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Alphabetical list of abbreviations

CanE	Canadian English
CR	Canadian Raising
GenAm	General American
GP	Generative Phonology
GVS	Great Vowel Shift
IrE	Irish English
ME	Middle English
MV	Martha's Vineyard
NfldE	Newfoundland English
NL	Natural Linguistics
NP	Natural Phonology
RP	Received Pronunciation
SAmE	Southern American English
SGW	Southern Glide Weakening
SVLR	Scottish Vowel Length Rule

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1. Introduction

In Canadian English and several other varieties of English, a process known as “Canadian Raising” causes the diphthongs /aɪ/ and/or /aʊ/ to have raised or centralized onsets before voiceless consonants. Although similar forms of Raising appear to be more widespread, “genuine” Canadian Raising (that is, Raising that affects both diphthongs and does so only in pre-voiceless position) seems to be restricted to Canadian varieties of English.

This thesis aims to investigate the origins of Canadian Raising and the factors that influence its application and development both in Canada as well as in other areas. Two main aspects will be analyzed: (1) the phonetic basis of Canadian Raising and (2) the social motivation of Canadian Raising.

The framework of Natural Phonology has been selected to serve as a basis for analyzing the phonetic motivation of Canadian Raising. The basic assumption of Natural Phonology is that human speech is governed by natural phonological processes, which apply subconsciously in order to increase both ease of articulation and ease of perception. The aim here is to examine whether (Canadian) Raising is, in fact, a natural phonological process and to investigate its origins as well as its purpose in communication.

In the second major part of this thesis, the social motivation of Canadian Raising will be explored. The focus here lies on the issue of identity and to what extent Canadian Raising serves as a tool for speakers to express their self-identification and solidarity with other members of a group. The concept of networks and network ties will be used to explain the origins of (Canadian) Raising in several varieties of English.

This thesis is organized as follows: Chapter 2 provides a brief outline of the history of Canada and Canadian English as well an introduction to the fundamental aspects of Canadian Raising. Chapter 3 presents the framework of Natural Phonology and its basic hypotheses, which will then serve as a basis for further analysis in Chapter 5. Chapter 4 introduces the reader to the basic concepts needed for a sociolinguistic analysis of varieties and linguistic variables and investigates to what extent language and pronunciation function as a means for the

construction of social identity. Chapter 5 is split into two parts: Part 1 examines Canadian Raising as a natural phonological process in the framework of Natural Phonology, whereas Part 2 focuses on the social motivation of Raising.

I expect to find that Canadian Raising is neither entirely phonetically nor entirely socially conditioned. Rather, my hypothesis is that the interplay of both forces causes different outcomes in different varieties. Also, I assume that different factors (social or phonetic) will prevail in different groups/communities/regions.

I would like to point out why the focus here lies on Canada and its history. First, the question is why the process has been labeled “Canadian” Raising in the first place. Second, assuming that “pure” Canadian Raising occurs only in Canada, I would like to investigate the reasons underlying this phenomenon. It also needs to be considered whether there is any variation in the application of Canadian Raising within Canada and, if so, why.

2. Canadian English and its origins

The first section of this chapter will provide a brief outline of the settlement history of Canada. I aim to point out the differences in the origins of English-speaking settlement between mainland Canada and Newfoundland in order to be able to appropriately explain the reasons for the (non-)application of Canadian Raising in these varieties in the course of the subsequent chapters.

This section will also feature a short description of the distinguishing traits of Canadian English pronunciation and, more importantly, will provide an introduction to Canadian Raising. The purpose of this general discussion is to demonstrate why and to what extent Canadian Raising is a salient feature of Canadian English, and to investigate where else it – or similar forms of diphthong raising – occurs.

2.1. Settlement history of (mainland) Canada

During the early years of settlement, what is today Canada consisted mainly of French colonies (with the exception of Newfoundland), whereas English speakers constituted only a minority. Not until the mid-17th century was the struggle between France and England decided, and England gained power over the area; as a consequence, even formerly French possessions came under English rule by the Treaty of Paris in 1763. A wave of British immigration followed, and by the beginning of the 19th century, French colonists had been outnumbered by the English. (Boberg 2008: 145 for the entire paragraph)

Boberg (2008: 146-8) notes three different stages in the settlement of Canada:

- (1) In the early 1760s, settlers from the British colonies in what is today the United States (primarily from colonies in eastern New England) migrated to Canada and settled in Nova Scotia. (Avis 1973: 44-7 in Boberg 2008: 146)
- (2) Subsequent settlement came from the “United Empire Loyalists” or “Tories”, American colonists who remained loyal to the British crown

during the American Revolution; they settled in Nova Scotia, New Brunswick, Quebec, and Ontario. (Avis 1973: 46 in Boberg 2008: 146) During the 19th and 20th centuries, immigration from the United States continued and settlement in western Canada followed. Boberg points out that “[t]he result was that, in almost every region of Canada except Newfoundland, Americans predominated” (2008: 146).

- (3) The third stage in the settlement of Canada featured large-scale immigration from non-English-speaking countries (primarily from Europe), which reached its peak after WWII. (Boberg 2008: 148)

Figure 1 features a political map depicting the provinces and territories of modern-day Canada. Its purpose is to illustrate the vastness of the territory and the locations – and comparatively small areas – of initial settlement.

Fig. 1: Political map of Canada



As is widely known, present-day Canada has two official languages, English and French, whereas French speakers are the definite minority and account for only a quarter of the population. (Boberg 2008: 145) Despite the enormous size of the country and its “varied history of settlement” (Wells 1982: 491), Canadian English is a largely homogenous variety. It resembles General American (GenAm) speech more closely than Received Pronunciation (RP), however – in

spite of its membership in the Commonwealth of Nations and its close ties with Britain ever since the era of initial settlement:

Canadian English is fundamentally a North American variety. [...] [W]ith the obvious exception of Newfoundland [...] Canadian English is remarkably homogenous. [...] While traditional enclaves remain in a few places, modern, urban Canada does not exhibit anything approaching the dialect diversity of the United States, let alone that of Britain.” (Boberg 2008: 146)

It has been argued that this can be accounted for by the vast amount of Americans who immigrated to Canada from the colonies, whose speech had already acquired a distinct sound by the time they settled in Canada. (Avis 1954: 14 and Bloomfield 1948: 62 in Boberg 2008: 147) Despite its similarities with GenAm and the “overwhelmingly North American sound of Canadian English” (Boberg 2008: 147), there has been a “growing sense of Canadian identity” (ibid.: 149) ever since WWII, leading to the establishment of a uniquely Canadian variety that seeks to remain largely distinct from British and American speech.

2.2. Phonetics and phonology of Canadian English

From a dialectological point of view, Canadian English (CanE) comprises three regions: Newfoundland, eastern Canada (the Maritimes and Ontario), and western Canada – whereas “[t]he differences between the latter two areas hardly involve pronunciation” (Wells 1982: 492). The following pages will provide a brief outline of the defining features of (standard) CanE pronunciation (that is, the pronunciation of “eastern” and “western Canada”); Newfoundland English (NfldE) will be discussed in a separate subchapter.

As has already been mentioned, CanE pronunciation shares certain similarities with GenAm speech. Amongst other things, CanE is a rhotic accent and exhibits intervocalic flapping of /t/. (Wells 1982: 491) It has even been suggested that CanE differs in only two aspects from GenAm, one being Canadian Raising and the other the low-back merger. (Joos 1942: 141) There are, in fact, more aspects which distinguish CanE from Gen Am; some of them will be discussed in the following subchapters.

2.2.1. Mergers

One important feature of CanE pronunciation is the low-back merger, which causes words like *cot* and *caught* or *pod* and *pawed* to be homophones: It merges the vowels /ɒ/ (*cot*) and /ɔ:/ (*caught*) in the low back area of the vowel space, resulting in only one phoneme /ɑ/ (e.g. Wells 1982: 493), where other accents have two or even three. Thus, in CanE, not only *balm* and *bomb* are homophones (cf. GenAm) but also *pod* and *pawed*. GenAm, for instance, distinguishes between two sounds [bam, pad; pɒd] and RP between three [bam; bɒm, pɒd; pɔd], whereas CanE uses the same sound in all of these words [bam, pad]. (Joos 1942: 141) Although the same process can be observed in some varieties of the United States as well (e.g. in New England, western Pennsylvania, and the western United States), it is considered “a unifying feature of English across Canada” (Boberg 2008: 150)

CanE exhibits several other mergers, in particular before /r/. As in many other North American varieties, for example, the vowels /eɪ/, /ɛ/, and /æ/ are merged at approximately [ɛ] when they precede intervocalic /r/, causing, for example, *Mary*, *merry*, and *marry* to be homophones ['mɛri]. Montreal speech is an exception here, as the distinction between /æ/ and /ɛ/ before /r/ is maintained. Furthermore, /ɔ:/ and /oo/ (*for*, *four*) as well as /ʌ/ and /ə/ (*hurry*, *her*) are merged before /r/, [ə] or a syllabic [ɹ] being the norm in the latter case. (Boberg 2008: 151 for the entire paragraph)

2.2.2. The Canadian Shift

The Canadian Shift involves a series of sound changes: /æ/ is retracted to [a], /ɛ/ is lowered toward /æ/, whereas /ɪ/ is lowered toward /ɛ/ (Clarke, Elms & Youssef 1995 in Boberg 2008: 155). In fact, the retraction of /æ/ to [a] is similar to the quality of the sound found in Northern English speech and stands in stark contrast to the fronted and raised quality /æ/ has in many GenAm accents (e.g. Inland Northern region along the Canadian border). The result of this retracted realization of /æ/ is the pronunciation of *hat* as [hat] and of *cap* as [kap]; in the

Great Lakes region of the US, however, [hat] and [kap] refer to *hot* and *cop*, respectively, which is a consequence of the Northern Cities Shift (cf. e.g. Labov 1994: 195). This direct opposition between American and CanE pronunciation in this area (northern US, border to Canada) could be argued to have social reasons – especially since the US-Canadian border functions as an isogloss – as it keeps the two varieties fairly distinct (both for speakers of the two accents themselves as well as for speakers of other accents).

2.2.3. Canadian Raising

The phenomenon commonly referred to as “Canadian Raising” (CR) was first mentioned in specialist literature in 1934, when Ahrend noted “a tendency to raising [...] among Canadians, especially of the diphthong [aʊ]” when studying the speech of Ontarians (1934: 136). This was argued to be “the most striking feature” of Canadian speech (138). Ahrend proposed the transcriptions [out] for *out* and [hoʊs] for *house*, with a rounded onset of the diphthong, which, according to Chambers (2006: 107) has “no phonetic basis”. Further on in the article, she suggests that [aɪ] is also raised, namely to [eɪ], and treats this as evidence of the influence of Scottish dialects (where similar “mutations” were said to be common) on Canadian speech (Ahrend 1934: 138). Some remarks have to be made at this point: Most importantly, Ahrend makes no connection between the two processes of [aɪ]- and [aʊ]-raising. Moreover, she draws no conclusions concerning the phonetic basis of this kind of raising. She does propose that the raised variant of /aʊ/ appears to occur primarily in stressed positions (ibid.); however, she fails to acknowledge the quality of the surrounding segments (which, in fact, condition CR). Rather, she provides a list of words in which Raising appears to be common but does not establish any connection between them. Only five years later, Ayearst published an article which stated:

Probably Americans can distinguish Canadians by their vowel **quantities** [emphasis added]. To a Canadian ear, an American seems to be adding an extra vowel to such words as *out* and *down*. To the latter, the Canadian appears to say [u:t]. Actually he says [a^ʊt] but the word is clipped. (Ayearst 1939: 231-2)

As will be explained further below, the observation that the Canadian version of the diphthong appeared to be shorter is not entirely wrong. Still, it fails to account for the fact that CR does, in fact, involve a difference in vowel **quality** as well. Joos (1942) was first to suggest that the raised variants of /aɪ/ and /aʊ/ occur “before any fortis consonant” whereas the low variant “is used in all other contexts” (141). He also pointed out the difference in the pronunciation of the singular and plural forms of irregular nouns such as *wife* and *wives* in Canadian speech. (ibid.)

Chambers (1973) then established the link between the two processes and labeled them “Canadian Raising”, whereas he later noted that “[t]he fact that /aw/-raising and /ay/-raising exist independently of one another in the phonologies of regional accents calls into question my original analysis of them as a single process” (1989: 77). At this point, it has to be mentioned that CR is by no means restricted to Canadian speech, although it does constitute a defining feature of CanE. Similar raising processes – the exact patterns found in CanE hardly occur outside Canada – have been noted in New York (Vance 1987), the Great Lakes basin (ibid.), Michigan (Dailey-O’Cain 1997, Niedzielski 1997), Martha’s Vineyard off the coast of Massachusetts (Labov 1962) and parts of mainland New England, several other parts of the United States (mainly in the north), and even as far away as in the Fens of eastern England (Britain 1997). This list is not exhaustive. Even in his original article, Chambers was careful to point out that “[t]he rule will be referred to throughout as ‘Canadian Raising’ purely for mnemonic purposes; no geographical rigour is intended” and that “[t]he appropriateness of the term resides in the relative role the rule plays in Canadian English, where its effect is the most readily identifiable trait of the [accent]” (1973: 113 in Chambers 2006: 106). Thus, although patterns similar to CR may not be restricted to Canada, CR itself is, in its “pure” or “classical” form, an essential and defining feature of Canadian English.

It has been suggested (Chambers 1989: 77) that CanE appears to be the only variety that exhibits Canadian Raising according to its original definition: Before voiceless consonants, the onset of the diphthongs /aɪ/ and /aʊ/ are raised or centralized, resulting in a realization approximating [ʌɪ] or [əɪ] and [ʌʊ] or [əʊ] respectively. Thus, the onset of the diphthong changes from a low [a] to a mid [ʌ]

or an entirely centralized schwa [ə]. For reasons I will explain later, I will use IPA [əɪ] and [əʊ] to transcribe the raised diphthongs. According to the predictions of CR, one thus gets the following minimal pairs:

raised	unraised
/aɪ/ <i>tight</i> [təɪt]	<i>tide</i> [taɪd]
<i>price</i> [prəɪs]	<i>prize</i> [praɪz]
/aʊ/ <i>house</i> (noun) [həʊs]	<i>house</i> (verb) [haʊz]
<i>lout</i> [ləʊt]	<i>loud</i> [laʊd]

Vance (1987) argues that, when eliciting judgments from his informants as to whether /aɪ/ was raised in a word or not, his subjects generally agreed that “either [ʌɪ] or [aɪ] seemed possible” and rejected the idea “that some diphthong of intermediate quality seemed correct” (204). In fact, however, researchers have suggested several different possibilities regarding the phonetic quality of the onset – among them, as has been mentioned, one finds [ʌ] and [ə], which appear to be the most commonly cited variants. Idsardi (2006) confirms this, saying that “there is considerable variation in the exact quality of the starting position” (119). It needs to be mentioned, however, that Vance’s subjects included only residents of the United States.

Further studies demonstrated that CR is not only conditioned by the nature of the segment following the diphthong. It has been proposed, for instance, that word boundaries (also those in compounds), where the voiceless diphthong follows the boundary, block Raising (Chambers 1973: 116 in Dailey-O’Cain 1997: 108). Thus, the diphthongs in phrases like *high school* or *fly swatter* are predicted not to have a raised onset, even though the original “rule” requires this be the case. Chambers (ibid.) pointed out, however, that some of his subjects had raised diphthongs in *high school*, which he considered an “anomaly”. Vance’s (1987: 197-8) findings confirm this: Despite the word boundary, all of his informants raised the diphthongs in *high school* – and they did so, too, in *high chair*. He argued, however, that this irregularity appeared to be restricted to these two lexical items only. Dailey-O’Cain (1997: 113) tested this hypothesis and investigated the correlation between non-raising and word boundaries in

compounds. She found that CR occurred in several compound nouns despite the fact that the voiceless consonant was separated from the diphthong by a word boundary. In fact, the results of her studies in Ann Arbor, Michigan, showed that, in 29.6% of these cases, Raising did apply. She concluded that this might indicate that “the apparent word boundaries in such phrases are no longer interpreted as such by informants” (1997: 113). Fruehwald confirms this, saying:

The presence or absence of Raising can frequently be used to determine a speaker’s morphological analysis of words. For example, Raising in *high school*, *highchair* and *bicycle* is a good indication that these words have been reanalyzed as monomorphemic. (Fruehwald 2007: 3)

Yet another hypothesis as to the causes of CR has been proposed by Hall (2005); it relies on the assumption that the application of CR is influenced by phonological similarity and “lexical neighborhoods”. In her study, Hall found that “an alarming 31% of the data” could not be explained in terms of the original definition of Raising. In fact, 18% of the data had low onsets where one would have expected high ones, whereas 13% had raised onsets where they would have been expected to stay low. Hall (2005: 194) thus suggested as a solution that the application of Raising (or its suppression) might be conditioned by phonological similarity. According to this theory, the degree of similarity between biphone sequences – containing the diphthong and its preceding segment (e.g. /daɪ/ or even /#aɪ/) – across words determines whether Raising will be applied or not. Hall argues, for instance, that the vast majority of words with the biphones /daɪ/, /dʒaɪ/, and /saɪ/ had raised onsets; among others, these include *gigantic* and *Siberia*, which, in fact, do not fit into the pattern of CR because the diphthongs are followed by voiced segments. Lexical frequency plays a substantial role in determining whether a “neighborhood” of words will have raised or low diphthongs. For each neighborhood, an “anchor” (ibid.: 196) is chosen; i.e., a word which serves as a template for the other words in the group. This anchor may be selected, for instance, on the basis of its frequent occurrence. Thus, if *meningitis* was the most frequent item in the /dʒaɪ/-biphone neighborhood, then, according to Hall’s theory, all other words containing this very biphone should behave in the same way. Of course, this choice depends on each individual’s lexicon and is not universal. It is argued that most irregularities in the application of CR can be explained on the basis of this theory; Hall notes that “although there

was some inconsistency across speakers, there were consistent biphonemic neighbourhoods within speakers” (ibid.: 195)

As has been mentioned above, Canadian Raising is by no means restricted to Canada. “Genuine” CR or forms of it occur in other parts of North America and even on the British Isles. However, outside Canada, raising of both /aɪ/ and /aʊ/ that is triggered by a following voiceless consonant – the originally described pattern – is hard to find. Generally speaking, /aɪ/-raising is much more common than raising of /aʊ/. Vance (1987: 195) notes that a higher variant of /aɪ/ is “certainly the norm” in Minneapolis (MN), Chicago (IL), and Rochester (NY), whereas raised /aʊ/ is not. It has been suggested that, in the United States, instances of CR

proved to be variations on the theme [...] in that the raising patterns noted by Joos and Chambers were never quite replicated but shown to be somewhat different, often more complex, and certainly more variable. (Roberts 2007: 181)

