	18	10	128	89	447	3	0	0	**695**
Nasal	15	13	115	106	627	9	2	0	**887**
Approximant	0	0	5	6	31	2	0	0	**44**
Flap	0	0	5	1	3	0	0	0	**9**
Affricate	0	0	0	0	1	0	0	0	**1**
Vowel	1	0	3	6	62	3	2	0	**77**
None	3	5	42	34	209	0	0	0	**293**

B.11b

Overall percentages of (aɪ) variants according to following manner of articulation

	ɔ̙-type	ʌ-type	ɔ-type	ɔ̝-type	a-type	ɑ̙-type	ɑ̙~ɑ	o~ɐ
Stop	1.4	1.1	22.2	14.3	59.3	0.4	0.1	1.2
Fricative	2.6	1.4	18.4	12.8	64.3	0.4	0.0	0.0
Nasal	1.7	1.5	13.0	12.0	70.7	1.0	0.2	0.0
Approximant	0.0	0.0	11.4	13.6	70.5	4.5	0.0	0.0
Flap	0.0	0.0	55.6	11.1	33.3	0.0	0.0	0.0
Affricate	0.0	0.0	0.0	0.0	100	0.0	0.0	0.0
Vowel	1.3	0.0	3.9	7.8	80.5	3.9	2.6	0.0
None	1.0	1.7	14.3	11.6	71.3	0.0	0.0	0.0

B.12a

Overall number of (aɪ) tokens according to following place of articulation

	ɔ̘-type	ʌ-type	ɔ-type	ɔ̞-type	a-type	ɑ̘-type	ɑ̘~ɑ	o~ɐ	Total
Labial	22	19	131	93	498	7	0	0	770
Coronal	31	14	288	226	1042	14	4	0	1619
Dorsal	0	1	9	18	51	0	0	0	79
Glottal	2	6	184	95	475	0	0	20	782
Vowel	1	0	3	6	62	3	2	0	77
None	3	5	42	34	209	0	0	0	293

B.12b

Overall percentage of (aɪ) variants according to following place of articulation

	ɔ̘-type	ʌ-type	ɔ-type	ɔ̞-type	a-type	ɑ̘-type	ɑ̘~ɑ	o~ɐ
Labial	2.9	2.5	17.0	12.1	64.7	0.9	0.0	0.0
Coronal	1.9	0.9	17.8	14.0	64.4	0.9	0.2	0.0
Dorsal	0.0	1.3	11.4	22.8	64.6	0.0	0.0	0.0
Glottal	0.3	0.8	23.5	12.1	60.7	0.0	0.0	2.6
Vowel	1.3	0.0	3.9	7.8	80.5	3.9	2.6	0.0
None	1.0	1.7	14.3	11.6	71.3	0.0	0.0	0.0

B.13a

Overall number of (aɪ) tokens preceding /l/

	ʌ-type	ɔ-type	ɔ̞-type	a-type	ɑ̘-type	ɑ̘~ɑ	Total
Coda L	0	1	3	20	10	62	**96**
Non Coda L	2	0	0	21	19	80	**122**

B.13b

Overall percentage of (aɪ) variants preceding /l/

	ʌ-type	ɔ-type	ɔ̞-type	a-type	ɑ̘-type	ɑ̘~ɑ
Coda L	0.00	1.04	3.13	20.83	10.42	64.58
Non Coda L	1.64	0.00	0.00	17.21	15.57	65.57

B.14a

Overall comparison of the number of (aɪ) tokens according to /l/ type

	ʌ-type	ɔ-type	ɔ̞-type	a-type	ɑ̞-type	ɑ̞~ɑ	**Total**
Coda L	0	1	3	20	10	62	96
Non Coda L	1	0	0	9	5	0	15
Island	1	0	0	12	14	80	107

B.14b

Overall percentage comparison of (aɪ) variants according to /l/ type

	ʌ-type	ɔ-type	ɔ̞-type	a-type	ɑ̞-type	ɑ̞~ɑ
Coda L	0.00	1.04	3.13	20.83	10.42	64.58
Non Coda L	6.67	0.00	0.00	60.00	33.33	0.00
Island	0.93	0.00	0.00	11.21	13.08	74.77

B.15a

Overall number of diphthongal and monophthongal tokens for the token 'Island'

	Diphthong	Monophthong	Total
Island	27	80	107

B.15b

Overall percentage of diphthongal and monophthongal variants for the token 'Island'

	Diphthong	Monophthong
Island	25.2	74.8

B.16a

Number of (aɪ) tokens for 'Island' by Museum speakers

	Diphthong	Monophthong	Total
Island	2	7	9

B.16b

Percentage of (aɪ) variants for 'Island' by Museum speaker

	Diphthong	Monophthong
Island	22.2	77.8

B.17a
Number of (aɪ) tokens for 'Island' by Older speakers

	Diphthong	Monophthong	Total
Island	20	69	89

B.17b
Percentage of (aɪ) variants for 'Island' by Older speakers

	Diphthong	Monophthong
Island	22.5	77.5

B.18a
Number of (aɪ) tokens for 'Island' by Younger speakers

	Diphthong	Monophthong	Total
Island	5	4	9

B.18b
Percentage of (aɪ) variants for 'Island' by Younger speakers

	Diphthong	Monophthong
Island	55.6	44.4

B.20a
An overall comparison of (aɪ) tokens according to the functions of LIKE

	ɔ-type	ɔ̹-type	a-type	ɑ̹-type	o~ɐ	**Total**
Grammatical Functions	45	41	211	1	0	**298**
Discursive Functions	19	60	368	0	1	448

B.20b
The overall percentages of (aɪ) variants according to the functions of LIKE

	ɔ-type	ɔ̹-type	a-type	ɑ̹-type	o~ɐ
Grammatical Functions	15.10	13.76	70.81	0.34	0.00
Discursive Functions	4.24	13.39	82.14	0.00	0.22

B.21a

Number of (aɪ) tokens according to the function of LIKE by Older speakers

	ɔ-type	ɔ̞-type	a-type	ɑ̞-type	o~ɐ	**Total**
Grammatical Functions	33	22	103	1	0	**159**
Discursive Functions	4	5	13	0	0	**22**

B.21b

Percentage of (aɪ) variants according to the functions of LIKE by Older speakers

	ɔ-type	ɔ̞-type	a-type	ɑ̞-type	o~ɐ
Grammatical Functions	20.75	13.84	64.78	0.63	0.00
Discursive Functions	18.18	22.73	59.09	0.00	0.00

B.22a

Number of (aɪ) tokens according to the function of LIKE by Younger speakers

	ɔ-type	ɔ̞-type	a-type	ɑ̞-type	o~ɐ	Total
Grammatical Functions	4	18	108	0	0	130
Discursive Functions	15	55	355	0	1	426

B.22b

Percentage of (aɪ) variants according to the function of LIKE by Younger speakers

	ɔ-type	ɔ̞-type	a-type	ɑ̞-type	o~ɐ
Grammatical Functions	3.08	13.85	83.08	0.00	0.00
Discursive Functions	3.52	12.91	83.33	0.00	0.23

From Preceding Phonological Environment Chapter 6.3.2

Museum

B.23a

Number of (aɪ) tokens by Museum speakers according to preceding manner of articulation

	ɔ̘-type	ʌ-type	ɔ-type	ɔ̝-type	a-type	ɑ̘-type	ɑ̘~ɑ	o~ɐ	**Total**
Stop	5	11	37	5	9	0	0	0	67
Fricative	5	5	33	6	4	0	0	0	53
Nasal	5	0	37	4	3	0	0	0	49
Approximant	20	9	81	6	11	0	1	0	128
Affricate	0	0	0	0	0	0	0	0	0
None	0	2	0	2	1	0	0	0	5

B.23b

Percentage of (aɪ) variants by Museum speakers according to preceding manner of articulation

	ɔ̘-type	ʌ-type	ɔ-type	ɔ̝-type	a-type	ɑ̘-type	ɑ̘~ɑ	o~ɐ
Stop	7.46	16.42	55.22	7.46	13.43	0.00	0.00	0.00
Fricative	9.43	9.43	62.26	11.32	7.55	0.00	0.00	0.00
Nasal	10.20	0.00	75.51	8.16	6.12	0.00	0.00	0.00
Approximant	15.63	7.03	63.28	4.69	8.59	0.00	0.78	0.00
Affricate	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
None	0.00	40.00	0.00	40.00	20.00	0.00	0.00	0.00