Speakers of different GenAm accents usually exhibit different forms of CR – or rather different forms of Raising that are similar to CR. In Michigan (e.g. Ann Arbor, Detroit), for instance, the changes investigated appear to be genuine Canadian Raising, as both /aɪ/ and /aʊ/ have higher onsets before voiceless consonants. Although /aʊ/-raising is, in fact, less frequent, it is generally conditioned by a following voiceless segment (Dailey-O’Cain 1997: 115, Niedzielski 1997: 63). Whereas a higher variant of /aʊ/ appears to be the result of a new sound change in progress, raising of /aɪ/ is apparently “much more entrenched” in the speech of Ann Arbor, Michigan (Dailey-O’Cain 1997: 116). On Martha’s Vineyard (MA), both diphthongs were found to have a higher onset; however, this does not appear to be conditioned by a following voiceless segment, as it also occurs before many voiced sounds, e.g. /d/, /v/, /z/, /ð/, /l/, /r/, /n/, and /m/ (Labov 1963 in Wells 1982: 526). In New York, Raising appears to apply in several positions, as well, whereas /aɪ/-raising is, again, much more common. (Kurath & McDavid 1961 in Vance 1987: 195). In Vermont, /aʊ/ usually has a raised quality and /aɪ/ appears to be more central in all positions (Roberts 2007: 193). In the English Fens, only raising of /aɪ/ was noted, and it appears to be conditioned by a following voiceless segment. (Britain 1997: 15) The variation in the quality and quantity of CR ultimately led Chambers to suggest that

the term ‘Canadian Raising’ seems appropriate only as a dialectological term for the coexistence of the two very similar allophonic reflexes in the same accent and less appropriate as a theoretical phonological term for a single process that affects two different nuclei. (Chambers 1989: 77)

Indeed, one of the most striking cross-dialectal differences is that consistent /aʊ/-raising that is conditioned by the voicedness of the following segment seems to be exclusive to Canadian speech, whereas /aɪ/-raising occurs much more frequently even if /aʊ/ is not affected. This illustrates the fact that /aʊ/-raising is one of the most salient features of CanE and that it “remains highly marked” (Chambers 2006: 116). An experiment in Detroit has shown that, even though /aʊ/ sometimes has a high onset in Detroit speech, speakers are generally unaware of this and interpret the feature as distinctly Canadian:

Detroit speakers do not hear CR in their own speech and in the speech of their Detroit neighbors. However, it is possible to make the CR in the speech of Detroiters noticed by the speakers themselves—by leading them to think that the speaker is Canadian. Detroiters expect to hear raised /aʊ/ in the speech of Canadians, and therefore, they do. They do not expect to hear it in the speech of fellow Detroiters, and therefore, they do not. (Niedzielski 1999: 79)

For several decades, Canadian Raising – especially the part concerning /aʊ/ – has been widely known as a salient feature of CanE. American speakers seem to be particularly aware of the more or less subtle difference compared to their own speech: In their view, Canadians stereotypically pronounce *out and about* “oot and aboot” or *about the house* “about the hoose”. In the media, as well as in real life, the stereotype and markedness persists to this day:

- “[I]n the [...] movie *Canadian Bacon*, a story in which the United States decides to invade Canada, John Candy, portraying a Canadian, responds to invading American soldier Bill Murray’s attack by saying ‘Get oot!’ Murray then answers angrily, ‘We have ways of making you pronounce the word *out*!’” (Dailey-O’Cain 1997: 108)
- “A casting director, ‘looking for people who can deliver dialogue with an American accent,’ says, ‘That means the Canadians are going to have to lose their vowel sounds, like out and about’” (*Global and Mail*, 9 May 1984, in Chambers 1989: 76)

- In Episode 9, Season 1 (2005), of the CBS television series *How I Met Your Mother*, one of the main characters, Ted Mosby, says to his Canadian friend Robin Scherbatsky, “Oh right. I forgot, you guys are weird, you pronounce the word *out* [əʊt].”

As can be seen, Canadian Raising, especially of /aʊ/, is not only regarded a distinctive trait of Canadian English speech, but is often imitated, ridiculed or portrayed as “weird” or even undesirable. Raising of /aɪ/, on the other hand, due to its frequent occurrence in other (American) varieties of English, seems to go unnoticed.

2.3. The “obvious” exception: Newfoundland

2.3.1. Settlement history of Newfoundland

Newfoundland’s settlement history differs greatly from that of mainland Canada. Whereas mainland Canada, as mentioned above, was primarily populated by British colonists who had already settled in America, the linguistic community in Newfoundland is largely Irish- and English-derived; more specifically, immigration came mostly from South-East Irish English and English in the south-west of England. (Hickey 2002: 283) A significant source of immigration were the boats that brought Irishmen to Newfoundland on summer fishing expeditions in the late 17th century (hence the Irish name *Talamh an Éisc* “Ground of Fish” for Newfoundland [ibid.: 288]); permanent settlement ultimately resulted from those Irish travelers that could not afford to return to their home in Ireland after the summer. Thus, the community consisted of two groups of people: *transients*, who only stayed for the summer months and went back and forth between Ireland and Newfoundland, and (permanent) *residents*, who stayed in Newfoundland throughout the year. (ibid.: 286)

In fact, Newfoundland was one of the earliest British-settled areas in North America (Clarke 2008: 161); it has been suggested that “English was established there long before any speakers moved to mainland Canada” (Hickey 2002: 288). As the oldest English colony in Canada, it remained independent until 1949, when, due to economic difficulties, it joined the Canadian Federation. (ibid.) Due

to its relative geographic isolation and continuous contact with the Old World through the transients, NfldE has always been a very conservative variety and has retained many of its original features, which generally differ from those of standard CanE. (ibid.: 289) Irish English (IrE) – in particular the variety spoken in the area that served as a source of immigration to Newfoundland – was itself a rather stable and conservative variety and, at the time, exhibited features of English spoken in the Middle Ages. (ibid.: 294)

Newfoundland speech shares similarities with both IrE and English in the south-west of England. For example, NfldE is a fully rhotic accent (Wells 1982: 498); it can be argued that IrE rather than CanE functioned as a model here. Furthermore, NfldE exhibits fronting of the GOOSE set; thus, in words like *soon*, /u:/ is fronted to /y:/, which can be attributed to the influence of South-West English on the variety. (Hickey 2002: 306) The Celtic language Irish has also had a minor influence on NfldE, but hardly any on pronunciation. Irish primarily provided loan words, such as *hangashore* (Irish *ainniseoir* “mean person”, “with unetymological /h-/ along with a portion of folk etymology in a fishing community where those unwilling to go to the sea would be derided”). (ibid.: 292)

2.3.2. Canadian Raising in Newfoundland English

Diphthongs in NfldE show some interesting variation compared to those found in standard Canadian speech. As Wells (1982: 498) points out, the PRICE and VOICE vowels are commonly merged in a new phoneme /əɪ/ in broad accents, resulting in homophones such *boy* and *buy* /bəɪ/. However, as the similarities with other varieties of North American English seem to be increasing, this merger appears to be receding, too, and the pronunciation of words from the VOICE set is changing toward the more common pronunciation /ɔɪ/, especially among young speakers. (ibid.: 499)

The raised onset [əɪ] for PRICE, however, remains. In 1982, Wells (ibid.) suggested that the onset of /aɪ/ was raised in all environments, providing the following comparison:

Table 1: Raising of /aɪ/ across GenAm, CanE, and NfldE (Wells 1982: 499)

	GenAm	Other Canadian	Newfoundland
<i>write, like, nice...</i>	[aɪ]	[əɪ]	[əɪ]
<i>ride, time, buy...</i>	[aɪ]	[aɪ]	[əɪ]

Thus, whereas in standard American speech, the diphthong usually remains low in all contexts, Raising is conditioned by a following voiceless segment in CanE. In NfldE, Raising occurs in all environments, regardless of the nature of the adjacent segment.

More recently, it has been argued (Kirwin 1993: 75, 2001 in Hickey 2002: 309) that /aɪ/ is not raised in all environments in NfldE but only, as in standard Canadian speech, in pre-voiceless positions. /aʊ/, on the other hand, was found to remain low in all contexts. However, it apparently had a retracted onset in all positions. (Kirwin 1993 and Shorrocks 1997 in Hickey 2002: 309) A cross-dialectal comparison of mainland Canadian speech, NfldE, and South-East IrE thus yields the following pattern:

Table 2: Patterns of Raising in CanE, NfldE, and South-East IrE (Hickey 2002: 309)

	Mainland Canada	NfldE	South-East Ireland
<i>tight</i>	[təɪt]	[təɪt]	[təɪt]
<i>tide</i>	[taɪd]	[taɪd]	[təɪd]
<i>house</i>	[həʊs]	[haʊs]	[hæʊs]
<i>houses</i>	[haʊzɪz]	[haʊzɪz]	[hæʊzɪz]

Clarke (2008) proposes a different distribution of raised and unraised variants. She suggests that the application of Raising varies between rural and urban speakers. Whereas /aʊ/ appears to retain its low starting point in urban areas (e.g. in the capital, St. John's), speakers of conservative or rural accents usually have a (slightly raised) mid onset in all positions – approaching [ɐ], [ɜ], [ə], or [ʌ] – which may sometimes be fronted to [ɛ] or [æ]. (Clarke 2008: 169) For /aɪ/, she notes a different pattern. In urban accents, /aɪ/ exhibits the qualities predicted by Canadian Raising: The onset is raised to [ə] or [ʌ] before voiceless consonants.

Among “traditional speakers from all areas”, however, a slightly raised, mid onset (as they do with /aʊ/) in all environments is more common. (ibid.)

Thus, as in GenAm, the patterns of Raising in NfldE do resemble those of Canadian Raising but are much more variable and often apply more generally (that is, in all environments) than in CanE. Again, raising of /aɪ/ appears to be more common, which stresses the saliency of /aʊ/-raising in Canadian speech.

3. Language-internal factors: the phonetic motivation of sound change

The present chapter will examine the language-internal factors (both phonetic and phonological) that condition a sound change. More specifically, the theoretical framework of Natural Phonology has been selected to serve as a basis for the analysis of the phonetic motivation of Canadian Raising. I aim to investigate how frequent a process like (Canadian) raising is, whether it is a phonological process in the sense of Natural Phonology and to what extent and how it is phonetically motivated – that is, conditioned by its phonetic environment or by properties inherent in the affected sounds themselves.

The hypotheses of Natural Phonology are based on the assumption that human speech is governed by universal constraints on our phonetic abilities. Similarly, languages themselves are subject to these universals: Even entirely unrelated languages often show certain similarities as regards their syntax, morphology, terminology, phonology, as well as in the way they change. (de Boer 2001: 1) Moreover, languages usually combine sounds into syllables in similar ways; syllables ending in a vowel (V or CV) are considerably more frequent than those ending in a consonant (VC or CVC). (9) Studying these universals or universal constraints helps linguists investigate what human language is and how it is influenced by higher-order cognitive processes. (ibid.: 2)

The universal constraints that govern human speech subconsciously make us select a more “natural” element over a less natural one. Thus, a phonologically natural element can be assumed to be an element that occurs frequently in a language and is universally favored:

Sounds and sound-sequences are not all equally easy to articulate. The more demanding ones are relatively rare in languages of the world and are usually acquired late in childhood. (Stampe 1973: 10)

It is important to note the difference between *segmental* (i.e. context-free) and *context-sensitive naturalness*. A specific segment may be preferred and easier to articulate as an individual sound but can easily become “unnatural” in a certain context. As individual segments, nasal vowels, for instance, appear to be more complex and difficult than oral vowels, the reason being that the production of nasal vowels requires the speaker to make an additional movement in comparison

to the production of oral vowels (lowering the velum). It follows that nasal vowels tend to be denasalized. (Hubmayer 1986: 180) To provide a further example, voiced obstruents are generally regarded as more demanding than voiceless ones. This become evident from the fact that speakers, especially children, frequently substitute voiceless obstruents for voiced ones. (ibid.: 181) The processes applied to ensure context-sensitive naturalness, on the other hand, often have the opposite effect: Before nasal consonants, vowels will usually be nasalized, and voiceless obstruents may become voiced obstruents in a voiced environment. (ibid.: 182) Thus, context-sensitive naturalness appears to be more “essential” in speech, as it provides for the flawless co-articulation of sounds. This does not seem surprising given the fact that, when we communicate, we normally use sequences of sounds and have to be able to combine them effortlessly.

Before the theory of Natural Phonology will be discussed in more detail, it is important to mention that, as opposed to other approaches to phonology, which keep phonetics and phonology strictly separate, Natural Phonology emphasizes the connection between the two:

[P]honology is phonetic processing; it is thus the mental (or central-nervous-system) aspect of phonetics. [...] [P]honetic *processing* is a matter of the perception and the production of sounds, and it is thus fundamentally mental. [...] If phonology were a matter of conventional or merely traditional substitutions, we would have to explain how substitutions become ‘phonologized’, or ‘grammaticized’. But if phonology is phonetic processing [...], then any phonetic change *occurs in the phonology*.” (Donegan 1993: 105-6)

3.1. The theoretical framework of Natural Phonology

Natural Phonology (NP) is a theory of both speech production and perception and was first proposed by David Stampe in the 1960s and 1970s. It has been further elaborated, in particular, by David Stampe and Patricia Donegan. The basic assumption of NP is that speakers subconsciously modify their speech – more precisely, their pronunciation – according to their innate physical, i.e. articulatory, potential and in order to fulfill the perceptual needs of their listener(s). Donegan and Stampe (1979) define the framework of NP as follows:

Its basic thesis is that the living sound patterns of languages, in their development in each individual as well as in their evolution over the centuries, are governed by forces implicit in human vocalization and perception. (Donegan & Stampe 1979: 126)

Thus, in the course of speaking, language users make phonetic alternations and substitutions in favor of pronounceability and perceptibility. In order to resolve difficulties in the production of speech and, simultaneously, to ensure optimal perceptibility, natural phonological processes – governed by the speaker's physiology and his articulatory capabilities – will be applied (e.g., Goman 1979: 1). As Donegan (1978: 2) puts it, “processes [...] are the living expression of the phonetic capacity of the individual.” For example, due to the physiological arrangement of the human vocal tract, less effort is required to produce a voiceless obstruent than to produce a voiced one, the reason being that the very definition of an obstruent calls for the airflow to be impeded in some way, which naturally makes it more difficult to add voice to a sound. Thus, in order to enhance pronounceability, voiced obstruents, such as [d], – in certain environments as well as independently from their context – are very likely to be replaced by voiceless obstruents, such as [t]. (Donegan & Stampe 1979: 141) It is important to note that the application of natural phonological processes need not necessarily involve the substitution of entire segments (i.e., phonemes) but very frequently operates at the level of single phonetic features.

Unlike structural and generative phonology, NP does not deal with morphologically motivated – or rather, phonetically unmotivated – sound change (Donegan & Stampe 1979: 127) but is concerned with actual speech that is perceived as governed by mental processes:

Natural phonology (NP) views the phonology of a language as a system of subconscious mental processes that in real time mediate between intended but unpronounceable lexical forms of utterances and pronounceable surface forms. (Nathan & Donegan forthcoming: 1)

In NP, actual speech data plays a substantial role. As opposed to structural and generative phonology, where actual speech is regarded as mere “ellipsis” or “performance” – and which, therefore, struggle with the notions of “accent” and “variability” – NP can rather easily account for variation in different speech styles and dialects: As Donegan and Stampe (1979: 131-32) argue, “[t]he view that

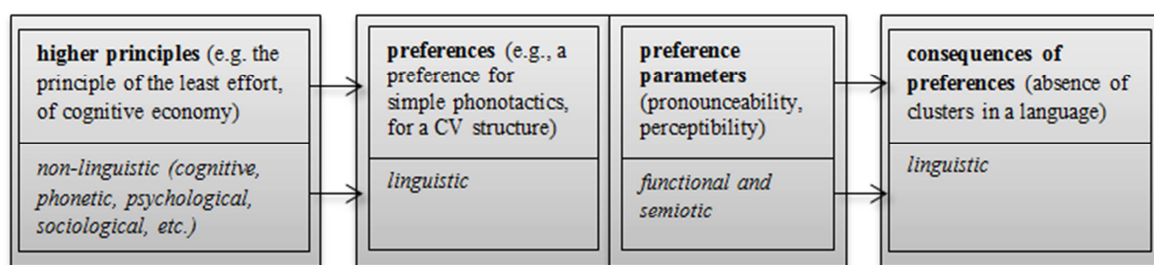
speech processing is mediated by systems of natural processes [...] predicts that actual speech should normally be quite elliptical and variable.” Moreover, NP does not treat the phoneme as a mere abstraction but rather as the underlying mental representation that is referred to by language users in the production and perception of speech. It is described, by Nathan and Donegan (forthcoming: 8), as “the mental image of a sound” and, by Dziubalska-Kołaczyk (2007: 72), as a “naturally pronounceable” entity, i.e. as “derivable by means of phonological processes”. Thus, NP phonemes constitute our actual sound intentions. In the course of real-time conversation, they are constantly called upon and serve as templates – underlying “mental images” (Nathan & Donegan forthcoming: 8) – against which what is actually heard can be compared and subsequently interpreted as what the speaker intends to say. This implies that, in NP, phonemes are not just abstract systemic categories created by linguists to describe and analyze the phonology of a language but are “real” and an inherent part of actual speech production and perception.

NP, or rather Natural Linguistics (NL), is said to be a holistic approach both in its way of dealing with specific language structures (linguistic structures always stand in relation to each other) as well as in its notion of language as embedded in the universe “as a whole”, meaning that

the same principles of explanation apply to language and to other aspects of life, and thus they are derivable from the most general laws of human interaction with nature. In Natural Phonology the principles are cognitive, phonetic, psychological, sociological, etc. (Dziubalska-Kołaczyk 2007: 71).

This is what makes NP a truly interdisciplinary approach. In NP, external evidence, linguistic as well as non-linguistic, is vital and provides the basis for any theory of language production and perception. More specifically, as can be deduced from Dziubalska-Kołaczyk’s (2007: 73) explanatory model of Natural Linguistics (Fig. 1), any linguistic structure or choice is thought to have a non-linguistic basis. Certain natural phonological processes, for instance, usually have a clearly physical motivation.

Figure 2: The explanatory model of Natural Linguistics (Dziubalska-Kořaczyk 2007: 73)



The model illustrates how our linguistic choices originate in higher-order decisions and relate to non-linguistic principles, such as the desire to reduce effort. It shows how non-linguistic preferences lead to (language-specific) linguistic preferences according to which, based on their function in communication, synchronic decisions are made.

This implies that NP is also a functional approach, since natural phonological processes have a specific teleology and serve a particular purpose in communication. Choosing a phonetic alternative over a different one generally serves either ease of articulation or intelligibility (sometimes both). One might even conclude that linguistic choices or forms can be predicted depending on their function in communication (Dziubalska-Kořaczyk 2007: 72, Donegan & Stampe 1979: 142).

Furthermore, it is important to emphasize that NP is a *preference theory*, meaning that phonological processes in NP (or their suppression) are not to be seen as rules or laws but rather need to be treated as language-specific preferences. (Dziubalska-Kořaczyk 2007: 73) If more than one of these language-specific preferences appears plausible in a given speech situation, speakers will opt for the more “natural” alternative, which is “cognitively simple, easily accessible (esp. to children), elementary and therefore universally preferred, i.e. derivable from human nature, or [...] unmarked/less marked” (Dressler 1999: 135).

3.1.1. Evidence

As has already been mentioned, NP relies heavily on external evidence obtained from actual speech data which demonstrates how natural phonological processes operate at a subconscious level in virtually any instance of sound change. The study of performance data – obtained from casual/”normal”/formal speech, child speech, the speech of second-language learners, aphasia patients and patients of other language disorders, synchronic and diachronic variation, slips of the tongue and other errors, tongue twisters and other language games, etc. (Dziubalska-Kołaczyk 2007: 72) – shows that phonological processes occur naturally in all human beings and are determined by our innate phonetic potential.

Donegan (1978: 2) demonstrates the “naturalness” of phonological processes by providing examples taken from four different settings in which sound change frequently occurs – a) synchronic variation, b) child speech, c) diachronic change, and d) the pronunciation of foreign sounds – and showing that, in each of these instances, the same or a very similar process – [ɐ, ɔ] > [a] – applies, suggesting that the unrounded variant, [a], is the more “natural” and less difficult choice:

- a) In American varieties of English, [ɐ] as in *hawk* is generally replaced by [a]. (ibid.)
- b) Children often substitute [a] for [ɐ] in words like *ball*. (ibid.)
- c) Middle English [ɔ], as in *not*, became [a] in many varieties of Modern English, especially in America. (ibid.)
- d) The African language Nupe does not include a phoneme /ɔ/. Therefore, when words from the neighboring language Yoruba are borrowed (the phoneme system of which does have /ɔ/), the vowel will be realized as [a] by Nupe speakers. (Hyman 1970 in Donegan 1978: 1)

Slips of the tongue are one of the essential sources of evidence in NP, as they illustrate the mental nature and the subconscious workings of phonological processes very well: When speakers erroneously replace *mostly* [moʊstli] or *mainly* [mẽĩnli] with [mõũnli] or [meĩstli], for instance, nasalization of the vowel/diphthong is only preserved if it precedes the nasal consonant [n]. Thus, [ẽĩ] does not represent the “ordinary phonetic quality” of /ɛɪ/ but rather, just like

[õũ] in **mounly*, depends on the phonetic environment of the sound and whether it includes a nasal or not. (Donegan & Stampe 1979: 135) This proves that natural phonological processes are not learned by language users but occur naturally in human speech. As Donegan and Stampe (1979) point out,

[w]ith our students we have observed hundreds of slips, obtained from tongue-twisters designed to produce sequences phonetically inadmissible in English. In not one case was such a sequence observed to be articulated. (Donegan & Stampe 1979: 136)

3.1.2. Ease of articulation vs. ease of perception

As indicated earlier, NP as a function theory “presents language [...] as a natural reflection of the needs, capacities, and world of its users” (Donegan & Stampe 1979: 127). Any type of linguistic behavior of humans has to be seen as goal-oriented: Whenever a linguistic choice is made, this choice serves a specific purpose in communication. This purpose is either to make sounds more easily pronounceable or to make them more easily distinguishable (that is, more easily perceptible). Thus, phonological processes (or their suppression) can serve either ease of articulation or ease of perception. However, as might be expected, the goal-oriented behavior of language users results, in fact, in a goal conflict, and some kind of compromise has to be reached between the two major opposing forces in communication:

It has long been recognized that a language, like any system for encoding and decoding information, is shaped by two opposing forces: the need to maximize intelligibility and the tendency to minimize effort. (Donegan 1978: 19)

De Boer (2001: 31 for this paragraph), in describing language as an adaptive system that strives to optimize communication, differentiates between *communicative efficiency* and *communicative effectiveness*. Communicative efficiency implies minimizing effort in the production of speech, e.g. by reducing frequently used words or difficult sound combinations, whereas communicative effectiveness refers both to the fact that language uses these reduced expressions or sound sequences as well as to the way language users strive to maximize the success of communication. It is the speaker who seeks to be understood (and the

listener who, normally, wants to understand); therefore, the speaker's goal is not only to reduce the amount of effort required to produce speech but also to facilitate intelligibility, which is required to achieve effective communication.

As might be expected, the opposing needs of the speaker and listener in communication result in the application of different phonological processes: Certain substitutions make segments phonetically optimal in *acoustic* terms, i.e., they increase intelligibility by making them more easily distinguishable, whereas others make segments phonetically optimal in *articulatory* terms, i.e. they reduce the effort required to produce the sounds. (Donegan 1978: 20) The specific types of processes involved will be discussed further below, in chapter 3.2.2.

In actual speech, a balance between these two forces needs to be achieved. Individual segments or sound sequences need not only be pronounceable and combinable, but they have to be equally well distinguishable and intelligible. The actual goal of the speaker and his ultimate decision in favor of a specific sound or substitution very often depend, in fact, on speech style: Certain situations might call for high intelligibility and clear articulation whereas in others, a more casual or relaxed pronunciation might be favored. Donegan and Stampe (1979: 131) argue that phonological processes (i.e. substitutions that occur naturally because of our innate phonetic abilities) are far more common in casual, “inattentive” speech, whereas “[i]n formal situations, and for conservative speakers [...] the unconstrained productions may be perceived as careless, inarticulate, or uneducated” (ibid.: 148).

3.1.2.1. The principle of least effort

It is often argued that all human behavior is governed by the *principle of least effort*: That is to say that human beings, in all their actions and movements, strive to reduce the amount of effort (or “work”) required to achieve their goals or solve their problems. Zipf (1972: 19) emphasizes that “Least Effort is indeed fundamental in all human action” and “we may expect to find it in operation in any human action we might choose to study” – including language. The principle of least effort is, thus, a higher-order cognitive principle that applies universally to

all aspects of life, which is consistent with the assumption in NP/NL that a speaker's linguistic behavior is influenced by non-linguistic forces. The loss of postvocalic /r/ in some varieties of Modern English is a notable example of the striving of language to maximize efficiency: In most environments, postvocalic /r/ is redundant for the listener and may therefore, in an attempt to "maximally simplify" the articulatory requirements, be omitted. (Laurer 2005: 50)

It is important to note that "least effort" does not always amount to the simplest possible action. Furthermore, our striving to reduce the amount of effort needed in the execution of a specific action does not only involve a human's present actions but implies that the future workload is aimed to be reduced as well. This might require that, in order to save future effort, one has to expend a greater amount of work in the present. The key is to keep the average amount of work for the speaker to a minimum:

[...] [H]e will strive to solve his problems in such a way as to minimize the *total work* that he must expend in solving *both* his immediate problems *and* his probable future problems. That in turn means that the person will strive to minimize the *probable average time rate of his work-expenditure* (over time). (Zipf 1972: 1)

Zipf (1972 for this paragraph) compares words to "tools" that speakers use to complete a certain "job", which is to convey meaning in communication. In this connection, the concepts of *speaker's economy* and *auditor's economy* need to be introduced: If words are considered tools that are used to ensure the success of communication, this implies that – again – speaker and listener make different demands on these tools' form and function. The speaker's economy demands that the vocabulary of a language consist of only one word; this word would then have whatever meaning the speaker sought to convey. From the auditor's point of view, economy would suggest that there be one word for each and every meaning a speaker might wish to express, so as to maximize the comprehensibility and perceptibility of speech. (ibid.: 20-1) Again, the linguist arrives at a point where the goals of speaker and listener seem to stand in direct opposition. Thus, the question is which of the two opposing intentions – or, in Zipf's words, the

theoretical *Forces of Unification* and *Diversification*¹ – will be more dominant in which situation. Eventually, a certain balance will be established:

In the language of these two terms we may say that the vocabulary of a given stream of speech is constantly subject to the two opposing *Forces of Unification* and *Diversification* which will determine both the *n* number of actual words in the vocabulary, and also the meanings of these words [...] with the result that the vocabulary of *n* different words in his resulting flow of speech will represent a *vocabulary balance* between our theoretical forces of Unification and Diversification. (Zipf 1972: 21-2)

The same principle can be applied to phonology: The speaker has to be clear in what he wants to express and, at the same time, wishes to save effort. Thus, he has to select not only the words but also the sounds he uses accordingly.

3.1.2.2. A sociolinguistic view on Natural Phonology

Although language and any type of linguistic behavior is most definitely governed by non-linguistic higher-order principles, one must not ignore the fact that it needs to be analyzed as part of a goal-directed system embedded in its social framework and the community's linguistic conventions. Thus, the actual phonetic realization of a given underlying mental representation is not governed exclusively by the principle of least effort but changes according to the speech situation in which the language user finds himself. Moosmüller (2007: 3-4) argues that, in casual speech situations, speakers usually expend less effort since these – as opposed to formal speech situations – require less intelligibility, which allows the speaker to feel more relaxed. Usually, this results in less clear speech. Formal speech situations (e.g., an exam, a job interview), on the other hand, call for high perceptibility and require a higher amount of effort from the speaker:

Implicitly, such a top-down analysis assumes that with an increasing informality of the situation, speakers gradually approach the rest position. This would further imply that in an informal speech situation, articulators are moved with less effort and removed from the neutral position as little as possible. (Moosmüller 2007: 4)

¹ The terms “Force of Unification” and “Force of Diversification” can be said to largely correspond with the concepts of lenition and fortition, respectively, which will be discussed in chapter 3.2.2. “Types of processes”.

However, according to Moosmüller, the key does not lie solely in the speaker's intention to minimize effort but rather in the appropriateness of his way to speak in a certain situation. Thus, casual speech situations do not initiate processes which automatically act in favor of ease of articulation but rather evoke processes that cause speakers to behave in a way that is expected from them in this situation (2007: 4) – which then often result in an articulation that requires less effort. If a speaker employs a very casual speech style in a formal situation, he might be considered uneducated or disrespectful; whereas, conversely, a speaker who speaks in a very formal way in a casual speech situation might be laughed at. Thus, a speaker needs to assess the social requirements of a speech situation, and only then processes will be suppressed or applied. (ibid.: 7) This implies that a speaker's pronunciation is not governed exclusively by the principle of least effort but rather by his wish to behave adequately and in line with the social norms, which again supports the view that language has to be understood as a system that is controlled by non-linguistic forces.

The principle of least effort is a highly speaker-oriented approach; thus, it is easier to account for a speaker's behavior in terms of ease of articulation than in terms of ease of perception. Sociolinguistic approaches, however, see linguistic behavior as listener-oriented: The goal of every speaker is to be listened to, to be understood, and to be evaluated positively for what he says and how he says it. Eventually, the very point of speaking and using language, is to allow for the success of communication. (Moosmüller 2007: 9)

Furthermore, Moosmüller (2007) suggests, the notion of least effort is not as simple as it is sometimes presented. In fact, it is argued, ease of articulation (like every vocal tract) is user-specific and thus cannot be generalized: One speaker might find it easier to apply a process whereas a different speaker would rather suppress it. (Moosmüller 2007: 8) Similarly, phonetic difficulties vary from language to language: While consonant clusters tend to be regarded as rather difficult sound sequences (in general as well as in many specific languages), there are still some languages – like Tashlhiyt Berber – which produce clusters of up to eight voiceless obstruents, such as *tftktstt* (“you sprained it”, fem.) or *tkkststt* (“you took it off”, fem.) (Ridouane 2002: 95). Thus, it is argued, phonetic abilities

and ease of articulation might not be as universal as is often suggested, but rather language-specific and dependent on the needs of the language user. (Moosmüller 2007) Although long consonant clusters are universally more complex, they cannot be excluded altogether.

3.2. Natural phonological processes

One of the basic assumptions of NP is that all human phonetic behavior is governed by natural phonological processes which are applied or suppressed by the speaker according to his phonetic and articulatory capabilities. As explained above, the two main goals in the application or suppression of processes are to maximize a) ease of articulation and/or b) ease of perception. In casual speech styles, natural phonological processes usually increase language efficiency by affecting “words or phrases which are readily recognizable due to their grammatical or semantic status or their commonness in conversation” (Stampe 1973: 7). Processes operate at a subconscious level and are, normally, only brought to attention negatively (Nathan & Donegan forthcoming: 5); for example, when the processes of one’s mother tongue are transferred to foreign languages or one has difficulty producing foreign sounds – thus, “a process becomes noticeable to a speaker only when he confronts pronunciations to which it does not apply” (Donegan 1978: 5). Proponents of NP consider phonological processes to be the main cause of what is perceived as the “accent” – both foreign and native – of a speaker:

The living phonology of a language, everything that determines the ‘accent’ of its speakers, is the collective, systematic manifestation of those natural phonological processes which the language fails to challenge. (Donegan 1978: 1)

One of the fundamental characteristics of natural phonological processes – as opposed to rules, which have to be learned – is that they are mental in nature and have to be seen as automatic responses of the mind to the articulatory and perceptual difficulties faced by the speaker. It is not the vocal tract which can decide which processes are to apply – “only the mind can consistently give the

appropriate neuromuscular instructions to produce the ‘output’ of the substitution” (Donegan 1993: 102).

The application of processes need not necessarily involve the substitution of entire segments of speech, i.e. phonemes, but very frequently operates at the level of single phonetic features (those which present a certain difficulty to the speaker):

A phonological process is a mental operation that applies in speech to substitute, for a class of sounds or sound sequences presenting a specific common difficulty to the speech capacity of the individual, an alternative class identical but lacking the difficult property (Stampe 1973: 1)

The very fact that processes are “humanly controllable” – i.e., suppressible – suggests that they are initiated in the central nervous system (Nathan & Donegan forthcoming: 11). Otherwise, it is argued, “[t]he precise timing of speech gestures would be impossible” (12). This also implies that phonological processes are centrally planned operations and are initiated before any physical, i.e. articulatory, commands are given by the brain (Donegan & Stampe 1979: 136). The mental nature of phonological processes becomes evident from the following facts: (1) In the course of language acquisition, children can learn to suppress specific processes according to the requirements of their native language – otherwise they would apply equally in all languages – (Nathan & Donegan forthcoming: 6), (2) speakers can choose to apply or suppress “optional” processes in different situations (depending on influences such as formality, frequency, attention, and emphasis; e.g. when pronouncing infrequent words or an unusual name) (ibid.), and (3) as proposed by Stampe (1973: 6), processes even occur in silent, mental speech. Thus, phonological processes do not have a purely physical origin, as, for example, slips of the tongue do:

[C]ategorical differentiations [...] occur so often that we are drawn to the conclusion that processes are not dependent on purely physical characteristics, but rather on our mental categorizations of these physical characteristics. If it were otherwise, processes would apply regardless either of their perceptual or of their articulatory consequences [...]. (Donegan & Stampe 1979: 139)

In the same way that processes work subconsciously to modify the underlying phonological representations of what a speaker wishes to say by adapting it to his phonetic capabilities, they allow him to decode what others say by comparing the

actual phonetic output to the possible underlying intentions (Donegan & Stampe 1979: 126):

It can be reasoned that the processing of what we hear is a subconscious form of teleological analysis [...]. This analysis is carried out [...] through the same system of processes that governs our own speaking. This is evident from the fact that, when we listen to our own speech, what we perceive is not what we actually say, but precisely what we *intend* to say. (159)

At this point, it is important to acknowledge the difference between phonological and phonetic distinctiveness, which implies that superficial representations may merge phonetically but still remain distinct phonologically. Thus, as can be understood from above, processes enable us to interpret phonetic mergers correctly by comparing the phonetic output against its intended underlying representation. This, again, emphasizes the special status of the NP phoneme and the role it plays in actual speech. While other approaches to phonology treat phonetics and phonology as essentially separate, NP supports the view that “phonology is phonetic processing” (Donegan 1993:105). The theory of NP is thus closely tied to both actual speech data and the mental aspects of speech that involve perception and production.

However, although natural phonological processes are undoubtedly mental in nature, they are “mental operations performed on behalf of the physical system involved in speech perception and production” (Stampe 1973: 9) and as such have a clearly physical – that is, articulatory and perceptual – motivation. The purpose of phonological processes is, after all, to maximize ease of articulation and perception. Context-sensitive substitutions provide clear evidence for the physical motivation of phonological processes: They operate on the basis of the phonetic environment of a specific segment to make it either phonetically more similar or more distant to its neighbors. Context-sensitive processes can, thus, be said to resolve a certain physical difficulty associated with the production and perception of a sound sequence. The regressive nasalization of vowels before nasal consonants in English provides a representative example of an assimilative process – a clearly phonetically motivated, context-dependent substitution. The fact that speakers of English readily apply regressive nasalization in other languages as well is evidence of the physical nature of phonological processes.

(Donegan 1978: 4) The pronunciation of *rainbow* and *setback* as [ˈreɪmbou] and [ˈsɛpbæk] (rather than [ˈreɪnboʊ] and [ˈsetbæk]) respectively – which results from the assimilation of [n] and [t] to the following consonants and is significantly easier to produce than the more “basic” representation – illustrates the phonetic motivation of such a process very well. (Donegan & Stampe 1979: 136)

Nevertheless, even entirely context-free substitutions are usually physically motivated. This results from the fact that some sounds are intrinsically more difficult to produce than others, even in isolation. For instance, NP predicts that voiced obstruents will frequently be replaced with their voiceless counterparts in actual speech, as voiceless obstruents are simply easier to produce. Donegan and Stampe (1979: 141) describe the physiological background as follows:

Obstruents are difficult to voice because they impede the airflow required to vibrate the vocal folds. The more impedance, the more difficulty, along several parameters: nonrelease and palatality offer greater impedance due to intrinsically greater duration; posteriority due to the smaller air-chamber between articulator and glottis [...].

The devoicing of obstruents – especially in word-final position, as in German – is a natural phonological process that occurs frequently in many languages. However, when speakers acquire the English language (both as a second language and as their mother tongue), they need to learn to suppress this process. Still, in certain situations, e.g. in casual speech, voiced obstruents may become devoiced – even by English speakers – because this is physically less demanding. Likewise, when German speakers pronounce English words, they usually have great difficulty with the voicing of final obstruents.

Furthermore, as Donegan and Stampe (1979: 135, 138) point out, the application of natural phonological processes is subject to hierarchies arranged according to their difficulty; e.g., process B only occurs if process A (the process resolving the greater difficulty) is applied. Thus, if process A is not applied, neither is process B. However, if process A does occur, process B may (but need not) be applied as well. Similarly, depending which kind of articulatory difficulty (or redundancy) a certain sound presents, different kinds of processes will be applied; e.g. higher and shorter vowels are more likely to be devoiced than lower and longer ones. According to Nathan and Donegan (forthcoming: 6), “[t]his indicates the

essentially *phonetic* motivation of processes, though their categorical application in terms of classes of sounds indicates their *mental* nature”.

As has already been touched upon, when acquiring his mother tongue, a child needs to learn which natural phonological processes need to be suppressed in order to, eventually, attain the phonological system of his mother tongue. Thus, phonological processes occur naturally and universally in the speech of all humans and need not be learned explicitly; e.g., final-obstruent devoicing in German is developed independently by the child and is not the result of mere imitation (Donegan & Stampe 1979: 134). It is the constraints on these processes, originally imposed by the speakers themselves upon the language, which have to be acquired by the child. Donegan (1978: 1) points out that “[a]ny limitations which the individual does not overcome in his early, plastic years in the acquisition of language remain with him throughout his life”. Some linguists argue that if one collected all the natural sound substitutions that occur in child speech, one could produce a grammar of all possible sound changes (Grammont 1965 in Donegan 1978: 2); others suggest that this would equal a collection of all the possible phoneme systems (Jakobson 1968 in Donegan 1978: 2).