Older

B.24a
Number of (aɪ) tokens by Older speakers according to preceding manner of articulation

	ɔ̙-type	ʌ-type	ɔ-type	ɔ̞-type	a-type	ɑ̙-type	ɑ̙~ɑ	o~ɐ	**Total**
Stop	13	6	64	77	286	5	0	0	451
Fricative	7	4	84	48	165	2	0	0	310
Nasal	1	1	51	41	207	2	0	0	303
Approximant	2	4	226	155	495	4	1	6	893
Affricate	0	0	2	0	1	0	0	0	3
None	1	3	7	7	30	0	0	0	48

B.24b
Percentage of (aɪ) variants by Older speakers according to preceding manner of articulation

	ɔ̙-type	ʌ-type	ɔ-type	ɔ̞-type	a-type	ɑ̙-type	ɑ̙~ɑ	o~ɐ
Stop	2.88	1.33	14.19	17.07	63.41	1.11	0.00	0.00
Fricative	2.26	1.29	27.10	15.48	53.23	0.65	0.00	0.00
Nasal	0.33	0.33	16.83	13.53	68.32	0.66	0.00	0.00
Approximant	0.22	0.45	25.31	17.36	55.43	0.45	0.11	0.67
Affricate	0.00	0.00	66.67	0.00	33.33	0.00	0.00	0.00
None	2.08	6.25	14.58	14.58	62.50	0.00	0.00	0.00

Younger

B.25a

Number of (aɪ) tokens by Younger speakers according to preceding manner of articulation

	ɔ̙-type	ʌ-type	ɔ-type	ɔ̞-type	a-type	ɑ̙-type	ɑ̙~ɑ	o~ɐ	**Total**
Stop	0	0	2	24	260	2	0	0	288
Fricative	0	0	3	20	173	2	0	0	198
Nasal	0	0	10	14	145	0	1	0	170
Approximant	0	0	20	62	515	6	3	14	620
Affricate	0	0	0	0	2	0	0	0	2
None	0	0	0	1	30	1	0	0	32

B.25b

Percentage of (aɪ) variants by Younger speakers according to preceding manner of articulation

	ɔ̙-type	ʌ-type	ɔ-type	ɔ̞-type	a-type	ɑ̙-type	ɑ̙~ɑ	o~ɐ
Stop	0.00	0.00	0.69	8.33	90.28	0.69	0.00	0.00
Fricative	0.00	0.00	1.52	10.10	87.37	1.01	0.00	0.00
Nasal	0.00	0.00	5.88	8.24	85.29	0.00	0.59	0.00
Approximant	0.00	0.00	3.23	10.00	83.06	0.97	0.48	2.26
Affricate	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
None	0.00	0.00	0.00	3.13	93.75	3.13	0.00	0.00

Museum

B.26a

Number of (aɪ) tokens by Museum speakers according to preceding place of articulation

	ɔ̙-type	ʌ-type	ɔ-type	ɔ̞-type	a-type	ɑ̙-type	ɑ̙~ɑ	o~ɐ	**Total**
Labial	13	6	42	8	3	0	0	0	72
Coronal	22	19	146	13	23	0	1	0	224
Dorsal	0	0	0	0	1	0	0	0	1
Glottal	0	0	0	0	0	0	0	0	0
None	0	2	0	2	1	0	0	0	5

B.26b

Percentage of (aɪ) variants by Museum speakers according to preceding place of articulation

	ɔ̙-type	ʌ-type	ɔ-type	ɔ̞-type	a-type	ɑ̙-type	ɑ̙~ɑ	o~ɐ
Labial	18.06	8.33	58.33	11.11	4.17	0.00	0.00	0.00
Coronal	9.82	8.48	65.18	5.80	10.27	0.00	0.45	0.00
Dorsal	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Glottal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
None	0.00	40.00	0.00	40.00	20.00	0.00	0.00	0.00

Older

B.27a
Number of (aɪ) tokens by Older speakers according to preceding place of articulation

	ɔ̞-type	ʌ-type	ɔ-type	ɔ̞-type	a-type	ɑ̞-type	ɑ̞~ɑ	o~ɐ	**Total**
Labial	8	3	132	105	262	3	1	6	520
Coronal	14	12	294	212	872	10	0	0	1414
Dorsal	1	0	0	3	17	0	0	0	21
Glottal	0	0	1	1	3	0	0	0	5
None	1	3	7	7	30	0	0	0	48

B.28b
Percentage of (aɪ) variants by Older speakers according to preceding place of articulation

	ɔ̞-type	ʌ-type	ɔ-type	ɔ̞-type	a-type	ɑ̞-type	ɑ̞~ɑ	o~ɐ
Labial	1.54	0.58	25.38	20.19	50.38	0.58	0.19	1.15
Coronal	0.99	0.85	20.79	14.99	61.67	0.71	0.00	0.00
Dorsal	4.76	0.00	0.00	14.29	80.95	0.00	0.00	0.00
Glottal	0.00	0.00	20.00	20.00	60.00	0.00	0.00	0.00
None	2.08	6.25	14.58	14.58	62.50	0.00	0.00	0.00

Younger

B.28a
Number of (aɪ) tokens by Younger speakers according to preceding place of articulation

	ɔ̘-type	ʌ-type	ɔ-type	ɔ̝-type	a-type	ɑ̘-type	ɑ̘~ɑ	o~ɐ	**Total**
Labial	0	0	26	64	330	2	1	14	437
Coronal	0	0	8	50	643	8	3	0	712
Dorsal	0	0	1	6	122	0	0	0	129
Glottal	0	0	0	0	0	0	0	0	0
None	0	0	0	1	30	1	0	0	32

B.28b
Percentage of (aɪ) variants by Younger speakers according to preceding place of articulation

	ɔ̘-type	ʌ-type	ɔ-type	ɔ̝-type	a-type	ɑ̘-type	ɑ̘~ɑ	o~ɐ
Labial	0.00	0.00	5.95	14.65	75.51	0.46	0.23	3.20
Coronal	0.00	0.00	1.12	7.02	90.31	1.12	0.42	0.00
Dorsal	0.00	0.00	0.78	4.65	94.57	0.00	0.00	0.00
Glottal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
None	0.00	0.00	0.00	3.13	93.75	3.13	0.00	0.00

Appendix C

Appendix C

In this appendix, you will find the complete numerical data sets pertaining to the analysis of the variable (ɔɪ) (see Chapter 8)

C.1

Number of (ɔɪ) tokens according to age

	ɵɪ	ɔ̝ɪ	ɔɪ	ɔ	**Total**
Young	0	4	80	0	**84**
Old	44	23	103	5	**175**
Museum	8	1	18	0	**27**
Total	**52**	**28**	**201**	**5**	**286**

C.2a

Number of (ɔɪ) tokens according to age and gender

	ɵɪ	ɔ̝ɪ	ɔɪ	ɔ	**Total**
Young					
Male	0	2	43	0	**45**
Female	0	2	37	0	**39**
Old					
Male	15	7	62	5	**89**
Female	29	16	41	0	**86**
Museum					
Male	8	1	18	0	**27**

C.2b

Percentage of (ɔɪ) variants according to age and gender

	ɵɪ	ɔ̝ɪ	ɔɪ	ɔ
Young				
Male	0.00	4.44	95.56	0.00
Female	0.00	5.13	94.87	0.00
Old				
Male	16.85	7.87	69.66	5.62
Female	33.72	18.60	47.67	0.00
Museum				
Male	29.63	3.70	66.67	0.00

C.3a

Overall number of (ɔɪ) tokens according to syllable-type

	ɵɪ	ɔ̞ɪ	ɔɪ	ɔ	**Total**
Open	23	13	108	0	**144**
Closed	29	15	93	5	**142**
Total	**52**	**28**	**201**	**5**	**286**

C.3b

Overall percentage of (ɔɪ) variants according to syllable-type

	ɵɪ	ɔ̞ɪ	ɔɪ	ɔ
Open	15.97	9.03	75.00	0.00
Closed	20.42	10.56	65.49	3.52
Total	18.18	9.79	70.28	1.75

C.4a

Number of (ɔɪ) tokens produced by Males according to age and syllable type

Males	ɵɪ	ɔ̞ɪ	ɔɪ	ɔ	**Total**
Young (45, total)					
Open		2	21		**23**
Closed			22		**22**
Old (89, total)					
Open	7	3	36		**46**
Closed	8	4	26	5	**43**
Museum (27, total)					
Open	5		17		**22**
Closed	3	1	1		**5**

C.4b

Percentage of (ɔɪ) variants produced by Males according to age and syllable type

	ɵɪ	ɔ̞ɪ	ɔɪ	ɔ
Young				
Open	0.00	8.70	91.30	0.00
Closed	0.00	0.00	100	0.00
Old				
Open	15.22	6.52	78.26	0.00
Closed	18.60	9.30	60.47	11.63
Museum				
Open	22.73	0.00	77.27	0.00
Closed	60.00	20.00	20.00	0.00

C.5a

Number of (ɔɪ) tokens produced by females according to age and syllable type

Females	ɵɪ	ɔ̘ɪ	ɔɪ	ɔ	Total
Young (39, total)					
Open		1	12		**13**
Closed		1	25		**26**
Old (86, total)					
Open	11	7	22		**40**
Closed	18	9	19		**46**

C.5b

Percentage of (ɔɪ) variants produced by females according to age and syllable type

	ɵɪ	ɔ̘ɪ	ɔɪ	ɔ
Young				
Open	0.00	7.69	92.31	0.00
Closed	0.00	3.85	96.15	0.00
Old				
Open	27.50	17.50	55.00	0.00
Closed	39.13	19.57	41.30	0.00

C.6a

Overall number of (ɔɪ) tokens according to preceding place of articulation

	ɵɪ	ɔ̘ɪ	ɔɪ	ɔ	Total
Labial	45	18	94		**157**
Coronal	5	6	66		**77**
Dorsal			1	2	**3**
Word-initial	2	4	37	3	**46**
/sp/			3		**3**

C.6b

Overall percentage of (ɔɪ) variants according to preceding place of articulation

	ɵɪ	ɔ̘ɪ	ɔɪ	ɔ
Labial	28.66	11.46	59.87	0.00
Coronal	6.49	7.79	85.71	0.00
Dorsal	0.00	0.00	33.33	66.67
Word-initial	4.35	8.70	80.43	6.52
/sp/	0.00	0.00	100	0.00

C.7a

Number of (ɔɪ) tokens produced by Museum speakers according to preceding place of articulation

	ɵɪ	ɔ̝ɪ	ɔɪ	ɔ	**Total**
Labial	7		3		**10**
Coronal		1	8		**9**
Word-initial	1		7		**8**

C.7b

Percentage of (ɔɪ) variants produced by Museum speakers according to preceding place of articulation

	ɵɪ	ɔ̝ɪ	ɔɪ	ɔ
Labial	70.00	0.00	30.00	0.00
Coronal	0.00	11.11	88.89	0.00
Word-initial	12.50	0.00	87.50	0.00

C.8a

Number of (ɔɪ) tokens produced by Older speakers according to preceding place of articulation

	ɵɪ	ɔ̝ɪ	ɔɪ	ɔ	**Total**
Labial	38	14	41		**93**
Coronal	5	5	33		**43**
Dorsal				2	**2**
Word-initial	1	4	26	3	**34**
/sp/			3		**3**

C.8b

Percentage of (ɔɪ) variants produced by Older speakers according to preceding place of articulation

	ɵɪ	ɔ̝ɪ	ɔɪ	ɔ
Labial	40.86	15.05	44.09	0.00
Coronal	11.63	11.63	76.74	0.00
Dorsal	0.00	0.00	0.00	100
Word-initial	2.94	11.76	76.47	8.82
/sp/	0.00	0.00	100	0.00

C.9a

Number of (ɔɪ) tokens produced by Younger speakers according to preceding place of articulation

	ɵɪ	ɔ̞ɪ	ɔɪ	ɔ	Total
Labial		4	50		**54**
Coronal			25		**25**
Dorsal			1		**1**
Word-initial			4		**4**

C.9b

Percentage of (ɔɪ) variants produced by Younger speakers according to preceding place of articulation

	ɵɪ	ɔ̞ɪ	ɔɪ	ɔ
Labial	0.00	7.41	92.59	0.00
Coronal	0.00	0.00	100	0.00
Dorsal	0.00	0.00	100	0.00
Word-initial	0.00	0.00	100	0.00

C.10a

Overall number of (ɔɪ) tokens according to preceding manner of articulation

	ɵɪ	ɔ̞ɪ	ɔɪ	ɔ	Total
Stop	43	19	85	2	**149**
Fricative	2		15		**17**
Nasal	4	2	14		**20**
Affricate		1	45		**46**
Approximant	1	2	2		**5**
/sp/			3		**3**
None	2	4	37	3	**46**

C.10b

Overall percentage of (ɔɪ) variants according to preceding manner of articulation

	ɵɪ	ɔ̞ɪ	ɔɪ	ɔ
Stop	28.86	12.75	57.05	1.34
Fricative	11.76	0.00	88.24	0.00
Nasal	20.00	10.00	70.00	0.00
Affricate	0.00	2.17	97.83	0.00
Approximant	20.00	40.00	40.00	0.00
/sp/	0.00	0.00	100	0.00
None	4.35	8.70	80.43	6.52

C.11a

Number of lexically derived BOY tokens produced by Museum speakers

	ɵɪ	ɔ̝ɪ	ɔɪ	ɔ	**Total**
boy	4	0	2	0	**6**
boys	3	0	0	0	**3**
Total	**7**	**0**	**2**	**0**	**9**

C.11b

Percentage of lexically derived BOY tokens produced by Museum speakers

	ɵɪ	ɔ̝ɪ	ɔɪ	ɔ
boy	66.67	0.00	33.33	0.00
boys	100	0.00	0.00	0.00

C.12a

Number of lexically derived BOY tokens produced by Older speakers

	ɵɪ	ɔ̝ɪ	ɔɪ	ɔ	**Total**
boy	16	5	14	0	**35**
boys	18	7	8	0	**33**
boy's	0	1	0	0	**1**
Total	**34**	**13**	**22**	**0**	**69**

C.12b

Percentage of lexically derived BOY tokens produced by Older speakers

	ɵɪ	ɔ̝ɪ	ɔɪ	ɔ
boy	45.71	14.29	40.00	0.00
boys	54.55	21.21	24.24	0.00
boy's	0.00	100	0.00	0.00

C.13a

Number of lexically derived BOY tokens produced by Younger speakers

	ɵɪ	ɔ̞ɪ	ɔɪ	ɔ	**Total**
boy	0	3	7	0	**10**
boys	0	1	2	0	**3**
boyfriend	0	0	1	0	**1**
boyish	0	0	1	0	**1**
Total	**0**	**4**	**11**	**0**	**15**

C.13b

Percentage of lexically derived BOY tokens produced by Younger speakers

	ɵɪ	ɔ̞ɪ	ɔɪ	ɔ
boy	0.00	30.00	70.00	0.00
boys	0.00	33.33	66.67	0.00
boyfriend	0.00	0.00	100	0.00
boyish	0.00	0.00	100	0.00

C.14a

Number of BOY tokens compared to that of ‘other’ tokens by Museum speakers

	ɵɪ	ɔ̞ɪ	ɔɪ	ɔ	**Total**
BOY	7	0	2	0	**9**
other	1	1	16	0	**18**
Total	**8**	**1**	**18**	**0**	**27**

C.14b

Percentage of BOY variants compared to that of ‘other’ tokens by Museum speakers

	ɵɪ	ɔ̞ɪ	ɔɪ	ɔ
BOY	77.78	0.00	22.22	0.00
other	5.56	5.56	88.89	0.00

C.15a

Number of BOY tokens compared to that of ‘other’ tokens by Older speakers

	ɵɪ	ɔ̝ɪ	ɔɪ	ɔ	**Total**
BOY	34	13	22	0	**69**
other	10	10	81	5	**106**
Total	**44**	**23**	**103**	**5**	**175**