Hence, although natural phonological processes may be universal, not every process need occur in each language and situation. Each language has its own set of suppressed and unsuppressed processes, which, together, form the sound system of the language:

The sounds of each language are shaped by the language-specific limits set on the natural pressures that the vocal tract and perceptual system impose on the humans who make them up. (Nathan & Donegan forthcoming: 2)

To recall the example cited above, only a minority of languages, such as English (Donegan & Stampe 1979: 140), require its speakers to voice word-final obstruents; it is even argued (ibid: 133) that no language in the world requires all final obstruents be voiced. Thus, when acquiring their mother tongue, speakers of languages like English need to learn to inhibit the processes which would naturally result in the production of the easier, voiceless, variant.

However, just like natural phonological processes are physically motivated, the language-specific constraints imposed on the sound systems of a language have a

phonetic basis themselves, as they have the purpose of making segments and sound sequences more pronounceable. Thus, speakers of different languages might react differently to (the same) phonetic difficulty – both in foreign languages as well as in their mother tongue. Speakers usually transfer the processes and constraints of their mother tongue to foreign languages; Moosmüller (2007: 10) uses the example of “that’s all” (taken from Donegan & Stampe 1979) to illustrate this phenomenon: In English, the fricative /z/ is devoiced and becomes [s] whenever “that is all” is contracted to “that’s all”, which can be explained in terms of the preceding voiceless plosive. A native speaker of Albanian, however, would probably rather voice the plosive /t/, thus producing [d], than devoice the fricative.

3.2.1. Processes vs. rules

It has already been mentioned that, in NP, phonological processes must be treated as phonetic *preferences* rather than absolute rules or laws. The most important and obvious difference between processes and rules is that processes, as opposed to rules, have an actual synchronic phonetic motivation and “represent real limitations on speakers’ productions” (Donegan & Stampe 1979: 144). Rules, on the other hand, do not have any synchronic motivation. Although they may have been processes at some point, rules are now purely conventional and are commonly regarded as “fossilized” processes which have lost their phonetic motivation in the course of time. They do, however, sometimes serve a semantic or grammatical function – which processes never do. (ibid.) Because rules lack any physical aspect, they can be disobeyed more easily than processes. Donegan and Stampe (ibid.: 132) provide the following example to illustrate the ease of disobeying a (phonetically unmotivated) rule compared to the difficulty of suspending a (phonetically motivated process): In English, it is relatively easy to suppress the phonetically unmotivated voicing of [s] to [z] in *houses* (cf. [s] in *house*); yet it is rather difficult for speakers of German to withhold the phonetically motivated devoicing of word-final [z] to [s] in *Haus* (cf. [z] in the plural, *Häuser*).

As is implied by their status as mental operations, processes are applied subconsciously; they are natural and automatic responses performed on behalf our innate physiological capacities to given phonetic circumstances. Rules, however, do not operate at a subconscious level; they are not “natural” or “innate”. Although their application may have become habitual and involuntary, their very definition requires them to be “formed through the observation of linguistic differences of which the speaker is or was necessarily conscious” (Donegan & Stampe 1979: 144). The [k]-[s] and [g]-[dʒ] alternations in English words like *electric* – *electricity* and *pedagogue* – *pedagogy*, for example, are clearly phonetically unmotivated and result from the application of a phonological rule that once had to be learned explicitly (Stampe 1973: 45) Thus, “conventionalness” (the “absence of synchronic phonetic motivation”) is regarded as the crucial factor in determining whether an alternation is the result of a rule rather than a process – morphological conditioning is only an indicator. (Nathan & Donegan forthcoming: 5) Stampe (1973: 47) notes that one of the most fundamental differences between processes and rules is “a distinction between constraints which the speaker brings to the language and constraints which the language brings to the speaker”.

Another important difference is that processes may be optional or variable in some speech situations or environments, whereas rules are always obligatory (Donegan & Stampe 1979: 145) – if they apply. As any type of rule, however, phonological rules do allow exceptions (Donegan 1978: 4), as they are not dependent on their phonetic environment. Rules do not represent actual constraints on a speaker’s abilities – which would render their violation rather difficult – but, in fact, can easily be disobeyed without any physical effort:

[R]ules are formulated on the basis of observed alternations or differences of which one necessarily is, or has been, conscious; when a speaker confronts an exception to a rule, he may find it hard to remember, but never hard to pronounce. (Donegan 1978: 5)

It has been suggested that rules operate at an abstract phonological level and – as is implied by the fact that they need to be learned – are part of a speaker’s linguistic *competence*. Processes, on the other hand, apply at all levels and are part of a speaker’s linguistic *performance*. Natural linguists commonly argue that rules

need to be treated as constraints at a lexical/morphophonemic level and, therefore, belong to the field of morphology rather than phonology. (Goman 1979: 1) As such – like “all rules of a language (syntactic, morphological, secret language, etc.) which are not phonetically motivated” (Donegan & Stampe 1979: 145) – these morphophonemic rules generally apply before processes. Processes only occur in actual speech production (that is, performance), which makes them subject to variability depending on factors such as style or tempo. (Donegan 1978: 6).

It is sometimes suggested that rules are “fossilized” processes which have become conventional over time: In English, for instance, the Trisyllabic Laxing Rule – which results in pairs like *serene/serenity* /sə'ri:n/ vs. /sə'renəti/ – originates from a phonetically motivated process (Donegan 1978: 7). Correspondingly, Goman (1979: 2) argues that

[f]rom a historical viewpoint then, it is easy to see that rules are former processes which have, through historical change, come up against exceptions, or which are borrowed in the first place.

More recently, however, Nathan and Donegan (forthcoming: 3-5), pointed out that this view can only be shared with some reservations. It is not the processes themselves, they argue, which eventually become rules, but rather alternations to these processes, which then slowly acquire their morphonological status:

If further processes are allowed to apply in a language, they may create unrecoverable opacity that completely obscures the phonetic motivation of older processes. [...] [T]he phonetic motivation and thus, the original intentions, are no longer recoverable. At this point, the quality alternation becomes conventional. (Nathan & Donegan forthcoming: 4)

3.2.2. Types of processes

Generally speaking, there are three types of natural processes: (1) prosodic processes, which map words/phrases/sentences onto prosodic structures (stress, rhythm, intonation), (2) fortition processes, and (3) lenition processes. For the purpose of this thesis, only fortition and lenition processes will be discussed. Both types of processes are, in fact, equally common, but apply in different situations

and serve different functions in speech. Simply put, the purpose of fortition processes is to increase intelligibility (and, often, pronounceability); lenition processes, on the other hand, exclusively serve ease of articulation. Moreover, fortition processes always precede lenition processes in actual speech. (Donegan 1978: 153 for this paragraph)

Fortitions primarily operate on individual segments of speech. Their aim is to “limit the inventory of ‘possible’ – intentionally pronounceable and perceivable – segments in a language” (Donegan 1993: 109). Lenitions, on the other hand, apply in context and aim to make sequences of segments more easily pronounceable. (ibid.)

Fortition processes are also called “strengthening” processes because they emphasize or exaggerate certain phonetic features of a segment. (Donegan 1978: 21) Although Donegan (ibid: 2) suggests that, as such, they “seem to defy the law of least effort”, fortition processes do not only increase intelligibility but, very often, also increase ease of articulation: “They have a perceptual teleology, but often incidentally make the segments they affect more pronounceable as well as more perceptible” (Donegan & Stampe 1979: 142).

Fortitions may occur as both context-dependent as well as unconditioned processes; but it has been suggested that they usually apply in “strong” positions and hyperarticulate speech, regardless of their context – “probably because such styles provide (and such positions represent) the suprasegmental conditions which favor their application” (Donegan 1978: 63). The application of fortition processes is particularly likely when high perceptibility is required (ibid.: 21) – that is, in formal speech situations or, for example, when communicating with a speaker/listener with a different mother tongue.

Fortition processes include dissimilations, diphthongizations, syllabifications, and epentheses. When they do apply in context, their purpose is to increase the phonetic contrast between the affected segment and a neighboring sound; thus, dissimilations can be said to be context-sensitive fortition processes. Frequently, the strengthening of one phonetic feature implies that a different property – one which is preserved in the environment – will be attenuated, or lost completely;

e.g., “raising [e] to [i] represents an increase of palatality and a reduction of sonority: lowering [ɪ] to [ɛ] represents an increase in sonority but a reduction of palatality” (Donegan 1978: 63). Thus, sound sequences in which the individual sounds share a specific phonetic property (e.g. palatality) are especially prone to dissimilation/fortition processes. However, such a sequence only provides the occasion for a sound change of this kind; the motivation remains to increase intelligibility (and pronounceability). (ibid.)

As opposed to fortitions, lenitions are regarded as “weakening” processes. They serve an exclusively articulatory purpose, as they aim to make sound sequences more pronounceable “by assimilating the properties of one segment to those of a neighboring segment, by deleting segments, and by substituting segments that are ‘weaker’” (Donegan 1978: 21). Lenition processes are always context- and/or prosody-sensitive (Donegan & Stampe 1979: 142) and apply especially in “weak” positions, such as unstressed vowels or intonational valleys. (ibid.) It follows that, because of their exclusively articulatory teleology, lenitions may sometimes affect or decrease intelligibility. Therefore, they most frequently occur in casual and informal speech styles, in fast speech, when lowered intelligibility is acceptable, and when the content is highly predictable. (Donegan 1978: 22)

3.3. The natural phonology of vowels

3.3.1. Definition of vowels

In contrast to consonants, vowels are produced with virtually no or only minimal restriction to the airstream, but with a relatively open vocal cavity. The differences between individual vowels are achieved by varying supraglottal configurations of the articulators which adjust, for instance, the degree of sonority of a sound. Since there is hardly any obstruction to the airflow in their production, vowels are often described as the “optimal manifestations of voice”, “voice bearers” or simply as “modified voice” (Donegan 1978: 27). Vowels are usually only voiceless when they are whispered; only very few languages allow vowels to be devoiced in voiceless environments, one of them being Japanese. Because of their high amount of voicing, vowels have a greater perceptual quality than

consonants (even voiced ones): Vowels can normally be heard at larger distances than consonants and can be amplified more easily and to a greater extent. (Donegan 1978: 26-27)

The qualitative differences between vowels are achieved by adapting the place of articulation, which defines the sounds in terms of height, aperture, and low-/backness. Alternations in height generally result in varying degrees of sonority – “the vocalic property par excellence” (Donegan 1978: 68). Therefore, as Donegan (ibid: 29) points out, there are hardly any languages which lack these height distinctions. Still, vowel height does not equal sonority, but they often correlate, which makes vowel height a feature that is frequently affected by natural phonological processes. (ibid.: 32) Whereas less sonorant vowels are prone to reduction or deletion, more sonorant vowels tend to be lengthened. Thus, lower, i.e. more sonorant, vowels are more likely to become syllabic, which, in turn, makes them more distinct and perceivable. (ibid.: 29) It might be reasoned that fortition processes, which serve intelligibility, will often involve the lowering of a vowel rather than its raising.

3.3.2. Processes affecting vowels

As has already been mentioned, vowels and their phonetic properties – some more than others – are subject to the application of several different kinds of phonetically motivated processes, such as tensing/laxing, raising/lowering, bleaching/coloring, or entire vowel shifts. The following paragraphs aim to give a short introduction to each of them; however, given the subject of this thesis, raising and lowering will be treated in separate subchapters and discussed in a more detailed manner.

Tensing and laxing result in varying degrees of color (that is, palatality – “frontness” – and labiality). Whereas tensing leads to an increase in color at the expense of sonority, laxing lowers the degree of color but allows increased sonority. Laxing mainly affects short vowels which are, in any case, prone to reduction. (Donegan 1978: 68)

Bleaching and coloring add or remove color without affecting vowel height (i.e., sonority), and are thus “functionally parallel” to laxing and tensing processes. They consist of two subprocesses – (de-)palatalization and (de-)labialization – which may occur both simultaneously as well as independently and do not imply each other. (Donegan 1978: 83) Bleaching is especially applicable to short and/or lax vowels, whereas coloring primarily applies to higher vowels. (ibid: 85)

In general, the following processes appear to be particularly common:

- A. Tense or long vowels are raised.
- B. Lax or short vowels are lowered.
- C. Back vowels are fronted. (Sweet 1888, Labov *et al.* 1972 in Donegan 1978: 104)

All of the above-mentioned processes may occur independently or in the context of a vowel shift. It is important to note, however, that there are usually no implicational relationships between the individual processes of a vowel shift. Although one process may provide an input for a different one, each of the processes occurs independently and has its own phonetic motivation. (Donegan 1978: 105) There may be certain push-and-drag relationships between the processes of a vowel shift; however, they are not universal:

Vowel shifts have been conceptualized, by Jakobson and Martinet and their followers, as typically chain-like in form ($a \rightarrow b$, $b \rightarrow c$, $c \rightarrow d$, etc.); and the theory that such chain-like forms reflect the causality of the shifts (a “pushes” b, and b “pushes” c; or d “drags” c, and c “drags” b, etc.) is widely accepted [...]. [...] I will note here, however, that vowel shifts are by no means universally chain-like, with one vowel “filling in the space” that another has vacated [...]. (Donegan 1978: 104)

3.3.2.1. Lowering

Lowering (i.e. decreasing vowel height), argues Donegan (1978: 73), is a fortition process and mainly applies as a context-free substitution regardless of the phonetic environment of a sound; usually, accent, length, and vowel quality being the only factors which may trigger its application.

In the case of diphthongs, it appears that it is, in most cases, the first (and syllabic) half of a VV̥ diphthong that will be affected by lowering. This may change if a syllabicity shift applies that causes the second half to become syllabic (Donegan 1978: 76) Furthermore, Donegan (ibid.: 73) suggests, long and lax vowels are especially susceptible to lowering. Thus, it can be argued, if a short vowel is lowered, its long counterpart will be lowered, too; and if a tense vowel lowers, its lax counterpart must be lowered as well (ibid.: 70-1). If a long or lax vowel is lowered, however, its short/tense counterpart may remain unchanged. As the features of length and tenseness often correlate, one might claim that Donegan uses two different terms for the same feature, depending on whether it triggers lowering or not. However, “tenseness” and “length” do refer to different features, one being a matter of quality and the other a matter of quantity. (ibid.: 72)

In spite of its status as a – normally context-free – fortition process, lowering may also occur dissimilatively, thus depending on the affected vowel’s neighboring segments. In such a case, lowering still applies primarily to long or lax vowels but is favored by an environment that includes short and/or tense vowels. (ibid: 73)

As mentioned above, alternations in vowel height result in varying degrees of sonority. Thus, since lower vowels are automatically more sonorant, the function of lowering is to increase sonority. This, in turn, serves audibility and perceptibility and makes the affected vowel a convenient syllable nucleus, i.e. suitable for intonation peaks. (ibid: 76)

3.3.2.2. Raising

In contrast to lowering, raising increases vowel height. Palatal, labial, and labiopalatal vowels appear to be particularly susceptible to raising processes (Donegan 1978: 77); tenseness is a further feature that seems to promote their application. It is suggested that lax vowels *may* be raised, too – however, this occurs only rarely; and if lax vowels are raised, their tense counterparts must be raised as well. (ibid.: 79)

Raising processes normally apply to both long and short vowels; however, short vowels are usually favored and appear to be a prerequisite for the application of raising to the corresponding long vowel. A long vowel can only be raised without raising of the corresponding short vowel if the long vowel is tense compared to its short counterpart. Tenseness, therefore, is the crucial factor in determining whether raising is applicable or not. (ibid.: 79, 104)

Also, raising more frequently applies to lower vowels than to mid vowels. Low vowels may be raised without raising of mid vowels, but not vice versa. Dissimilative raising of mid vowels appears to be an exception. (ibid: 79)

Dissimilative raising is especially applicable to vowels which precede or follow another vowel; if the neighboring vowel is identical, raising becomes even more likely. One can thus assume that the two “halves” of a long/tense vowel as well as diphthongs provide the optimal circumstances for raising. (ibid: 80-1)

In contrast to lowering, which increases sonority by decreasing vowel height, raising decreases sonority. (ibid: 81) Thus, according to the hypotheses of NP, rather than serving audibility and perceptibility, raising can be assumed to serve optimal pronounceability.

3.3.3. Diphthongs

There are two types of diphthongs: rising and falling ones. In falling diphthongs, the first element is syllabic (V̥V), whereas in rising diphthongs, the first element is non-syllabic (V̥V). Falling diphthongs can be divided into two subgroups: up- or out-gliding diphthongs ([e̥i], [ḁu]), where the glide is higher or tenser than the first element, and in- or down-gliding diphthongs ([e̥ə], [i̥ɜ]), where the second element is lower or laxer than the first. (Donegan 1978: 106) In rising diphthongs, the second element is the syllabic part and the first element is non-syllabic (V̥V). There is no classification among rising diphthongs corresponding to the up-versus down-gliding distinction of falling diphthongs. (ibid.: 107) In prosodic terms, rising diphthongs usually behave like consonant-vowel rather than vowel-vowel sequences because the non-syllabic first element counts as part of the

syllable onset: $\underline{V}V$ is no longer than V , and $\underline{V}V:$ is no longer than $V:$. (ibid.: 107-8)

Usually, a diphthong originates from one of the following processes: (1) consonant vocalization in a CV or VC sequence, (2) disyllabification of a vowel, or (3) a dissimilative fortition process that applies to one “half” of a vowel. (ibid.: 113) For example:

- (1) If syllable-final consonants are affected by a lenition process, they may become vocalized: Syllable-offset /r/ is replaced by a schwa in many Modern English dialects (e.g. *pair* [pɛə]). (ibid: 109)
- (2) If a combination of two single vowels (one of them non-syllabic) is mapped onto one syllable, this results in the creation of a diphthong. (ibid.)
- (3) If one “half” of a single vowel changes in quality, usually due to the application of a fortition process, this typically creates a falling diphthong ($V(:) \rightarrow V\underline{V}$). (ibid.: 111)

Diphthongs are basically affected by the same processes as simple vowels, and each of these processes may apply to either of the two parts. (ibid.: 113) In up- or out-gliding diphthongs, the second element is especially susceptible to raising and tensing, whereas the first element is frequently lowered or laxed (as in some Southern American English dialects, where /i/ becomes [ɪ̟]). The function of lowering the first element is to increase sonority and, thus, to emphasize its role as the bearer of syllabicity (ibid: 106) In the second type of falling diphthong, in- or down-gliding diphthongs, it is usually the second, non-syllabic element that is laxed or lowered and the first, syllabic element that frequently undergoes raising or tensing. (ibid: 107).