C.15b

Percentage of BOY variants compared to that of ‘other’ tokens by Older speakers

	ɵɪ	ɔ̝ɪ	ɔɪ	ɔ
BOY	49.28	18.84	31.88	0.00
other	9.43	9.43	76.42	4.72

Following Phonological Environment (which was not included in the overall analysis). From Chapter 8.3.2

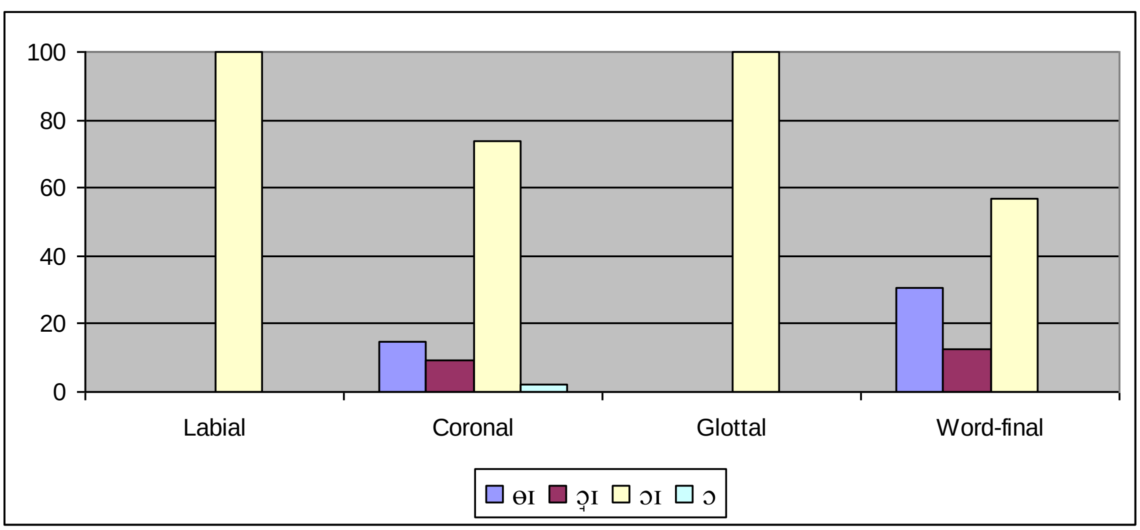
C.16a
Overall number of (ɔɪ) tokens according to following place of articulation

	ɵɪ	ɔ̜ɪ	ɔɪ	ɔ	**Total**
Labial			2		2
Coronal	32	20	161	5	218
Glottal			1		1
Word-final	20	8	37		65

C.16b
Overall percentage of (ɔɪ) variants according to following place of articulation

	ɵɪ	ɔ̜ɪ	ɔɪ	ɔ
Labial	0.00	0.00	100.00	0.00
Coronal	14.68	9.17	73.85	2.29
Glottal	0.00	0.00	100.00	0.00
Word-final	30.77	12.31	56.92	0.00

C.16c
The Overall Percentage for (ɔɪ) Variants by Mersea Island Speakers According to Following Place of Articulation



C.17a

Overall number of (ɔɪ) tokens produced by Museum speakers according to following place of articulation

	ɵɪ	ɔ̞ɪ	ɔɪ	ɔ	**Total**
Coronal	4	1	15		20
Word-final	4		3		7

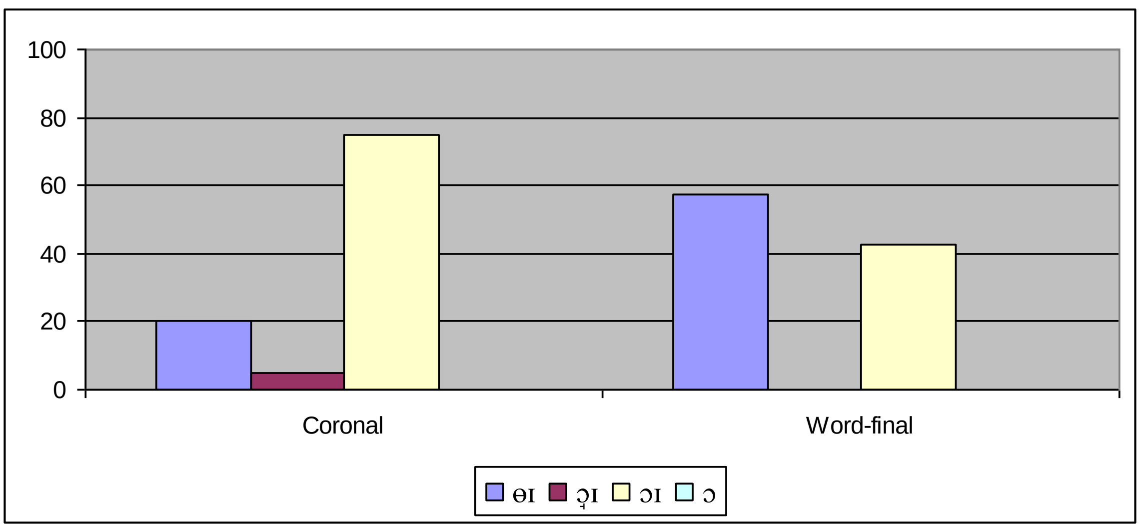
C.17b

Percentage of (ɔɪ) variants produced by Museum speakers according to following place of articulation

	ɵɪ	ɔ̞ɪ	ɔɪ	ɔ
Coronal	20.00	5.00	75.00	0.00
Word-final	57.14	0.00	42.86	0.00

C.17c

Percentage of (ɔɪ) Variants by Museum Speakers According to Following Place of Articulation



C.18a

Overall number of (ɔɪ) tokens produced by Old speakers according to following place of articulation

	ɵɪ	ɔ̝ɪ	ɔɪ	ɔ	Total
Labial			1		1
Coronal	28	18	75	5	126
Glottal			1		1
Word-final	16	5	26		47

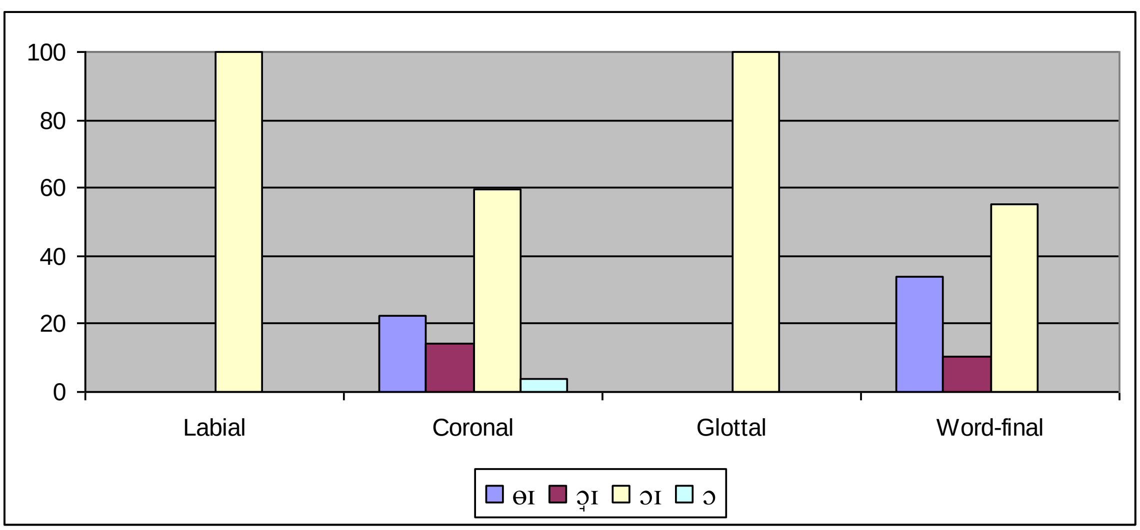
C.18.b

Percentage of (ɔɪ) variants produced by Old speakers according to following place of articulation

	ɵɪ	ɔ̝ɪ	ɔɪ	ɔ
Labial	0.00	0.00	100.00	0.00
Coronal	22.22	14.29	59.52	3.97
Glottal	0.00	0.00	100.00	0.00
Word-final	34.04	10.64	55.32	0.00

C.18c

Percentage of (ɔɪ) Variants by Old Speakers According to Following Place of Articulation



C.19a

Overall number of (ɔɪ) tokens produced by Younger speakers according to following place of articulation