3.4. Sound change and variation in the light of Natural Phonology

A sound change occurs when speakers allow a certain process to apply which and/or where it had not applied before. That is, some of the inhibitions on processes that were acquired during childhood become more relaxed. (Nathan &

Donegan forthcoming: 3) Thus, sound change always favors the more natural solution and usually does not impose further restrictions on the speakers of a language. In the course of time, an increasing number of speakers – initially only under specific prosodic, social, or stylistic circumstances – might adopt the change and allow additional processes to apply:

[V]ariation in adults, another likely source of change, must result from natural substitutions which the individual has suppressed in certain speech styles but which apply inadvertently in other styles. (Donegan & Stampe 1979: 131)

Sound change originates from the introduction of new allophonic variants which, initially, remain optional. A lexical distinction will be maintained and only the surface realizations will differ. Gradually, more and more speakers will allow the process to apply, and a subsequent generation of speakers might not even learn to inhibit the process anymore. At this point, the sound change becomes obligatory. (Donegan 1993: 114) It is important to note that, in NP, there is no such thing as an “innovator”. The modifications to the speakers’ pronunciation generally take place subconsciously, and the speakers who introduce a sound change, in a way, do nothing. They can, therefore, hardly be called “innovators”, since they “simply continue[...] to submit to a constraint that other speakers overcome, because [...] [they have] failed to acquire the ability to inhibit the resulting substitution” (ibid.: 103).

This implies that sound change ultimately results in a change in the phonetic abilities of the speakers: In some North American dialects of English, the distinction between the low back vowels [ɑ] and [ɒ] has been lost with [ɑ] remaining in all positions, including those where [ɒ] had been used. In these dialects, the merger resulted in homophones such as *cot* and *caught* or *Don* and *dawn*. [ɑ] is the easier and more natural solution in this case because [ɒ] requires the speaker to reconcile two conflicting features: It is produced with the mouth both maximally open as well as rounded. The features of labiality (rounding) and lowness appear to be incompatible. Possible substitutions which can be made in order to resolve this problem include (1) giving up labiality for low vowels, resulting in [ɑ], (2) raising low rounded vowels and preserving the lip rounding, resulting in [o], (3) combining both processes and producing a sequence of the

substitutions of (1) and (2), resulting in either [aɔ] or [oɔ]. (Donegan 1993: 99 for this paragraph)

In the case of the North American dialects discussed here, the rounding of the lips was given up and [a] replaced [ɒ] in all contexts. Due to this substitution, the phonetic abilities of the speakers of these dialects have changed over time, which ultimately resulted in a synchronic constraint for the speakers, who are now – without further instruction or explanation – unable to produce or perceive [ɒ]. It is worth noting that even children learning the conservative dialect (the one that still has [ɒ]) produce and perceive [a] before acquiring the rounded variant, which argues for the naturalness of [a]. (ibid.: 98)

Phonological change always begins with phonetic change, whereas phonological processes underlie phonetic change. As mentioned above, phonological processes not only govern the way a speaker produces but also how he perceives and analyzes speech. This implies that changes in a learner's phonemic inventory result from changes in how other speakers apply and suppress phonological processes. (Donegan 1993: 113) Still, it is essential to acknowledge that, in NP, as opposed to other approaches to phonology, the motivation for a sound change is not structural and does not result from systematic “requirements” of the language's phoneme system. The motivation for a sound change remains purely phonetic.

In the case of mergers which result from fortition processes, certain phonetic properties are exaggerated or optimized. This however, may cause the phonetic distinctiveness between two segments to be lost and ultimately may lead to a merger of the two sounds. Of course, the potential ambiguity caused by mergers has to be accepted by the speech community for the sound change to be able establish. (Nathan & Donegan forthcoming: 20-1) However, a sound change is less likely to take place if it results in confusability, which, in fact, makes the merger of [a] and [ɒ] a rather unlikely substitution. (ibid.: 23)

Phonemic changes can be sorted into three groups: (1) the introduction of new phonemes or splits, (2) the loss of phonemes or mergers, and (3) sound shifts. The introduction of a new phoneme requires the application of multiple processes: Initially, a context-dependent substitution will be made. Then, gradually, the

importance of the conditioning environment will be diminished until the process can be applied in all environments. (Nathan & Donegan forthcoming: 16) It is, however, sometimes difficult to determine at what point two sounds have actually split into two separate phonemes. The criterion of “phonetic distance” seems insufficient here, which can be illustrated using the example of /t/ and its various English allophones [t^h], [t], [ɾ], and [ʔ]. (ibid.: 17) It has been suggested that

it is not their lack of phonetic similarity that prevents [...] two sounds from being perceived as a single phoneme – it is the absence of any motivated substitution of one for the other that requires them so be perceived as distinct. (Bazell 1954 in Nathan & Donegan forthcoming: 17)

In the case of mergers, two different processes are applicable: Either, two different phonemes can be merged into one, or the length distinction between two sounds can be attenuated and lost. (Nathan & Donegan forthcoming: 20) Mergers usually result from context-free fortition processes; lenitions are highly unlikely as the source of a merger, as they usually apply in context and very rarely merge sounds in all environments. (ibid: 19)

4. Language-external factors: the social motivation of sound change

Despite the fact that languages sometimes exhibit remarkable similarities both in the way they are structured as well as in the way they change, one must not ignore the fact that language is, essentially, a social act and, therefore, needs to be situated and analyzed in its social framework. As Milroy (1992: 83) points out, “dialects are the possessions of *speakers*”. This implies that, although language and sound change are certainly governed by universal constraints (cf. previous chapter), there may sometimes be dialectal differences or sound changes that are difficult to explain in terms of their internal motivation or might even seem “unnatural”. Therefore, in order to account for these, one needs to view language as embedded in society.

This chapter aims to provide an introduction to the social factors involved in sound change. These include, but are by far not limited to, the social variables of age, sex, and social class. Still, there are further and more abstract forces that may influence language use and change. The community to which the speaker belongs, his interpersonal ties to other members of the group (and those of other groups), as well as the extent to which the speaker identifies with the language community all need to be considered here.

When examining language change and variation in and across language communities, one soon comes to the conclusion that there appears to be some kind of consensus among the members of a group as to what is the “appropriate” way to speak. Thus, speakers seem to agree on certain norms of language use; more often than not, these norms differ from those of the standard language. As opposed to the superordinate, often institutional, norms of the standard, the norms of linguistic communities are “variable norms”. (Milroy 1992: 82) These “community norms” create an awareness among speakers of the differences between their own and other groups, and they enable speakers to perceive these differences as social acts (or, as Milroy [ibid. 83] suggests, “social facts”) and to attach social meaning to them.

It follows that language change is not only governed by internal, universal constraints and forces but also by a variety of factors inherent in society, such as the speakers’ degree of identification with the community and their attitudes

toward other communities. Therefore, an important point to consider in the study of sound change is whether an innovation will be accepted by the speakers of a variety and how fast this can be achieved. Sound change does not and cannot happen from one day to the next. Rather, it occurs as a gradual substitution which reaches and becomes accepted and adopted by an increasing number of speakers over time, who then “gradually and variably” replace one sound with another. (Milroy 1992: 91)

4.1. Language and identity

Like many other social acts, habits, and practices, language fulfills an essential role in the process of identity construction, which Coupland (2007: 108) describes as the “consequence, perhaps a target, of social action”. Language enables the speaker to (both consciously and subconsciously) express his affiliation with a certain group, be it a specific social class, an age group, or a geographically defined community.

In order to succeed in constructing their (linguistic) identity, speakers can alter and adapt their speech; they have “a degree of autonomous control over how they project themselves” (Le Page & Tabouret-Keller 1985: 181). Thus, they can adapt their speech – in terms of both form and content (ibid.) – to that of a certain group to which they wish to belong (or of which they consider themselves part) or in order to distinguish themselves from a different group (ibid., Dalton & Seidlhofer 1994: 5). Le Page and Tabouret-Keller (1985) thus suggest that

the individual creates for himself the patterns of his linguistic behaviour so as to resemble those of the group or groups with whom from time to time he wishes to be identified, or so as to be unlike those from whom he wishes to be distinguished. (Le Page & Tabouret-Keller 1985: 181)

Adapting his accent (and his speech in general) in order to integrate himself into a community can have both positive and negative consequences for the speaker. If he succeeds in claiming group membership and in establishing himself as an individual that belongs to a certain community, this might have “instrumental pay-offs” (Dalton & Seidlhofer 1994: 7): For example, the members of a group might be “more ready to help” an integrated and accepted individual than an outsider

(ibid.). On the other hand, Dalton and Seidlhofer (1994) also suggest possible “penalties” that might result from an unsuccessful attempt to become integrated into a community: “Its members may think that you are claiming membership without being properly qualified. In this case, you may find yourself resented as an intruder [...]” (ibid.:7)

Thus, the key to successful integration lies in positive feedback from other members of the group that the speaker wishes to be(come) part of. Simultaneously, while signaling the speaker that he is now an accepted member of the group, positive feedback also leads him to continue to use and to reinforce and increase his using the linguistic feature in question. Negative feedback, on the other hand, will lead him to change his behavior:

By verbalizing as he does, he is seeking to reinforce his models of the world, and hopes for acts of solidarity from those with whom he wishes to identify. The feedback he receives from those with whom he talks may reinforce him, or may cause him to modify his projections [...]. (Le Page & Tabouret-Keller 1985: 181)

As can be seen, the ultimate goal of adopting a certain way of speaking is to express and experience solidarity with other speakers. There are several ways of expressing one’s solidarity with a specific community. Linguistically seen, using a linguistic marker (e.g. pronouncing a particular sound differently) is a rewarding possibility. Linguistic markers help both members of a group as well as outsiders to determine a speaker’s origins in or affiliation with a specific community. Coupland (2007) suggests that frequency (as compared against a different community) is a useful tool to identify a particularly salient linguistic feature: “That is, if a feature is used more frequently by one group rather than another group, [...] it is common practice to claim that the feature has group-salient [...] meaning.” (93) This can be easily linked with /aʊ/-raising, which, compared to /aɪ/-raising, occurs much less frequently and in fewer varieties. Thus, it has a particularly salient character in the speech of Canadians.

It is important to note that linguistic markers are not only an indication of a speaker’s geographical origin. They may also define an individual in terms of his social background. Of course, linguistic markers do not always point to the same social variable. One marker might be an indication of sex/gender and the other

one of age or social class. (Milroy 1992: 92) Similarly, the same marker (such as Canadian Raising, as will be discussed further below) might connect members of different groups in different varieties. Whereas in one place, a sound change might affect only people from a specific age group, it might be an indication of social class elsewhere.

In order to define the notion of linguistic markers accurately, two other concepts need to be introduced. However, first, it has to be mentioned that (sound) changes can generally occur in two different ways: Chambers and Trudgill (1998: 75-6) distinguish between “changes from above” and “changes from below” and thus classify changes depending on the degree of awareness the speakers have of them. *Changes from below* occur below the level of consciousness; thus, the speaker is not aware of his adopting (or introducing) the change. A *change from above*, on the other hand, occurs above the level of consciousness and with the speaker’s awareness of it. (ibid.) Thus, one can assume that *changes from above* generally have some sort of positive consequence for the speaker; otherwise, he would not adopt them.

It is important to note the difference between these two because the degree of awareness of a change plays a substantial role in determining whether a certain variant is a linguistic marker or not. Scholars commonly distinguish between linguistic indicators, markers, and stereotypes, whereas each of the three concepts is associated with a higher degree of awareness on the part of the speakers. (Chambers & Trudgill 1998: 75) Linguistic indicators are usually the result of *changes from below*. At this stage, the change goes almost unnoticed and remains “relatively unobserved” by its users and non-users. (ibid.) As soon as speakers become increasingly aware of the change and its social implications, it is commonly called a linguistic marker. Coupland (2007) points out that the difference between indicators and markers also resides in the fact that markers are “variables that show variation in both ‘social’ and ‘stylistic’ dimensions” (93), whereas indicators are only indicative of social grouping.

The third stage of this – what one might want to call – *hierarchy of consciousness* is associated with maximum awareness of a particular linguistic feature: the stereotype. Chambers and Trudgill (1998) define this type of variant as follows:

At this stage, awareness of particular variants becomes even higher, and speakers become especially conscious of them. Their social and regional connotations become a part of common knowledge, and speakers are able to report on them without difficulty (although not necessarily accurately). (Chambers & Trudgill 1998: 75)

Stereotypes are often the subject of jokes or comments (Coupland 2007: 93) which inherently tend to promote exaggeration at the expense of accurate portrayal. Raising of /aʊ/ can, therefore, definitely be said to have become a stereotype of Canadian speech over the past decades. It has been pointed out above that /aʊ/-raising is much more salient than /aɪ/-raising, leading to frequent comments (especially by Americans) which incorrectly claim that Canadians say “aboot the hoose” or “aboaat the hoase” for *about the house*.

A similar situation can be found in New York City, where speakers are said to pronounce the word *bird* (and similar words) “boid”, which is not true. More accurately, the NYC pronunciation of *bird* is [bɔɪd]. However, as Chambers and Trudgill (1998) argue, stigmatized forms like this tend to disappear after a time:

If very stigmatized forms become stereotyped this way, it may only be a matter of time before they disappear altogether, as the New York [əɪ] pronunciation appears to be doing [...]. When changes of this kind take place, reversing as they often do the original direction of a linguistic change, they can be called CHANGES FROM ABOVE, i.e. from above the level of consciousness. (Chambers & Trudgill 1998: 76)

Thus, in this case, overt comment has lead speakers to distance themselves from the peculiar pronunciation of [ɜ] – in spite of the fact that it identifies them as New Yorkers. The case of /aʊ/-raising in the light of this argument will be taken up again further below.

Edwards (1999: 102) is careful to emphasize that no language or variant is intrinsically “better”, “more aesthetic”, or “superior” to another. Rather, both the application of variants and the reactions to it “reflect[...] social perceptions of the speakers” (ibid.), and listening to someone involves “much more than mere phonetic processing of the speech signals” (Niedzielsi 1999: 63). As could be seen above, certain (types of) variants may induce overt comments; these, in turn, reflect speaker *attitudes*.

In this connection, it might be helpful to recall an example stated earlier, as it demonstrates quite well how language attitudes may influence our perception of speech: It has been mentioned above that Niedzielsi (1999) found that Detroit speakers, who generally exhibit /aʊ/-raising, only perceive Raising in the speech of fellow Detroiters if they are told that a speaker is Canadian. Moreover, Detroit speakers commonly perceive their speech as conforming to standard American English – which it most certainly does not. (Niedzielsi 1999: 63) Obviously, the stereotype of CR (rather than actual experience and attentive listening) has led Detroiters to interpret the phonetic variant of /aʊ/ as a salient feature of Canadian rather than Detroit English.

As can be seen, linguistic attitudes lead speakers to judge and evaluate other speakers socially, whereas these evaluations generally involve the following aspects and might sometimes be based on prejudices or stereotypes rather than real facts (Edwards 1999: 102):

- *competence* (intelligence, industry),
- *personal integrity* (helpfulness, reliability),
- and *social attractiveness* (friendliness, sense of humor). (ibid.)

Edwards (1999) argues that, in the study of language variation, two factors are particularly significant: social status (which, he argues, could be seen as *competence*) and *solidarity* (which “combin[es] integrity and attractiveness”). (1999: 102)

4.2. Networks and network ties

The social-network model originates in the view presented above that language change and variation (and virtually any other kind of innovation) is dependent on the speaker’s social background and, particularly, his interpersonal contact with other speakers. Throughout his life, every individual forms his very own personal network of relationships, whereas each of the other individuals he interacts with has his own personal network. As Milroy (1992) explains, “social network is about individuals and the relationships that can be contracted between them” (84). These relationships involve family and friendship ties as well as professional ties

within institutional groups (ibid.: 85) and rather loose ties or sporadic contact both on a professional (ibid.: 180) and private level. The full scope and capacity of his social network is usually inaccessible to the speaker:

Thus, a person may be conscious of, for example, family and friendship relationships [...], but he/she is not fully aware at any point of the multiple webs of (mainly informal) relationships that constitute a 'social network'. (Milroy 1992: 85)

The ties between members of the same and/or different groups generally fall into two categories, namely strong and weak ties. The quality of ties usually has a substantial influence on the way language change and other innovations can spread throughout and across communities, the reasons for which will be explained further below.

Granovetter (1973) suggests that

[t]he strength of a tie is a (probably linear) combination of the amount of time, the emotional intensity, the intimacy (mutual confiding) and the reciprocal services which characterize a tie. (Granovetter 1973: 1361)

Thus, the more intimate a relationship is, the longer it exists, and the better it has been cultivated, the stronger the tie is. Furthermore, if there is a large amount of strong ties in a community, and if the networks of these ties are "relatively dense and multiplex" (Milroy & Milroy 1992: 5), such a community is classified as a *close-knit* community.

Close-knit networks within a community tend to impede innovations from entering the group. Rural communities are usually seen as having traditionally close-knit network structures (Milroy & Milroy 1992: 6), whereas urban communities are generally perceived as having more loose-knit structures, as, apparently, "urban conditions give rise to impersonality and social distance" (Wirth 1938 in Milroy & Milroy 1992: 7). This assumption seems reasonable, given the fact that urban areas and communities are by definition larger and more populated than rural communities and, therefore, make it difficult for the individual to have widespread and, more importantly, strong ties with a great number of people. In rural communities, on the other hand, close-knit network structures are certainly the norm, and, therefore, they tend to resist change more successfully:

Within specific languages also, it is known that innovations tend to spread from one centre of population to another without immediately affecting the intervening countryside (which is of course more sparsely populated). (Milroy 1992: 197)

Nevertheless, it has been suggested that urban structures may promote the formation close-knit networks as well. As it seems, ethnicity plays an essential role in this respect, as individuals with the same or a similar ethnic background tend to have strong ties and form close-knit networks, even in urban areas:

[T]hose who form part of urban ethnic communities gravitate to form ties with, and often live with, others from a similar linguistic or ethnic background. These ethnic groups seem to use the close-knit network as a means of protecting their interests while the community develops the resources to integrate more fully into urban life. (Milroy & Milroy 1992: 7)

Of course, a further distinction needs to be made, namely that between *within-* and *between-community ties*. The combination of both these ties and their strength ultimately has a large influence on whether a certain change can enter and spread in a community. According to Milroy (1992: 178), strong ties are usually only formed within communities. The ties between groups, on the other hand, are normally weak(er). (17). It is argued that, “whereas strong ties give rise to [...] *local* cohesion [...], they lead [...] to overall fragmentation [...] and conflict” (Milroy & Milroy 1992: 17).

It has been argued that weak ties, both within and between groups, facilitate and promote the spread of innovation and (sound) change. (e.g., Granovetter 1973, Milroy 1992, Milroy & Milroy 1992) Milroy (1992) suggests the following:

[B]ehind this there lies an idealization which predicts that in a community bound by maximally dense and multiplex network ties linguistic change would not take place at all. No such community can actually exist, but the idealization is important, because it also implies that to the extent that relatively weak ties exist in communities (as in fact they do), the conditions will be present for linguistic change to take place. (Milroy 1992: 176)

Although it seems perfectly natural that strong ties between individuals and close-knit networks keep change from entering the community (whereas weak ties do the reverse), the fact that weak ties between communities, as well, promote the spread of change might seem absurd and requires further explanation (see below).