	ɵɪ	ɔ̟ɪ	ɔɪ	ɔ	**Total**
Labial			1		1
Coronal		1	71		72
Word-final		3	8		11

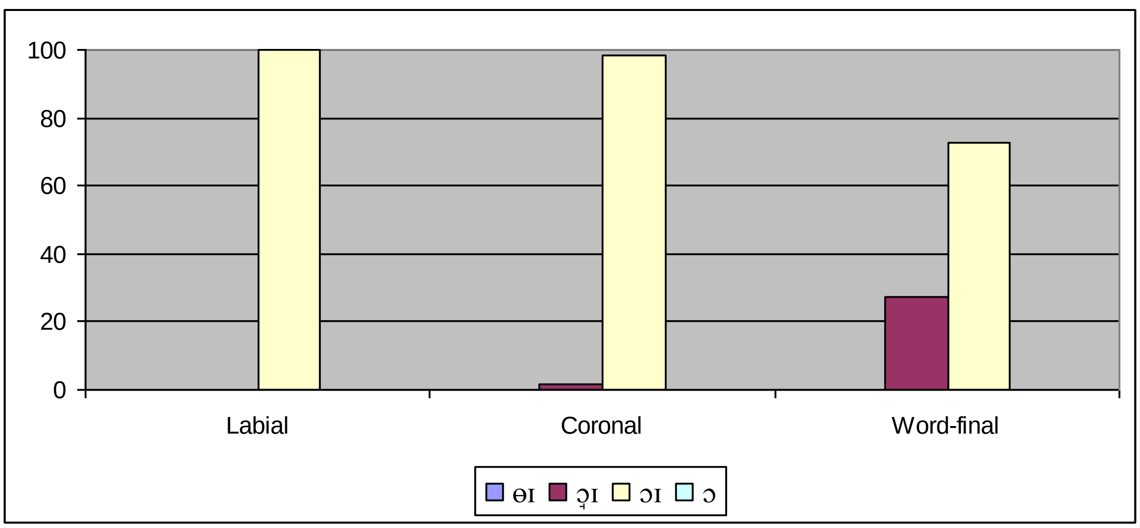
C.19b

Percentage of (ɔɪ) variants produced by Younger speakers according to following place of articulation

	ɵɪ	ɔ̟ɪ	ɔɪ	ɔ
Labial	0.00	0.00	100.00	0.00
Coronal	0.00	1.39	98.61	0.00
Word-final	0.00	27.27	72.73	0.00

C.19c

Percentage of (ɔɪ) Variants by Younger Speakers According to Following Place of Articulation



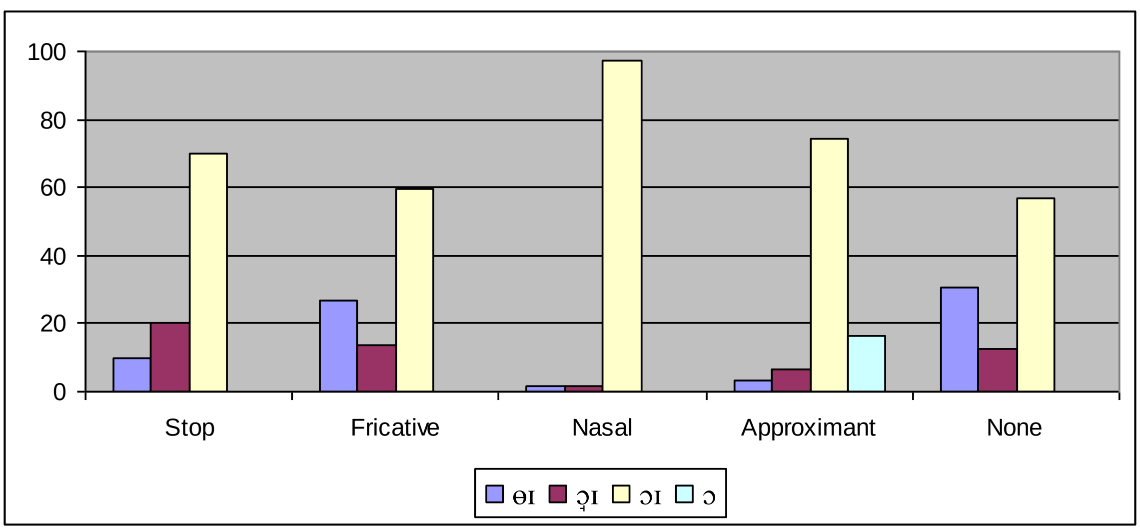
C.20a
Overall number of (ɔɪ) tokens according to following manner of articulation

	ɵɪ	ɔ̹ɪ	ɔɪ	ɔ	**Total**
Stop	1	2	7		10
Fricative	29	15	65		109
Nasal	1	1	69		71
Approximant	1	2	23	5	31
None	20	8	37		65

C.20b
Overall percentage of (ɔɪ) variants according to following manner of articulation

	ɵɪ	ɔ̹ɪ	ɔɪ	ɔ
Stop	10.00	20.00	70.00	0.00
Fricative	26.61	13.76	59.63	0.00
Nasal	1.41	1.41	97.18	0.00
Approximant	3.23	6.45	74.19	16.13
None	30.77	12.31	56.92	0.00

C.20c
The Overall Percentage for (ɔɪ) Variants by Mersea Island Speakers According to Following Manner of Articulation



C.21a

Overall number of (ɔɪ) tokens produced by Museum speakers according to following manner of articulation

	əɪ	ɔ̜ɪ	ɔɪ	ɔ	**Total**
Fricative	4		7		11
Nasal		1	8		9
None	4		3		7

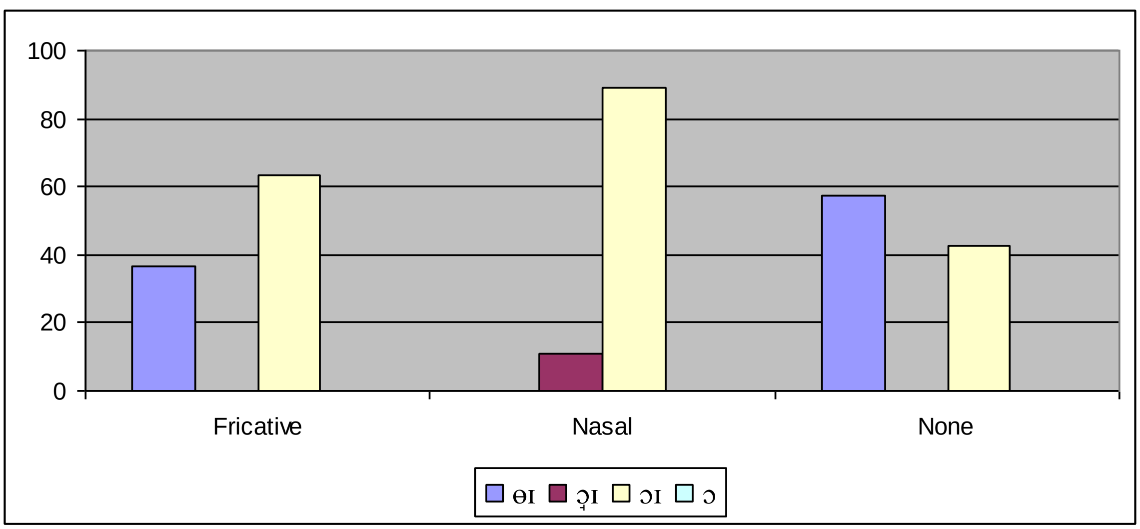
C.21b

Percentage of (ɔɪ) variants produced by Museum speakers according to following manner of articulation

	əɪ	ɔ̜ɪ	ɔɪ	ɔ
Fricative	36.36	0.00	63.64	0.00
Nasal	0.00	11.11	88.89	0.00
None	57.14	0.00	42.86	0.00

C.21c

Percentage of (ɔɪ) Variants by Museum Speakers According to Following Manner of Articulation



C.22a

Overall number of (ɔɪ) tokens produced by Older speakers according to following manner of articulation

	ɵɪ	ɔ̝ɪ	ɔɪ	ɔ	**Total**
Stop	1	2	3		6
Fricative	25	14	34		73
Nasal	1		29		30
Approximant	1	2	11	5	19
None	16	5	26		47

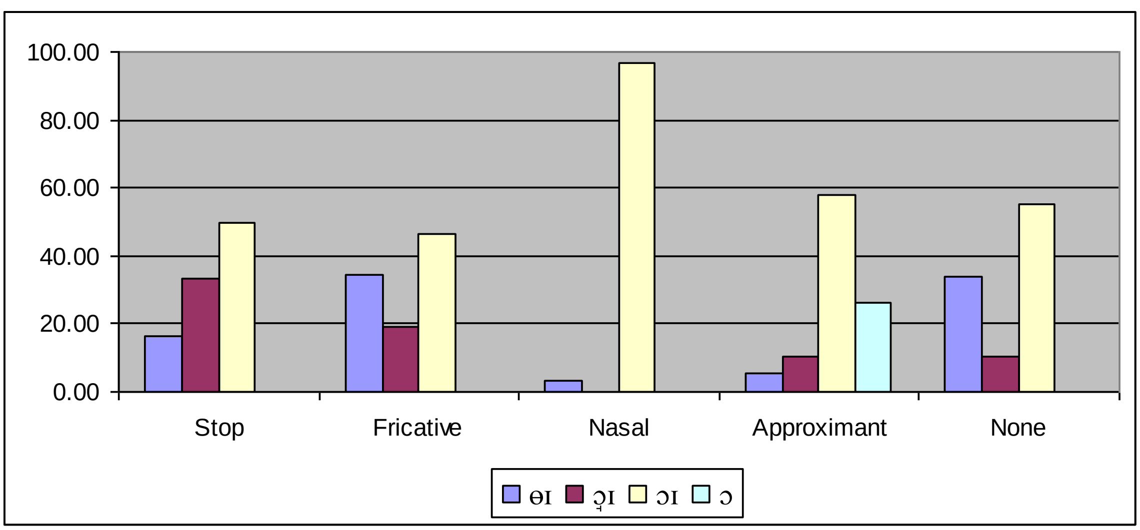
C.22b

Percentage of (ɔɪ) variants produced by Older speakers according to following manner of articulation

	ɵɪ	ɔ̝ɪ	ɔɪ	ɔ
Stop	16.67	33.33	50.00	0.00
Fricative	34.25	19.18	46.58	0.00
Nasal	3.33	0.00	96.67	0.00
Approximant	5.26	10.53	57.89	26.32
None	34.04	10.64	55.32	0.00

C.22c

Percentage of (ɔɪ) Variants by Older Speakers According to Following Manner of Articulation



C.23a

Overall number of (ɔɪ) tokens produced by Younger speakers according to following manner of articulation

	əɪ	ɔ̩ɪ	ɔɪ	ɔ	Total
Stop			4		4
Fricative		1	24		25
Nasal			32		32
Approximant			12		12
None		3	8		11

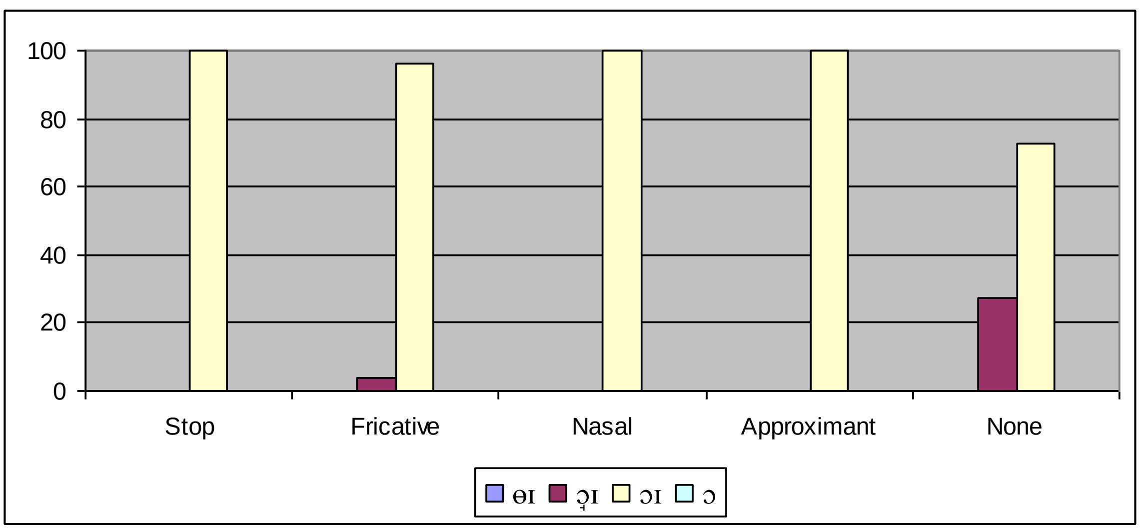
C.23b

Percentage of (ɔɪ) variants produced by Younger speakers according to following manner of articulation

	əɪ	ɔ̩ɪ	ɔɪ	ɔ
Stop	0.00	0.00	100.00	0.00
Fricative	0.00	4.00	96.00	0.00
Nasal	0.00	0.00	100.00	0.00
Approximant	0.00	0.00	100.00	0.00
None	0.00	27.27	72.73	0.00

C.23c

Percentage of (ɔɪ) Variants by Younger Speakers According to Following Manner of Articulation



C.24a

Overall number of (ɔɪ) tokens according to following voice

	ɵɪ	ɔ̙ɪ	ɔɪ	ɔ	**Total**
Voiced	28	17	110	5	160
Voiceless	4	3	54		61
None	20	8	37		65

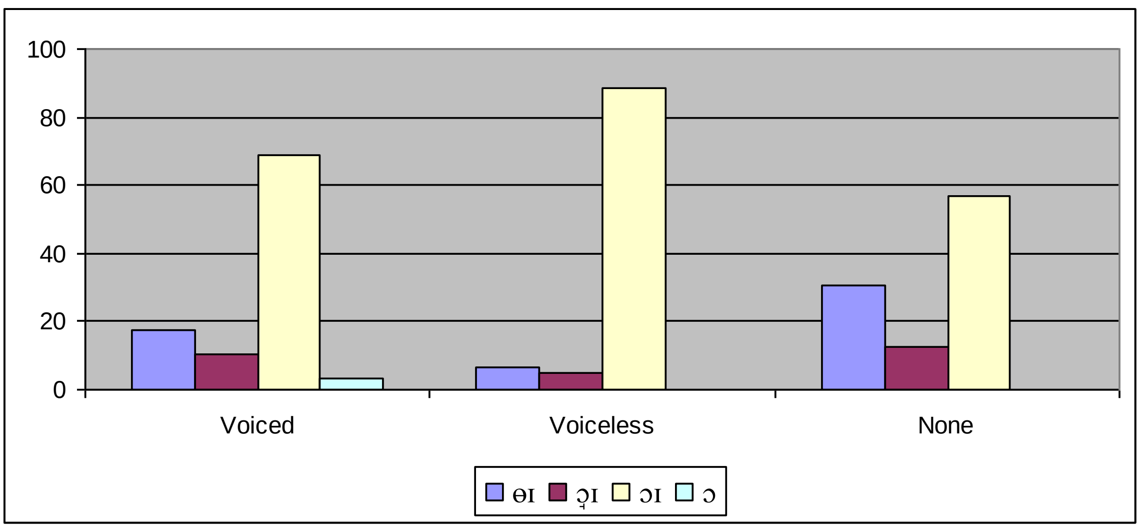
C.24b

Overall percentage of (ɔɪ) variants according to following voice

	ɵɪ	ɔ̙ɪ	ɔɪ	ɔ
Voiced	17.50	10.63	68.75	3.13
Voiceless	6.56	4.92	88.52	0.00
None	30.77	12.31	56.92	0.00

C.24c

The Overall Percentage for (ɔɪ) Variants by Mersea Island Speakers According to Following Voice