By contrast, it is relatively easy to see why loose-knit communities adopt innovations more readily, and why close-knit communities are strong enough to resist pressures from outside. The more a community is connected internally through weak ties only, the more it is prone to be affected by innovations entering from other communities and to accept these. The stronger the ties within a group, the more difficult it is for changes to enter the community and, more importantly, to be accepted. It becomes perfectly clear why strong within-community ties tend to impede change from outside if we consider issues of identity and group affiliation. It has been mentioned above that humans use language as a tool to express solidarity and to present themselves as belonging to a specific group. If this sense of affiliation or “local identity” (Milroy & Milroy 1992: 6) is comparably strong, then this will cause the members of the group to resist and to refuse any changes entering the community from outside:

[A] strong sense of ethnicity or of local identity often creates and maintains localized cultural and linguistic norms and value systems that are presented and perceived as sharply opposed to the mainstream values of outsiders. (Milroy & Milroy 1992: 6)

Milroy and Milroy (1992: 4) argue that close-knit networks can be seen as “mechanisms” which help speakers to resist outside pressures and to maintain their own community-specific language forms. Thus, vernacular language and the most conservative dialects are most likely to be found in close-knit and often regionally peripheral communities. (Milroy 1992: 197) These communities have the internal strength and capacity to maintain their own language and to resist “external, often standardizing, pressures” (Milroy & Milroy 1992: 9). Resisting these pressures and keeping one’s language distinct enables the individuals in a community to establish themselves as part of said community and to identify with it and other members. This will become particularly clear in the discussion of CR on Martha’s Vineyard further below.

Milroy and Milroy (1992) state

We interpreted close-knit social networks as mechanisms enabling speakers to maintain such vernacular codes, which themselves constitute and actively constructed, symbolic opposition to dominant, legitimized codes. [...] The level of integration of any given group into the wider society is likely to be inversely related to the extent to which it maintains a distinctive vernacular. (Milroy & Milroy 1992: 4)

and, furthermore, that

Close-knit networks [...] have the capacity to maintain and even enforce local conventions and norms – including linguistic norms – and can provide a means of opposing dominant institutional values and standardizing linguistic norms. Their capacity to do this, however, seems to be dependent on their territorial restriction to specific neighborhoods, the day-to-day behavior of individuals being less constrained by geographically dispersed networks. (ibid.: 6)

Thus, one might argue, it is not only the case that close-knit communities enable speakers to maintain their group-specific vernacular language forms, but also vice versa: Having a distinct way of speaking helps people to maintain strong within-community ties which – and this is the point – distinguish them from the rest of society. This emphasizes the fact that language change does not just “happen” but needs to be seen and interpreted as a social act.

Apart from having strong or weak ties and being close- or loose-knit, communities can also be classified according to the extent they allow (language) change to enter the group. Andersen (1986 in Milroy 1992: 197) proposes the concepts of *endocentric* and *exocentric* communities, which have to do with the attitudes of the individuals in a group toward external influence. Endocentric communities are usually perceived as resulting from within-group ties (Milroy 1992: 181) and associated with a relatively high level of resistance against outside pressures. Exocentric communities, on the other hand, appear to be more open to change and are, therefore, assumed to result from relatively weak within-group ties.

Milroy (1992) provides an interesting, although somewhat unusual, example in analyzing the sociolinguistic situation in Iceland. Iceland as a whole is a highly stable and homogenous speech community. Its overall stability can easily be accounted for in terms of its geographical isolation from other country. Its homogeneity, however, seems extremely unlikely, given the fact that the country is only sparsely populated and all communities are located at a relatively long geographical distance from each other. Thus, one might expect within-community ties to be generally very strong, whereas between-community ties can be assumed to be relatively weak because of the communities’ isolation from each other. However, this is not the case. Milroy (1992: 196, for the entire paragraph)

reconstructed the social situation in Iceland with the help of 12th- and 13th-century Family Sagas and came to the following conclusion:

[The Sagas] show very clearly the high value placed on the maintenance of strong-tie relationships over long distances, and we therefore suggested that the maintenance of strong ties may be crucial in explaining the failure of Icelandic to split up historically into divergent accents. (ibid.)

Nevertheless, it still needs to be explained in detail why innovation is thought of as being passed on through weak between-community ties (e.g., Milroy 1992: 175), as it seems that strong ties would serve this purpose significantly better. Milroy (1992) argues that one important point to consider is the fact that weak ties require less effort (i.e., time and energy) and can, therefore, be more numerous than strong ones. (180) The high number of weak ties a person can have is a crucial factor involved in the spread of innovations. Milroy (1992) further illustrates this by pointing out that individuals linked by strong ties often share contacts. (ibid.) For a change to spread, however, it is essential that there be great number of ties through which the innovation can be passed on; but if there are a lot of shared contacts, both within and across communities, the innovation will only reach the same people over and over again. (ibid.)

A further question that needs to be asked is what kind of person the “innovator” (who carries information across groups) is and what kinds of ties he has and maintains. First, however, one needs to distinguish between innovation and change. Ignoring what has been discussed in the previous chapter regarding speakers as innovators for the time being, in a sociolinguistic framework, a distinction has to be made between innovation, on the one hand, as the (social) act of the speaker and of passing on an innovation and change, on the other hand, as the consequences of innovation which can be perceived in the language system. (Milroy 1992: 169) Milroy and Milroy (1985) point out that “speaker innovation may lead to a change in one segment or part of the grammar, which then sparks off a chain reaction that seems to be internal to the language system” (cf. the Great Vowel Shift) (348). Of course, apparently internally motivated chain reactions of this kind might as well result from speakers wishing to avoid potential mergers. (ibid.)

Labov (1980: 261 in Milroy 1992: 179) suggested that the typical innovator is a person who has a high status in his group, carries prestige, and maintains strong ties both within and outside his community. However, this seems rather unlikely given Milroy's theoretical framework of network ties presented above. According to this model, the innovator has to be a mobile individual with a great number of weak ties that is situated at the margins of the group. (Milroy 1992: 180-1) Due to his marginal position, this individual can then function as a bridge between several communities. (ibid.: 183)

The question remains how people in a marginal position can successfully pass on innovations to central members of the receiving group. In fact, central members often simply do *not* accept the change, especially in endocentric close-knit communities of the kind mentioned above. (Milroy 1992: 181) In order to explain those instances where an innovation enters a group and spreads successfully, one needs to consider one of the arguments given above again, namely that weak inter-community ties facilitate change. If the innovator is a marginal member of a community with a great number of weak ties outside the group, then he is likely to have few overlapping, i.e. shared, contacts and is likely to pass on the innovation to many others. Granovetter (1973: 1367) and Milroy (1992: 182) both argue that central and high-status members of a community usually tend to find (virtually any sort of) change a risky business. Therefore, the amount of weak ties to marginal members of the group is a crucial factor: If the change is already widespread with the more peripheral members of the community, then the central members might, at some point, deem it necessary or even beneficial to accept the change, as well. (Milroy 1992: 182)

Milroy (1992) places yet another restriction on the diffusion of (sound) change. He argues that it is crucial for the receptor community to be able to identify with the donor community to some extent. (182) Thus, if two communities have entirely different mindsets, if they even act as opponents in one way or the other, or if the receptor community harbors strong negative feelings toward the donor community, then any kind of transmission of an innovation appears highly unlikely.

At this point, it still needs to be mentioned that the presented framework is a “conflict model” (Milroy & Milroy 1992: 3), which becomes clear from the arguments presented above regarding the acceptance and spread of an innovation in connection with the possible attitudes toward change and the perception of change as something risky. Milroy & Milroy (ibid.) point out that such a model “is essential if we are to account for the phenomenon of linguistic change, with which some kind of social conflict is generally associated” (3).

As a result, speaker innovations are commonly classified according to the extent to which the change has spread successfully. Milroy and Milroy (1985: 347) suggest the following three possibilities:

- The innovation fails to diffuse at all.
- The innovation enters one community but does not spread to other communities.
- The innovation enters one community and, from there, spreads to further communities (via a further innovator). Milroy and Milroy (ibid.) point out that, “[w]hen the results of this process are observed, we tend to label the results ‘linguistic change’.” (347)

4.3. Social variables

Social class, age, and sex/gender are those variables which most readily affect and influence the introduction and diffusion of a new sound change. This section will provide a brief discussion of the crucial social factors involved here.

4.3.1. Age

First, it needs to be mentioned that sociolinguistic studies can be carried out both in “real time” and in “apparent time”. A study carried out in real time in fact features several quantitative surveys at different points in time. Usually, these surveys are conducted in ten- or twelve-year intervals. (McMahon 1994: 239-40) The subsequent analysis and comparison of the results over time shows the development of a sound change over time. Only real-time studies can reliably

show whether a sound change is in progress. (ibid.) McMahon (ibid.: 240) points out that, in apparent-time studies, which are carried out at only one point in time,

it is in principle impossible to distinguish age variation in apparent time which signals a change in progress, from some linguistic feature which simply varies with age, becoming more apparent in the speech of people of a certain age. Younger people sometimes behave differently from older ones in other respects; why should certain linguistic features not also be restricted to particular age groups? (McMahon 1994: 240)

The problem with apparent-time studies is that one would have to assume that speakers maintain their way of speaking throughout their lives, which McMahon 1994 (240) considers “over-simplistic”.

Age-related differences in the application of a sound change might also indicate that a certain variant is only being introduced or, conversely, that it is dying out. Variants that are only entering a community usually occur mostly in the speech of young people, whereas variants that are dying out occur most frequently with older people. (ibid.: 242)

It has to be noted that speakers from different age groups are subject to different kinds of pressures, which also depends on the types of social networks they belong to. Younger speakers are usually prone to influence from their peers, where “[i]nfluence from the standard language is relatively weak” (Chambers & Trudgill 1998: 79). Middle-aged speakers tend to be part of extended and “less cohesive” (ibid.) networks. They are mainly influenced by the pressures of standard or “mainstream” speech. Chambers & Trudgill (ibid.) suggest that this is because of their need to succeed in their career and, therefore, their need to make a lasting (good) impression, which makes them “most likely to be responsive to the norms of linguistic behaviour in their speech community” (McMahon 1994: 241). Older and retired people have smaller networks and experience considerably less standardizing pressure. (Chambers & Trudgill 1998: 79) Like for young speakers, the use of lower-status variants is significantly higher for this age group than for middle-aged speakers. (McMahon 1994: 241)

4.3.2. Sex

It is important to note that, while linguistic variability due to age or social class is the result of social *distance*, variability due to sex or gender roles is generally the result of social *difference*. (Trudgill 1983: 163) Furthermore, it has been suggested that any kind of unusual pattern in the way females and males use variables – that is, any pattern divergent from what is proposed below – generally implies that a linguistic change is still in progress. (Chambers & Trudgill 1998: 83)

The general consensus is that society expects women and men completely differently, and therefore they do – even in linguistic terms:

Using a female linguistic variety is as much a case of identifying oneself as female, and of behaving “as a woman should”, as is, say, wearing a skirt. What would happen to a man who, in our society, wore a skirt? (Trudgill 1983: 163)

Researchers have noted several differences in the linguistic behavior of men and women. Certainly the most striking difference is that females tend to use a higher proportion of high-prestige or formal variants. (e.g., Milroy 1992: 86, Chambers & Trudgill 1998: 83) Labov (2001) notes the following: “For stable sociolinguistic variants, women show a lower rate of stigmatized variants and a higher rate of prestige variants than men” and “[i]n linguistic change from above, women adopt prestige forms at a higher rate than men” (266, 274). In his studies, Trudgill (1983) found that, among other things, women used the lower-prestige form [pæʔ] *pat* rather than [pæt] less frequently than men; furthermore, the grammatically incorrect form *I done it* rather than *I did it* was used considerably less by women than by men. (Trudgill 1983: 164)

Several explanations have been offered for the fact that women use high-prestige variants more frequently than men. One of them refers to an apparent psychological advantage of females over males. As it seems, women are, by nature, more apt to adapt their speech to certain situations – especially formal ones – and, therefore, exhibit a wider range of style shifting. Chambers (1995) suggests the following interpretation:

It is plausible to speculate that [...] the neuropsychological verbal advantage of females results in sociolinguistic discrepancies such that women use a larger repertoire or variants and command a wider range of styles than men of the same social groups even though gender roles are similar or identical. (Chambers 1995: 136-7 in Labov 2001: 276)

Labov (2001) puts it more simply: “In other words, women are more able to do what all people say they should do”, and he labels this phenomenon “the linguistic conformity of women” (276).

Considering women’s status in society, however, several other factors need to be taken into account when proposing a possible explanation for women’s linguistic behavior. One of the hypotheses is that women are, in general, more status-conscious than men and, therefore, “more aware of the social significance of linguistic variables” (Trudgill 1983: 167). It is often suggested that women still have fewer opportunities and occupy a less secure position in modern society than men, and that they, therefore, aim to sound more prestigious and signal their social status by using high-status variants more frequently. (e.g., Chambers & Trudgill 1998: 84, Trudgill 1983: 167) In contrast to men, who are usually judged by what they do, it appears that women are traditionally evaluated by how they appear. (Trudgill 1983: 167-8) This is observable in the way society reacts to swearing by women, for instance: Whereas men are expected to “act tough, rough and break the rules”, swearing by women is generally perceived as inappropriate (more so than swearing by men). (ibid.: 85) Interestingly, it has also been pointed out that working-class language is more readily associated with male speech and masculinity. (ibid.)

It is also believed that, because they have only limited opportunities in society, women tend to be part of less cohesive networks. (Trudgill 1983: 84) Therefore, women are probably less exposed to peer pressure but, instead, are more frequently involved in formal situations with people they do not know very well; this, in turn, explains increased women’s ability to use prestige forms. (ibid.)

A further argument that must not be neglected is women’s traditionally greater role in child-rearing and, therefore, in teaching their children how to use language correctly and appropriately:

Women are more closely involved with child-rearing and the transmission of culture, and are therefore more aware of the importance, for their children, of the acquisition of (prestige) norms. (Trudgill 1983: 167)

As a last point, it is also important to mention Brown's theory that women simply use language differently because their ultimate goals in communication and social interaction are different from those of men. (Brown 1980 in Trudgill 1983: 165) This, however, is a question of language use rather than one of language variation. In the study of dialects and accents, the point is to account for social differences in the way people use language to achieve the *same* thing. (Trudgill *ibid.*)

4.3.3. Social class and prestige

The social-class model results from social, political, economic differences between different groups; Milroy and Milroy (1992) suggest that it is "based on conflict, division, and inequality" (3). Generally speaking, it is the speech and behavior of upper-class members – who are by definition wealthier and more powerful – that is perceived as more prestigious and worth imitating. (McMahon 1994: 246)

Upper-class norms are seen as being *overtly* prestigious (McMahon 1994: 246), and the leaders of a sound change are usually those speakers with the highest status in their group (Milroy & Milroy 1985: 343). If a certain variable is adopted from upper-class members by middle- or lower-class members, this usually happens consciously and, therefore, affects attentive speech first (cf. *change from above*). In those cases where a sound change originates from individuals who do not belong to the upper class, it usually affects inattentive and spontaneous speech first (cf. *change from below*). (Milroy & Milroy 1985: 340) Of course, not all middle- or lower-/working-class groups find the speech of upper-class groups worth imitating. Some groups might even harbor strong negative feelings toward higher-class individuals and, therefore, choose to resist pressures from above:

[N]ot all linguistic behaviour or change is dictated by overt prestige; if it were, we would all speak similarly, using high-status variants, and language change would presumably take the form of a spiral of hypercorrections. (McMahon 1994: 246)

Prestige variants are usually “more geographically neutral” than lower-class variants. (Dalton & Seidlhofer 1994: 5-6) As has been mentioned above, especially rural, close-knit networks tend to resist external pressures to change. These communities are often associated with less prestigious speech and low-status variants. Of course, also lower-class communities have their own linguistic norms, which are part of a *covert* kind of prestige. (McMahon 1994: 246) Lower-class speakers usually adhere to their own norms and have little or no influence on other individuals and communities. The purpose of adhering to their own community-specific norms is, of course, to express their affiliation and group membership. (ibid.)

There is of course, always a strong institutional component involved, which requires the speakers of a language to use standard and high-status variants, especially in formal situations. On a personal level, non-adherence to these norms might lead to members of a group to be ridiculed by others. (Milroy & Milroy 1992: 4) On a professional level, this might have economic effects, as well. Some researchers use the concept of a “linguistic market” (Milroy & Milroy 1992, Coupland 2007) to explain this:

Prestigious varieties of English, for example, have cultural *capital* which often translates into real, material advantages for speakers. They can “cash in” their prestigious speech, for example in gaining employment in good service-sector jobs. (Coupland 2007: 85)

Let us now turn to the issue of network ties, which social class is part of which kinds of networks, and to what extent this has an effect on (the spread of) sound change. It has already been mentioned that speakers who are tied to a group by weak ties only are those who are generally most exposed to pressures and innovations from outside. Milroy and Milroy (1992: 16) suggest that those speakers usually belong to the middle or the upper working class and that the networks of these speakers tend to be larger, loose-knit, less kin-oriented, and less territorially-based than those of the highest and lowest classes. The highest and lowest classes are, in fact, structurally quite similar in this respect: Their networks are close-knit, dense, and kin-oriented (ibid.: 17), which makes them more conservative and more resistant to external pressures.

Thus, the speakers between the lowest and highest classes are those who are most socially and geographically mobile (Milroy & Milroy 1992: 17); at the same time, they are those who are socially and, of course, linguistically most insecure, given the pressure from the other groups (McMahon 1994: 244). Middle-class speakers normally strive to resemble the upper classes and, therefore, imitate their behavior and speech. Simultaneously, they wish to remain distinct from working-class speakers. As a result, they imitate the prestigious speech of the upper class and adhere to the norms enforced by the higher classes, which often leads to hypercorrection on part of middle-class speakers. This, in turn, may allow for some of the prestigious variants to enter the speech of the lower classes, who become increasingly exposed to them. (ibid.)

Milroy and Milroy (1992) use the concept of *life modes* to account for the differences in the spread of a change through different classes. The three different life modes proposed differ according to their form of employment and the consequences this has on their network ties, their families, and their free time.

Life Mode 1 is that of self-employed individuals, whose businesses are traditionally found in the sectors of agriculture, fishing, retailing, etc. Usually, the business is family-owned, which results in a small, kin-oriented, close-knit network and in little or no separation between work and free time/family time. People in this life mode have a strong solidarity ideology and strong ties to the members of their group. (Milroy & Milroy 1992: 19-20)

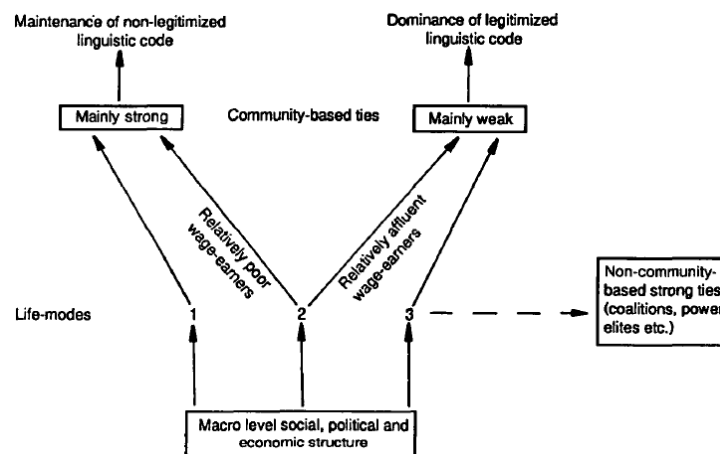
Life Mode 2 is that of typical working-class employees, who are “incorporated in a long and complex process of production that they do not own or control” (Milroy & Milroy 1992: 20). For people in this life mode, the purpose of work is to provide the means for enjoying one’s free time; the difference to Life Mode 1 is that, here, family/free time and work are kept strictly distinct. Solidarity among working-class members usually arises if economic conditions worsen and members feel the need to form their own close-knit networks in order to protect their interests (e.g. through the formation of trade unions). If economic conditions improve, the need to maintain these strong ties might subside. (ibid.)

Like Life Mode 2, Life Mode 3 is one of wage earners. However, employees in this life mode are found further up in the hierarchy of a business; they are,

characteristically, high-skilled managerial employees. People in Life Mode 3 place little importance on their free time struggle to keep family and work distinct. Due to their work, they are usually fairly mobile individuals and, as a result, form numerous weak ties with many different individuals. This, of course, forms the basis for the spread of innovations. (Milroy & Milroy 1992: 21)

Milroy and Milroy (1992) provide the following illustration to clarify the relationship between the three different life modes, their ties, and the effects these ties have on the linguistic behavior of speakers (Fig. 3).

Fig. 3: Life modes and network ties (from Milroy & Milroy 1992: 22)



5. Analysis

5.1. The phonetic motivation of Canadian Raising

5.1.1. Canadian Raising in the light of Natural Phonology

In this chapter, I aim to establish Canadian Raising as a sound change in the light of the basic hypotheses of Natural Phonology. In particular, I will investigate whether CR is a phonetically motivated process and, moreover, to what extent and by which phonetic forces it is motivated.

Initially, it is essential to note that Canadian Raising is not a rule, even though it was formulated as such in the framework of GP by Chambers (1973). Here, I will argue for Canadian Raising to be the result of a natural phonological process in the sense of NP. Most importantly, CR cannot be a rule as neither its application nor any exceptions need to be learned explicitly by its users. Its application and suppression are governed by natural phonetic forces, and the “rules” of application are acquired subconsciously by the speakers of the accents which exhibit CR. Especially the variability of the sound change within and across varieties of English demonstrates that CR cannot be a rule: If it were a rule, its application would be much more consistent. Rather, CR is a sound change that plays a significant part in defining a speaker’s regional accent; it is not an absolute rule of English grammar.

Donegan suggests that (1993: 103), “[w]hen a ‘phonetic change’ takes place, speakers fail to learn the ‘key’ that turns off the process that is involved”. Given the naturalness of Canadian Raising (see below), it can easily be argued to be a natural phonological process, and that, over the decades (probably one of the oldest informants to exhibit CR was born in 1861 [Thomas 1991: 148 in Britain 1997: 34]), speakers of Canadian English have unlearned how to suppress it. As will be proposed further below, CanE is one of the few varieties where Raising is generally restricted almost exclusively to the phonetic environment which actually favors its application; this indicates that, in Canada, CR seems to be deeply entrenched rather than a sound change in progress.

Both /aɪ/ and /aʊ/ are falling – or, more specifically, upgliding – diphthongs. Donegan (1978: 106) predicts that the onsets of these kinds of diphthongs are especially susceptible to lowering or laxing processes, whereas their glides

usually undergo raising or tensing. In fact, in the case of CR, this is not entirely true. Whereas centralizing the onset from /a/ to /ə/ can be seen as a laxing process, raising it in fact contradicts Donegan's assumptions. However, this can easily be explained in terms of the diphthong's phonetic environment, which will be of interest further below. Of course, it also needs to be mentioned that Donegan's observations were not made on the basis of diphthongs. Therefore, she also comes to the conclusion that raising processes often apply dissimilatively – for example to the two “halves” of a long vowel or to a vowel that is preceded or followed by another vowel. (ibid.: 80) This is not correct in the case of Canadian Raising, where the objective is not to make two vowel segments more distinct – the reason being that the exact opposite is required by the phonetic environment.

Canadian Raising is a lenition process, or, more specifically, an assimilation process, as it reduces the phonetic distance between the two halves of the diphthongs. Both [ə] and [ʌ] are phonetically closer to [ɪ] and [ʊ] and, therefore, choosing these allophones as onsets has a positive effect on pronounceability. The phonetic distance between the raised onset [ə] and both [ɪ] and [ʊ] is smaller than that between [ʌ] and both glides (whereas the difference seems negligible in the case of [ʊ]). Thus, theoretically, it appears more plausible to use the transcriptions [əɪ] and [əʊ] for the raised diphthongs. Of course, since I do not use any real-life data for the purpose of this thesis, I do not have any evidence to prove this. Also, there is great variability as to the exact nature of the onset. Nevertheless, in theory, a schwa seems to be the more plausible option. Furthermore, considering that [ə] is the most central vowel and sets no particular articulatory requirements in terms of height or front-/backness, it could be argued to be the epitome of least effort.

Since the purpose of lowering processes is to increase sonority, it is safe to say that raising processes have a negative effect on the sonority of a sound. This implies that raising processes, like Canadian Raising, have a negative effect on perceptibility, as well. Nevertheless, Canadian Raising does fulfill a significant role in communication: It increases pronounceability and, thus, clearly acts in favor of ease of articulation. The phonetic basis and motivation of the Raising process will be discussed in the following subchapter.

It has already been mentioned that, cross-dialectally, CR is not at all uniform in the way and context it occurs. Different phonetic environments have been proposed for different varieties; e.g., Milroy (1996: 215 in Chambers 2006: 110) found /aɪ/-raising to occur in the speech of a young speaker from Saginaw, Michigan, not only before voiceless consonants but also in words like *knives*, *diner*, *cider*, *Friday*, or *fire*. Whereas a raised variant of /aɪ/ before /r/ does occur sporadically in Canadian English, the diphthong is never raised in the other words (and contexts) mentioned. (Chambers 2006: 110) Chambers suggests that “Saginaw raising apparently occurs when tonic /aɪ/ is followed by a weak syllable regardless of the voicing of the consonant”. (ibid.) Dailey-O’Cain (1997: 110), who tested Raising in Ann Arbor, Michigan, found that /aɪ/-raising was extremely frequent before voiceless consonants (*type*), flapped voiceless consonants (*writer*), /r/ (*fire*), and nasal-voiceless clusters (*pint*); it also appeared, less frequently however, before voiced consonants (*ride*) and nasal consonants (*time*). Again, only the first two contexts are justifiable in terms of the original rule (CR before flapped consonants will be discussed further below). /aʊ/-raising, on the other hand, is significantly less common in Ann Arbor and appears to be restricted to certain phonetic contexts – namely those predicted by the original “rule” of CR: For example, the raised variant does not occur at all before /r/, and before voiced consonants, nasals, and nasal-voiceless clusters, it is “extremely rare” (ibid.: 113-4)

Many of the above-mentioned contexts are difficult to explain in terms of their phonetic motivation. Of course, certain instances of raising (in which it expands to environments where it had not occurred before or where it is not supposed to occur) might be interpreted as the result of speaker-specific preferences; or, it might just as well have social reasons. The fact that /aɪ/-raising is much more common and less dependent on its phonetic environment than /aʊ/-raising, for example, has several implications, both phonological and social.

First, this might indicate that /aɪ/-raising solves a more fundamental problem in communication than /aʊ/-raising does (cf. process hierarchies); that is, the articulation of /aɪ/ appears to impose greater difficulties on the speaker than do other diphthongs, like /aʊ/. Moreton & Thomas (2004) confirm this, arguing that “[t]he nucleus and offglide of /aɪ/ place conflicting demands on the tongue body,

more so than any other English vocoid” (3). The fact that /aɪ/-raising is more common than /aʊ/-raising – both as regards its phonetic environment as well as the varieties in which it occurs – and that it also occurs in varieties as far from Canada as the English Fens speaks for the naturalness of the variant [əɪ].

Secondly, all of this has several implications for /aʊ/-raising, as well. It might be argued, for example, that /aʊ/-raising does not fulfill as essential a role as /aɪ/-raising does, because the articulation of /aʊ/ itself does not impose great difficulties on the speaker. Therefore, Raising remains restricted to certain phonetic environments which promote (or even require) its application. The fact that /aʊ/-raising applies only in certain environments and hardly expands elsewhere, together with its rare occurrence outside Canada, ensures that the sound change remains a rather exclusive one – that is, one that can more easily serve as an indication of a speaker’s accent and origin. This, again, stresses the importance of /aʊ/-raising in a sociolinguistic context and its role as a defining feature of Canadian speech.

Dailey-O’Cain (1997) makes two more interesting observations for Ann Arbor, Michigan. She points out that, in her data, speech style appeared to have an impact on /aɪ/-raising, which appeared more frequently in informal conversation than in word-list reading. (117) This is not surprising given the fact that /aɪ/-raising is a lenition process and considering that these are particularly common in informal speech styles. It is very likely that, in the reading task, the subjects paid more attention to their pronunciation and were, therefore, more likely to conform to standard GenAm. Moreover, Dailey’O’Cain (1997: 110) points out, in her data, the /aɪ/-diphthong in *like* was always raised. One could argue that this could be traced back to the frequent occurrence of the word, especially in informal speech, where it is often used as a hedge. All of this indicates that many instances of /aɪ/-raising in the speech of Ann Arbor, Michigan, might result from an increased application of lenition processes in informal and inattentive speech.

5.1.2. “Raising” hypotheses: Canadian Raising as an innovative change

Different researchers have used different approaches to explain the phenomenon of Canadian Raising and its phonetic motivation. The two main hypotheses are a) that CR is an innovative change and b) that CR is a residue of the Great Vowel Shift and is, therefore, rather a “Failure to Lower” in certain contexts rather than a genuine “Raising” process. A third approach, “Contact, Focusing, and Reallocation” (which also incorporates the GVS) attempts to reach a compromise between these two.

5.1.2.1. Pre-voiceless shortening

It is acknowledged by the majority of researchers that have investigated CR (e.g., Joos 1942: 142, Chambers 1989: 84, Britain 1997: 31, Hickey 2002: 309) that the phonetic motivation of Canadian Raising lies in the fact that, in English, vowels before voiceless consonants are shorter than vowels before voiced consonants:

When the same vowel is spoken in different isolated words, its intensity sometimes varies significantly from word to word, and it seems probable that such variations are, in part at least, effects of differing consonantal environments. (Fairbanks, House & Stevens 1950 in House & Fairbanks 1953: 105)

Several proposals as to the reason for this length difference have been made. Considering the information given above, one might assume that – because obstruents are difficult to voice and vowels can easily be enhanced – the lengthening of vowels may be a tool to help the speaker maintain a certain amount of voicing for the production of the following voiced consonant. At the same time, lower vowels bear a greater amount of sonority and, therefore, can be argued to be of assistance in pre-voiced position – as in the case of CR, where a low onset is maintained before voiced consonants. It has also been argued that the jaw muscles are more tensed for the production of a voiceless consonant and its preceding vowel, which automatically makes the preceding segment shorter. (Hickey 2002: 309) This difference in vowel quantity also has an effect on the vowel’s quality: As Chambers (1989) argues, this “shortness [...] exerts particular pressure on diphthongs with a low onset and high glide” (84), such as /aɪ/ or /aʊ/.

The length difference between vowels preceding voiced and voiceless consonants serves an important purpose in communication: It helps both speaker and listener to maintain the distinction between voiced and voiceless consonants even if the voiced consonant is hardly voiced. Kluender, Diehl, and Wright (1988) claim:

We suggest that the principle of durational contrast provides a natural explanation both of the speech and nonspeech results. Specifically, a long initial segment makes a given medial gap seem shorter by contrast and hence, in the case of speech, more like a voiced segment. A short initial segment, on the other hand, makes a medial gap seem longer (i.e., in speech, more voiceless). Thus vowel-length differences are a means of enhancing the perceptual distinctiveness of the closure-duration cue for consonant voicing contrasts. (Kluender, Diehl & Wright 1988: 161 in Fowler 1991: 123)

According to Britain (1997), there are two solutions to this dilemma faced by speakers of English: (a) reducing the phonetic distance between nucleus and glide before voiceless consonants or (b) increasing the phonetic distance before voiced consonants. (31-2) There are, in turn, two possibilities of reducing the phonetic distance between the two segments of a diphthong: (1) raising the onset, as is the case with Canadian Raising, or (2) lowering the glide, which occurs in varieties of Southern American English (SAmE) and is commonly referred to as *Southern Glide Weakening* (SGW). In these varieties, /aɪ/ is often produced as [a^ɛ] or [a^ɔ] (ibid.: 31) or even monophthongized (Schneider 2008: 389). Interestingly, this change occurs before voiced consonants, “where there is more time to be more diphthongal” (Fruehwald 2007: 20), whereas the diphthongs before voiceless consonants remain unchanged. (Schneider 2008: 389)

Hall (2005) suggests that Canadian Raising is not only phonetically conditioned by the following segment but also by the diphthong’s preceding sound. As has been mentioned above, Hall tried to explain unusual instances of /aɪ/-raising in terms of biphone similarities across lexical neighborhoods. She noted that, in her data, “all words with the biphones /dai/, /dʒai/, and /sai/ have a *high* vowel [...], regardless of the rest of the phonological predictions for these words” (Hall 2005: 194). This implies that, in these words, the voicing of the following segment was completely irrelevant; what was crucial was the nature of the preceding segment. Hall concludes that this might indicate that a preceding coronal (obstruent) can cause the onset of /aɪ/ to be raised as the result of a phonetically motivated

process: “[T]he high, front location of the tongue for a coronal could make it more difficult to achieve a fully low and back [ai] directly following it” (ibid.: 196).

5.1.2.1.1. Flaps

Flapped voiceless consonants impose a certain difficulty on the linguist who seeks to investigate the phonetic origins of Canadian Raising. In 1942, Joos noted two different groups of speakers in Canada: those who raise /aɪ/ and /aʊ/ before flaps and those who maintained the low onset before a flapped /t/ in words like *writer*. Thus, Group A had [ˈtəɪprəɪrə] and Group B had [ˈtəɪpraɪrə] (Joos 1942: 143), which means that Group B interpreted the flapped /t/ as a voiced consonant:

Table 3: (Non-)Application of Canadian Raising before flapped /t/

	Group A	Group B
<i>write</i> [t] / <i>ride</i> [d]	raised / unraised	raised / unraised
<i>writer</i> [r] / <i>rider</i> [d]	raised / unraised	unraised / unraised

As can be seen, the application of CR is opaque for speakers of Group A, as a raised onset is used before the voiced (flapped) consonant, as well. Today, Group B no longer exists, and every speaker of CanE raises /əɪ/ and /əʊ/ before flapped /t/. (Chambers 1973 in Fruehwald 2007: 4) One could argue that this implies that Canadian Raising is no longer phonetically motivated. However, given that “we can unambiguously assign [D] after [ʌɪ] to /t/ and [D] after [ai] to /d/” (Vance 1987: 203), we can also assume that speakers interpret flaps rather as a voiceless /t/ than a voiced consonant. Therefore, it might well be that the vowel sounds before flapped /t/ are just as short as those before genuine voiceless consonants. Furthermore, raising /aɪ/ and /aʊ/ before flapped consonants helps to maintain the distinction between words like *writer* and *rider*, which are homophones in GenAm. This serves perceptibility and avoids ambiguity, which is an utterly important factor that determines the acceptability of a sound change.

Vance (1987: 202) notes an expansion of the opaque pattern to other contexts: In his data, the diphthongs in *cider*, *idle*, and *spider* were all raised although they are followed by a voiced consonant. He goes on to point out, however, that in these

cases, underlying /d/ is also produced as a flap rather than as a fully voiced, which leads many researchers to “believe[...] that flapping simply neutralizes the distinction between /d/ and /t/” (ibid.). This might indicate that even a flapped /d/ can be interpreted as an underlying voiceless /t/.

Some researchers claim that the fact that Canadian Raising also occurs before flapped consonants implies that speakers have a phonemic distinction between the raised and unraised diphthongs. Others, however, argue against this. It has been found, for instance, that Canadian Raising chronologically preceded flapping; King points out that “t-voicing [...] seems to be a relatively recent North American innovation” (1972 in Britain 1997: 33). This, in turn, implies that the patterns of Canadian Raising were already in place when intervocalic flapping became established. Therefore, Raising before flapped consonants cannot be used as evidence for possible phonemicization. Perhaps the application of CR has become lexicalized for those items where, today, /t/ is flapped.

5.1.2.2. Dominance of the offglide in pre-voiceless position

Moreton and Thomas (2007: 3) propose a slightly different approach to account for the phenomenon of Canadian Raising. It is argued that the application of CR is not only conditioned by the reduced length of the diphthong before voiceless segments. Rather, it is suggested, diphthongs before voiceless segments are usually dominated by the offglide and, therefore, cause the nucleus to assimilate to the glide. Voiced codas have the opposite effect. Thus, in the case of /aɪ/ and /aʊ/, pre-voiceless position leads to a higher diphthong, whereas before voiced consonants, a lower vowel is expected. As Moreton & Thomas (ibid.) point out, “voiceless codas are associated with allophones that are further to the left on the scale $\Lambda_I > a_I > a\epsilon > a$ ”; thus the vowels to the right are likely to occur before voiced consonants.

Although in English, it is usually the glide that assimilates to the nucleus (Gay 1986; Gottfried, Miller & Meyer 1993 in Moreton & Thomas 2007: 3), a following voiceless consonant “protects” the offglide in that it (a) favors acoustic offglide peripheralization and (b) causes the preceding segment to be shorter,

whereas “[i]n diphthongs the duration difference is mostly in the nucleus” (ibid.: 4).

As can be seen, pre-voiceless shortening is just one aspect among several in Moreton & Thomas’ theory. Interestingly, this approach also explains SGW, where /aɪ/ suffers glide weakening or even monophthongization before voiced consonants: In this position, it is the nucleus that dominates the offglide; therefore, the glide assimilates downward, settling at approximately [ɛ] or [ə]. Moreton & Thomas (2004) suggest that

[t]hey [CR and SGW] are related not by common ancestry but by common phonetic motivation – the tendency of diphthongs to be dominated by the offglide before voiceless codas, and by the nuclei elsewhere. (13)

5.1.2.3. Issues of stress and syllable structure

Chambers’ (1973: 127 in Dailey-O’Cain 1997: 108) original rule in the framework of GP predicted that, in Canadian English, the diphthongs /aɪ/ and /aʊ/ have raised or centralized onsets when they occur before voiceless consonants; however, he also found that raising was blocked “when the syllable containing the diphthong does not bear primary stress and is followed by a stressed syllable” (Dailey-O’Cain 1997: 108), thus:

- (a) [V +tense] → [–low] / _glide [C –voice]
- (b) Condition (a) cannot apply if V < [1 stress] and V’[+stress], where V’ is the following nucleus. (Chambers 1973: 127 in Dailey-O’Cain ibid.)

This implies that there is a phonetic differentiation between morphologically related words like *psyche* [əɪ] and *psychology* [aɪ] or *cite* [əɪ] and *citation* [aɪ].