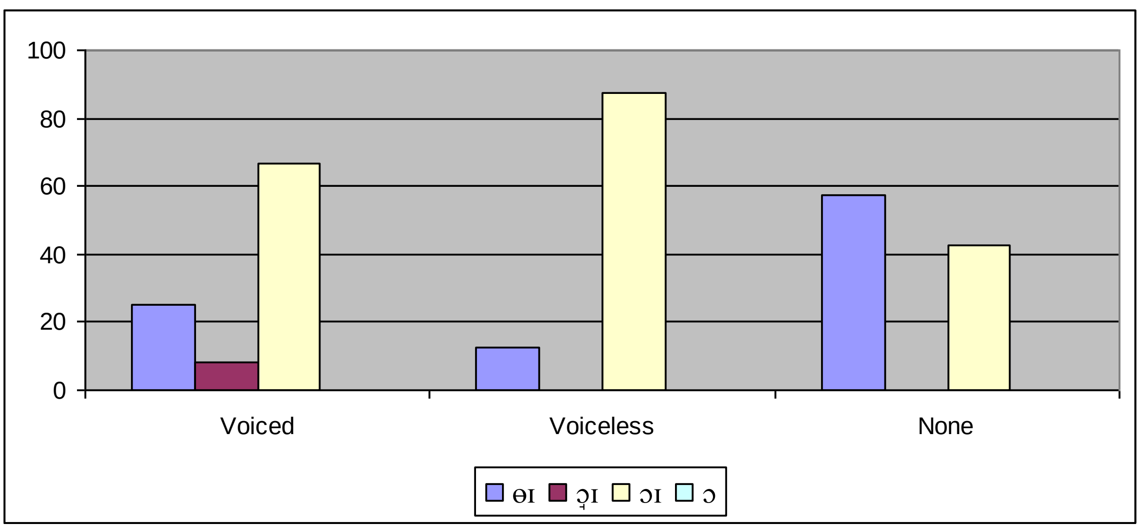
C.25a
Overall number of (ɔɪ) tokens produced by Museum speakers according to following voice

	ɵɪ	ɔ̝ɪ	ɔɪ	ɔ	**Total**
Voiced	3	1	8		12
Voiceless	1		7		8
None	4		3		7

C.25b
Percentage of (ɔɪ) variants produced by Museum speakers according to following voice

	ɵɪ	ɔ̝ɪ	ɔɪ	ɔ
Voiced	25.00	8.33	66.67	0.00
Voiceless	12.50	0.00	87.50	0.00
None	57.14	0.00	42.86	0.00

C.25c
Percentage of (ɔɪ) Variants by Museum Speakers According to Following Voice



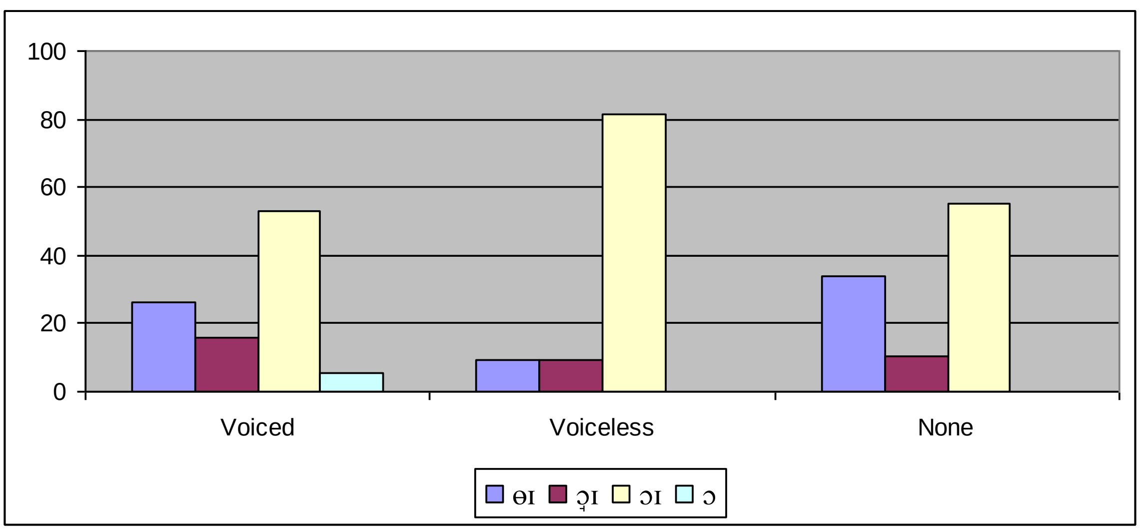
C.26a
Overall number of (ɔɪ) tokens produced by Older speakers according to following voice

	ɵɪ	ɔ̜ɪ	ɔɪ	ɔ	**Total**
Voiced	25	15	51	5	96
Voiceless	3	3	26		32
None	16	5	26		47

C.26b
Percentage of (ɔɪ) variants produced by Older speakers according to following voice

	ɵɪ	ɔ̜ɪ	ɔɪ	ɔ
Voiced	26.04	15.63	53.13	5.21
Voiceless	9.38	9.38	81.25	0.00
None	34.04	10.64	55.32	0.00

C.26c
Percentage of (ɔɪ) Variants by Older Speakers According to Following Voice



C.27a

Overall number of (ɔɪ) tokens produced by Younger speakers according to following voice

	ɵɪ	ɔ̝ɪ	ɔɪ	ɔ	**Total**
Voiced		1	51		52
Voiceless			21		21
None		3	8		11

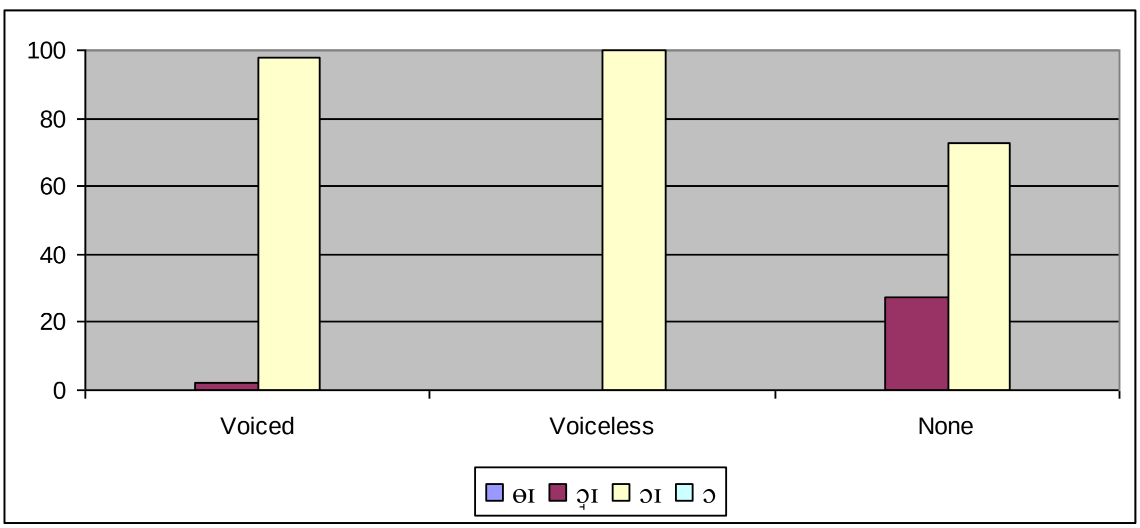
C.27b

Percentage of (ɔɪ) variants produced by Younger speakers according to following voice

	ɵɪ	ɔ̝ɪ	ɔɪ	ɔ
Voiced	0.00	1.92	98.08	0.00
Voiceless	0.00	0.00	100.00	0.00
None	0.00	27.27	72.73	0.00

C.27c

Percentage of (ɔɪ) Variants by Younger Speakers According to Following Voice



Preceding Manner of Articulation, from Chapter 8.3.2.2

C.28a

Number of (ɔɪ) tokens according to following manner of articulation by Museum speakers

	əɪ	ɔ̞ɪ	ɔɪ	ɔ	**Total**
Stop	7		3		10
Affricate		1	8		9
None	1		7		8

C.28b

Percentage of (ɔɪ) tokens according to following manner of articulation by Museum speakers

	əɪ	ɔ̞ɪ	ɔɪ	ɔ
Stop	70.00	0.00	30.00	0.00
Affricate	0.00	11.11	88.89	0.00
None	12.50	0.00	87.50	0.00

C.29a

Number of (ɔɪ) tokens according to following manner of articulation by Older speakers

	ɵɪ	ɔ̞ɪ	ɔɪ	ɔ	**Total**
Stop	36	15	44	2	97
Fricative	2		1		3
Nasal	4	2	2		8
Affricate			26		26
Approximant	1	2	1		4
/sp/			3		3
None	1	4	26	3	34

C.29b

Percentage of (ɔɪ) tokens according to following manner of articulation by Older speakers

	ɵɪ	ɔ̞ɪ	ɔɪ	ɔ
Stop	37.11	15.46	45.36	2.06
Fricative	66.67	0.00	33.33	0.00
Nasal	50.00	25.00	25.00	0.00
Affricate	0.00	0.00	100.00	0.00
Approximant	25.00	50.00	25.00	0.00
[sp]	0.00	0.00	100.00	0.00
None	2.94	11.76	76.47	8.82

C.30a

Number of (ɔɪ) tokens according to following manner of articulation by Younger speakers

	ɵɪ	ɔ̹ɪ	ɔɪ	ɔ	**Total**
Stop		4	38		42
Fricative			14		14
Nasal			12		12
Affricate			11		11
Approximant			1		1
None			4		4

C.30b

Percentage of (ɔɪ) tokens according to following manner of articulation by Younger speakers

	ɵɪ	ɔ̹ɪ	ɔɪ	ɔ
Stop	0.00	9.52	90.48	0.00
Fricative	0.00	0.00	100.00	0.00
Nasal	0.00	0.00	100.00	0.00
Affricate	0.00	0.00	100.00	0.00
Approximant	0.00	0.00	100.00	0.00
None	0.00	0.00	100.00	0.00

Appendix D

Appendix D

In this appendix, you will find the examples from the Mersea data for each of the variables examined in this thesis with respect to preceding and following environments.

1. The variable (aʊ)

a) Preceding Phonological Environment

Preceding Consonant	Examples
[p]	pound, pounding, pounce, pouncing
[b]	about, bounce, bound, boundary
[m]	amount, mouth, mouse, mountains
[w]	wound-up
[f]	foundation, found, fowl
[v]	voucher
[t]	town, towns
[d]	down, doubt, endowment
[n]	now, announce, pronounce
[θ]	thousand, without
[s]	sound, sounded, south, Southend,
[ʃ]	shout, shouted, shouting
[l]	loud, lounge, allow, plough
[r]	round, around, ground, brown
[k]	cows, count, council, accounting
[g]	dug-outs
[h]	house, house how, hound
[sk]	scout, scouts
Word Initial	out, outings, ounce

1. The variable (aʊ)

b) Following Phonological Environment

Following Consonant	Examples
[m]	ploughman, endowment
[w]	allowing
[f]	south (with final th-fronting)
[t]	out, about, shout, without
[d]	cloud, loud, ploughed, allowed
[n]	bound, down, fount, crown
[ɾ]	out, about (/t/ to flap due to connected speech)
[θ]	mouth, south
[s]	house, mouse, houseboat, greenhouse
[z]	houses, thousand, ploughs, rows
[l]	towel, fowl
[ʧ]	voucher, Crouch (Street)
[ʤ]	lounge
[h]	cowhide
[ʔ]	out, about, outside, output
[ə]	Haward (family name), allowance, now-a-days
Word Final	how, now, bow, allow

2. The variable (aɪ)

a) Preceding Phonological Environment

Preceding Consonant	Examples
[p]	pipe, pies, pine, pilot
[b]	bike, bite, bible, combined
[m]	mile, mine, reminds, minus
[w]	white, while, why, quite, choir
[f]	find, fight, five, fine
[v]	advice, vice, survive, televised
[t]	tie, time, advertise, sometime
[d]	dive, die, dining, dicing
[n]	knife, night, nice, modernise
[θ]	thigh, empathise
[s]	sight, size, aside, excited
[z]	design
[ʃ]	shy, shiny, shining
[l]	like, life, lice, realise, apply
[r]	rival, right, alright, try
[ʧ]	child
[ʤ]	fragile, apologise, energised, gigantic
[k]	kind, kite, archive
[g]	guy, guide, gynaecologist, guidelines
[h]	high, hiding, hive, hind
[ʔ]	sometimes (with /t/ glottalisation)
[sp]	spy, spider, spicy
[sm]	Smile
[st]	style, sty
[sl]	slide, slice, slight, slightest
[sn]	Snipe
[sk]	sky, skylark
Word Initial	eye, ice, idea, Island

2. The variable (aɪ)

b) Following Phonological Environment

Following Consonant	Examples
[p]	ipod, pipes, hyperlinks, type
[b]	tribe, bible, library, bribery
[m]	time, crime, miming, rhyme
[w]	highway, plywood
[f]	life, wife, lifeboat, decipher
[v]	five, rival, driving, private
[t]	right, site, might, exciting
[d]	tried, died, tide, qualified
[n]	find, kind, China, nine
[ɾ]	might, quite, right (/t/ to flap in connected speech)
[ð]	Hythe, either
[s]	nice, twice, bicycle, price
[z]	guys, otherwise, exercise, dies
[l]	mile, while, child, file
[r]	Irish, spiral, siren,
[j]	trying, flying, highest, Ryan
[ʤ]	hygiene
[k]	like, biker, psychology, cycle
[ʔ]	quite, right, delight, fight
Vowel	triangle, diagonal, Diane, highest, quiet
Word Final	tie, high, why, guy

3. The variable (ɔɪ)

a) Preceding Phonological Environment

Preceding Consonant	Examples
[p]	point, poisonous, appointment
[b]	boy, boiler, boiled
[v]	voice, avoid
[t]	toilet, toying, toys
[n]	noise, annoying
[l]	alloys, employed
[r]	destroy
[ʧ]	choice
[ʤ]	join, enjoy, joint
[k]	coy, coil
[sp]	spoil
Word Initial	oyster, oil

3. The variable (ɔɪ)

b) Following Phonological Environment

Following Consonant	Examples
[m]	enjoyment
[f]	boyfriend
[d]	avoid, enjoyed, paranoid, employed
[n]	join, point, joined, disappoint
[s]	voice, choice, oysters
[z]	boys, noise, alloys
[l]	oil, toilet, boiled, coil
[j]	annoying, toying, boyish
[ʔ]	pointing
Vowel	
Word Final	boy, joy, destroy

Appendix E

Appendix E

In this appendix, you will find the (stressed) vowel inventories of two speakers from the Mersea corpus used in this research.

1) Speaker BC: Museum Male, b. 1883

Wells' Lexical Set Reference	Realisation
KIT	ɪ
DRESS	ɛ ~ ɪ̞
TRAP	aː ~ æː ~ ɛ
LOT	ɑː ~ ɒ
STRUT	ɐ ~ ʌ
FOOT	ʊ
BATH	aː
CLOTH	ɒː ~ ɒ ~ ɔː
NURSE	aː
FLEECE	iː ~ ɨː
FACE	æɪ ~ ɛɪ
PALM	aː

Wells' Lexical Set Reference	Realisation
THOUGHT	ɔː
GOAT	ɛʊ ~ aʊ , ɵʊ ~ əʊ u[1] , ʊ[2] , ɐ~a[3]
GOOSE	uː
PRICE	ɔɪ
CHOICE	ɵɪ
MOUTH	ɛʊ
NEAR	ɪə
SQUARE	ɛə
START	aː
NORTH	ɔː
FORCE	ɔː
CURE	ɔː[4]

Notes:
1. found in *go* and *no*
2. found in *most*
3. found in non-main stressed syllable of, for example, *meadow*
4. vowel quality based on *poor* and *your*

Additional notes:

5. r-coloured vowels, particularly in the NURSE set

2) Speaker SC: Young Female, b 1989

Wells' Lexical Set Reference	Realisation
KIT	ɪ
DRESS	ɛ
TRAP	æː
LOT	ɒ
STRUT	ɐ ~ ʌ
FOOT	ʊ ~ ɯ ~ ɨ
BATH	ɑː
CLOTH	ɒ
NURSE	ɜː
FLEECE	iː
FACE	ɛɪ
PALM	ɑː

Wells' Lexical Set Reference	Realisation
THOUGHT	ɔː
GOAT	əʊ
GOOSE	uː
PRICE	aɪ
CHOICE	ɔɪ
MOUTH	aʊ
NEAR	ɪᵊ
SQUARE	ɛː
START	ɑː
NORTH	ɔː
FORCE	ɔː
CURE	ɔː[1]

Notes:
1. vowel based on *your* and *sure*