Chambers (1973, 125-26) compares *bisexual*, in which his Canadian informants had [aɪ], with *bicycle*, in which they had [ɪɪ]. He says that these two words share the same prefix + stem pattern, and he uses the contrast to argue that the conditioning factor is the stress pattern rather than the morphological structure. (Vance 1987: 198-9)

Interestingly, there are examples of raised diphthongs which seem to be conditioned by the stress pattern alone, regardless of the following element: It has been found (Lehiste 1971a, b in Donegan 1993: 122) that speakers from

Michigan, Minnesota, and New York often have raised onsets in *cider*, *idle*, *spider*, and *title*, etc., the reason being that “the presence of a following unstressed syllable within the stress-group, or foot, shortens the first syllable” (Donegan 1993: 122). Thus, in these cases, Raising seems perfectly plausible and justifiable in terms of its natural phonetic motivation.

On the other hand, there are examples of unraised diphthongs in words which do conform to the original predictions: Both Chambers (1973: 116-7 in Vance 1987: 197) and Vance (ibid.) point out that compounds like *eye piece* or *fly swatter*, where the stress is on the first syllable (which contains the diphthong) have a lower onset, because the following word boundary blocks Raising. Thus, even stress patterns cannot be seen as the ultimate clue as to whether CR will apply or not.

Vance (1987: 199) uses a different approach; following Kiparsky (1979: 440) and McCarthy (1982: 585-6, both in Vance ibid.), he proposes a three-category schema that defines prefixed words according to the nature of the intervening syllable boundary and its implications for the stress pattern: The terms “stress-neutral” syllable boundaries, “loose stress-determining” and “tight stress-determining” boundaries are used, and Vance’s basic assumption is that CR will only occur if the diphthong and the voiceless consonant are in the same metrical foot. The three categories can be defined as follows (Dailey-O’Cain 1997: 112):

- *Stress-neutral syllable boundaries* are those which do not affect the stress pattern of the prefixed word (e.g. *sexual* > *bisexual*).
- *Loose stress-determining boundaries* are those which cause the stem to acquire secondary stress after the prefix has been added (e.g. **focals* > *bifocals*). It should be mentioned that “[s]ome individuals interpret the syllable structure of these words differently from others, causing the amount of raising in these words to be highly variable” (ibid.).
- *Tight stress-determining boundaries* are those which determine stress and cause the vowel of the stem to be reduced (e.g. *cycle* > *bicycle*).

Dailey-O’Cain (1997) notes that, in Ann Arbor, /aɪ/-raising occurs most frequently when there is no syllable boundary, is slightly less frequent when there is a tight stress-determining boundary, even less frequent in the case of a loose

stress-determining boundary, and is least frequent (still, not impossible) when a stress-neutral boundary intervenes. (112) This is not surprising, given the fact that in the last of these cases, the prefix and, therefore, the diphthong (*bi-*, *tri-*, etc.) remains unstressed and syllable following the diphthong is stressed.

5.1.3. Canadian Raising as a residue of the Great Vowel Shift

5.1.3.1. “Failure to Lower”: Canadian Raising as a conservative form

In contrast to the above-mentioned “Raising” hypotheses, which consider CR to be an innovative and entirely synchronically motivated phenomenon, the “Failure to Lower” hypothesis assumes CR is a largely conservative form.

The basic assumption is that Canadian Raising is, in fact, not a raising process before voiceless consonants, but rather results from an incomplete lowering process. Between 1200 and 1600 (Stockwell 2002: 267), the Great Vowel Shift (GVS) caused a series of sound changes: All half-close, half-open, and open vowels were raised, whereas the close vowels, /i:/ and /u:/, were diphthongized. (Britain 1997: 31) As a consequence, Middle English (ME) /i:/ and /u:/ became /aɪ/ and /aʊ/ respectively. It is assumed that, at some point, there was an intermediate stage of /əɪ, ʌɪ/ and /əʊ, ʌʊ/ before the sound change reached its final diphthongal stage in Modern English (e.g. Stockwell 2002: 267):

ME	/i:/	→	/əɪ/	→	/ʌɪ/	→	/aɪ/
ME	/u:/	→	/əʊ/	→	/ʌʊ/	→	/aʊ/.

Donegan (1993: 121) suggests that, in the transition from /əɪ/ to /aɪ/ and from /əʊ/ to /aʊ/, the following dissimilative fortition processes applied:

- (a) “A non-palatal syllabic that precedes a palatal labial glide must be low.”
- (b) “A non-labial syllabic that precedes a labial glide must be low.”

Thus, whereas the other vowels were raised, /i:/ and /u:/ were diphthongized and “became gradually more open and central before reaching the most advanced contemporary forms” (Britain 1997: 31). The hypothesis for Canadian-Raising varieties and those that exhibit similar changes is that, in these varieties, the

fortition did not apply as a context-free process but only occurred in its phonetically natural environment. As Donegan (1993) points out,

[l]ong vowels are, *ceteris paribus*, more susceptible to lowering than their short counterparts (Donegan 1978), and basically /ʌi/ is lowered to [ɑi] where it is lengthened, and it remains [ʌi] where it is short. [...] For speakers who have no quality difference in words with /ʌi/, we expect a length difference between the vowels [...]. (Donegan 1993: 122)

Thus, in CanE and other dialects which have CR, the diphthongs are only lowered before voiced consonants, where they are naturally lengthened. Before voiceless consonants, which naturally promote short vowels, the higher variants /əɪ/ and /əʊ/ were preserved. Thus, the affected varieties appear to have not fully completed the GVS in all contexts. In fact, it has even been suggested that /əɪ/ might even be the underlying form and [ɑɪ] the derived and context-dependent allophone. This implies that, in contrast to the “Raising” hypotheses, CR is not promoted by voiceless environments favoring raised variants, but rather by voiced contexts favoring low variants and voiceless ones impeding the application of the lowered allophones. (Donegan 1993: 121-2 [for the entire paragraph]) Obviously, the application of these processes was “not a necessary one, for it has not followed in most other forms of English” (Joos 1942: 142). As mentioned above, natural phonological processes rarely apply in all varieties/languages, even if their application is the most “natural” solution. The application or suppression of processes always varies according to language- or community-specific preferences.

Britain (1997) likes to think of Canadian Raising as an “archaism” (Lass 1987: 285) or an “arrested form in the historical development” (32) of /i:/ and /u:/. He argues that two factors indicate that CR is a conservative rather than innovative form. Firstly, a similar kind of allophonic variation exists in Scottish and Scotch-Irish dialects (Aitken 1962, 1982, Gregg 1973 in Britain 1997: 32), which speaks against independent innovation. In Scottish English, the contextually lengthened variant [ɑɪ] occurs only before voiced fricatives, /r/, and before morpheme and word boundaries, and the higher variant [əɪ] in all other environments (Gregg 1973: 138 in Britain *ibid.*). Gregg (1973) sees Canadian Raising as an “extension” of the SVLR:

[T]he patterning of the ‘Canadian Raising’ diphthongs ai and əi simply calls for the expansion of [the] rule [...] widening its scope so that it now applies in the environment of all voiced consonants, not simply the voiced fricatives, in addition, of course, to the other environments specified. (Gregg 1973: 142 in Britain *ibid.*)

While Gregg (*ibid.*) considers the similarities between Canadian, Scottish, and Scotch-Irish speech to be a likely consequence of Scottish and Irish immigration to Canada, Chambers (1989) argues against this theory. He finds such assumptions misleading or even “mystifying”, given that this would imply “a continuous history from the Old World to the New”, which “one searches in vain” (1989: 83).

The second piece of evidence that seems to confirm Gregg’s hypothesis is that – as has already been mentioned – flapping of intervocalic /t/ in American dialects appears to have become entrenched well after the establishment of CR. (King 1972, Picard 1977 in Britain 1979:33) Nevertheless, Chambers (e.g. 1989) is inclined to think of CR as a relatively recent phenomenon instead of as a conservative form, since “pre-20th century references to Raising are lacking” (Britain 1997: 34). Trudgill (1985: 36-7 in Britain 1997: 33) also argues against CR as intrinsically conservative. He considers the “Failure to Lower” hypothesis unlikely in view of SAmE varieties who exhibit both Raising and Glide Weakening in complementary environments, since this would suggest both a very conservative as well as a very innovative form of the same diphthong in the same dialect.

5.1.3.2. Phonological reallocation

The “Contact, Focusing, and Reallocation” hypothesis is promoted in particular by researchers like Trudgill (1985, 1986) and Britain (1997). It is suggested that Canadian Raising is, in fact, not an entirely archaic form, but that it results from dialect contact between varieties at different stages in the GVS, which means that it is “a combination of both innovative and conservative varieties” (Britain 1997: 31).

The basic assumption is that, if a language community is subject to varying inputs from different surrounding varieties, it will eventually form a new hybrid variety. (Britain 1997: 38) In the case of Raising this means that a variety that is exposed to different dialects at different stages in the GVS will eventually create its own hybrid version and will allocate the received input variants to their phonetically natural environments. (Trudgill 1986: 159 in Britain 1997: 35)

In the English Fens, for instance, large-scale immigration in the late 17th century from various surrounding communities caused a very mixed situation in the language community. Today, the pattern seems to be that the sociolinguistically more conservative varieties (cf. GVS) to the east of the Fens have raised onsets of /aɪ/ in all environments, whereas speakers of the dialects to the west of the Fens generally have lower allophones in all contexts. (Britain 1996: 36) The speakers in the Fens resolved the mixed situation by assigning the variants to their natural environments: Today, two villages exhibit Raising before voiceless consonants with lower variants before voiced consonants, morpheme boundaries, and /ə/. (Britain 23-4)

Trudgill (1985) draws the following conclusions for Canada based on the “Contact, Focusing, and Reallocation” hypothesis:

Present in the mixture that preceded the formation of Canadian English were variants of /aɪ/ and /aʊ/ from many different English, Scottish, Irish and American varieties of English. Prominent among them were [əɪ] and [əʊ]-type variants of the type found in Scotland and northern England, as well as [ɪ] and [aʊ]-type variants from southern England and the U.S.A. [...] [T]he generation that first spoke a unified, focused dialect of Canadian English rationalised the situation by distributing them both allophonically according to [...] natural phonetic tendencies. (Trudgill 1985: 42-3 in Chambers 1989: 84-5)

What is so tempting about this theory is that it claims no direct British ancestor. Rather, it is argued, “similar dialect scenarios, occurring in different locations at different times, can produce similar but independent linguistic outcomes” (Britain 1997: 28). Of course, this, again, points to the naturalness of Canadian Raising. As it does make sense to incorporate demographic and sociolinguistic data in an analysis based on this hypothesis, the social aspects involved in such a dialect-contact scenario will be discussed in a separate subchapter further below.

I would like to make some concluding remarks at the end of this chapter (*The phonetic motivation of Canadian Raising*). All of the above-mentioned theories appear to be applicable to the analysis of Canadian Raising. Even though a direct ancestor in the Old World seems unlikely, as a continuum between the varieties in Europe and America appears to be missing, the view of CR as a residue of the GVS is, generally speaking, as satisfactory as the “Raising” hypotheses. There may be some differences as to the “direction” of CR (raising or failure to lower); nevertheless, both theories point to the phonetic naturalness of having longer vowels before voiced consonants and shorter vowels before voiceless ones. The “Contact, Focusing, and Reallocation” hypothesis seems to provide a plausible reconciliation of the basic two approaches and demonstrates how natural phonological processes govern our speech even if we receive very different and conflicting inputs. In conclusion, it is essential to note that no factor is perfect in predicting the patterns of CR in all dialects, as they depend on very different factors in each variety.

5.2. A sociolinguistic perspective on Canadian Raising

5.2.1. Canada

5.2.1.1. The basis of Canadian identity construction

It has been mentioned above that Canada used to have close ties with Great Britain until relatively recently. At the time, British English was perceived as a highly prestigious variety and the British were seen as culturally superior – particularly in comparison to the United States, as is pointed out by Clarke (2006): “British linguistic features indexed notions of elegance and erudition relative to Canada’s young and less refined southern neighbour.” (Clarke 2006: 227-8)

Nevertheless, probably due to Britain’s geographical distance to Canada, British English only left a relatively small impression on Canadian English. There are, for example, some lexical differences between GenAm and CanE that can be attributed to British English influence, such as the use of *tap* rather than *faucet*. (Clarke: 2006: 228) Furthermore, orthographic rules are mostly borrowed from BE (e.g. *centre* rather than *center* or *neighbour* rather than *neighbor*), and some phonological variants can also be traced back to British usage, such as the pronunciation of *anti* and *semi* as “antee” and “seme” (ibid.)

Apart from the examples mentioned above, Canadian English is remarkably similar to GenAm. Bayard (1990) notes that, especially to speakers who are not from Canada or the US, CanE is “virtually indistinguishable” from GenAm (Bayard 1990 in Clarke 2006: 227) – with the exception of Canadian peculiarities like attaching “eh” at the end of questions. For several decades, Canada has been trying to establish a specifically Canadian (linguistic) identity that is, most importantly, obviously different from that of America. As a result, a handful of Canadianisms have been introduced, such as the infamous *chesterfield* for *sofa/couch* (Clarke 2006: 228) or, on the phonological level, Canadian Raising. Pringle (1985) has suggested that

Canadians [...] are confident that they do not have the same accent as Americans. It is important to many Canadians to insist that Canadian English is different from American English. It has to be different, because Canadians are different. (Pringle 1985: 187 in Clarke 2006: 227)

Canadian speakers point out that their speech differs from that of Americans in many ways. In a survey conducted by Gregg (2004), Vancouver residents listed

(among others) the following (remarkably positive!) attributes of Canadian speech which are, according to them, not present in American speech: clearer enunciation, more precise speech, softer speech, no drawling, etc. (in Clarke 2006: 228-9) Considering the fact that Canadians perceive their speech as “better” than that of Americans, one might argue that GenAm is thought of as a generally less prestigious variety by Canadians.

However, many of the above-mentioned “Canadianisms” have become increasingly threatened by American culture and speech, which is largely due to the influence of American media. Forms like *chesterfield*, for instance, are on the decline (Clarke 2006), whereas Canadian Raising – one of the most salient and distinguishing features of CanE – is being used ever more by American speakers as well. Furthermore, a pattern has been noted by several researchers which affects the diphthong /aʊ/: A high number of speakers of CanE now use a more fronted variant, which, in fact, resembles that of GenAm. This process will be of interest in the following subchapter.

5.2.1.2. Newfoundland

It has already been noted above that Newfoundland English differs from standard Canadian English in its application of Raising. Leaving aside earlier suggestions (e.g., Wells 1982, Kirwin 1993, Hickey 2002), it seems appropriate to use Clarke’s (2008) account of Raising in NfldE here, as, in contrast to the others, it incorporates questions of social identity. For convenience, Clarke’s (2008) findings will be repeated: It was suggested that the application of CR in NfldE varies depending on whether a speaker has a rural or an urban background. Whereas urban speakers retain low onsets for /aʊ/ in all contexts and only raise /aɪ/ before voiceless consonants, rural speakers apply Raising more generally: /aʊ/ has slightly raised, mid onsets in all positions, which is sometimes also fronted. Regarding /aɪ/, Clarke (2008: 169) argues that “traditional speakers from all areas” have a mid starting point. Given the fact that speakers from rural areas are generally considered to be more conservative (see above), and considering that Clarke distinguishes between “urban speakers” and “traditional speakers” (even though she adds “from all areas”), one is tempted to assume that the great

majority of the more traditional speakers will be found in rural areas. We can thus suggest the following distribution of Raising:

Table 3: Raising in urban and rural areas in NfldE

Urban areas	Rural areas
<i>house</i> [haʊs]	<i>house</i> [həʊs] sometimes fronted
<i>loud</i> [laʊd]	<i>loud</i> [ləʊd] sometimes fronted
<i>tight</i> [təɪt]	<i>tight</i> [təɪt]
<i>tide</i> [taɪd]	<i>tide</i> [təɪd]

At this point, it needs to be mentioned that this distribution of Raising is quite similar to that found in Irish English, where /aɪ/ is raised and /aʊ/ is fronted to [æʊ] in all positions. (Hickey 2002: 309) Considering the fact that the onset of raised /aʊ/ is sometimes fronted to [æʊ] or [ɛʊ] in NfldE, too, this clearly demonstrates the early influence of IrE. It has already been mentioned that Newfoundland maintained close ties with the Old World for several decades through individuals traveling back and forth between the Old and the New World (the so-called *transients*). (ibid.: 293) Furthermore, Kirwin (1993: 69-70) points out that the teachers who serviced in Newfoundland's schools were usually sent there from religious orders in Ireland. Thus, Irish English also had a considerable effect on the young speakers of the island from an early age on, "reinforcing the originally Irish characteristics of English speech in the Irish community [of Newfoundland]" (ibid.).

It can easily be explained why this pattern was mainly retained in rural areas. Many of the island's permanent residents had settled in small, rural fishing communities. These communities were highly endocentric and, over the decades, have been passing on the peculiarities of their speech from one generation to the next:

[T]here was considerable consolidation of linguistic features from one generation to the next by virtue of the fact that the island was quite isolated [...] and that the young of each generation were in close contact with their preceding generation through early integration into the work environment (traditionally fishing). (Hickey 2002: 293)

Thus, in accordance with the theories presented above, the close-knit networks of the rural communities in Newfoundland have had a conservative effect on the residents' speech.

Although today, many inhabitants of Newfoundland are proud of their cultural heritage, their speech, and their distinctiveness from mainland Canada and the rest of North America, the younger generations as well as more educated speakers are acquiring an increasingly negative attitude toward the island and Newfoundland speech. They share the view of many mainland Canadians, who tend to interpret the island's distinctive culture and speech as a sign of its "backwardness" and "lack of economic prosperity". (Clarke 2008: 162) As a result, those features of NfldE which distinguish it from other varieties of North American English are, in fact, becoming less and less frequent, which is probably also due to Newfoundland's increasing contact with mainland Canada and the United States. Over the past years, NfldE has been adapting more and more to standard Canadian English, particularly among younger, urban speakers. (Clarke 2008: 162-3)

5.2.1.3. Fronting of /ao/ and its implications for CanE and GenAm

As is pointed out by Chambers (1981: 20), Canadian Raising "occurs in urban dialects virtually everywhere" in Canada. This raises the question of whether Canadian Raising occurs notably less frequently in rural areas. If this were the case, then one might conclude that smaller, close-knit rural communities wish to remain distinct from standard Canadian speech, where CR had "acquired prestige as a specifically Canadian feature" (Britain 1997: 35). Perhaps some small communities in rural Canada chose to create their own prestigious standard that distinguishes them from the mass. However, this does seem rather unlikely. Since Canadian Raising is a strong marker of Canadian identity and since rural, close-knit communities usually have a great sense of identity, it seems unlikely that rural speakers would want to avoid its application. In this regard, one might argue that the fact that 80% of Canada's population live close to the United-States border (Chambers 1981: 23) – which, of course, also includes rural areas – would rather promote the application of CR as a feature that clearly distinguishes all Canadian speech (including that of rural speakers) from American English.

Of course, a different possibility might be that, in the early stages of Canadian English, when several different versions of /aɪ/ and /aʊ/ were present, urban and rural communities reallocated the variants differently from each other; or, that rural communities chose to preserve the earlier variants instead of allowing further change to enter their networks. In any case, it is important to note that all of the above is mere speculation. In fact, no striking differences or variability in the application of CR between urban and rural speakers were pointed out or explained in the literature reviewed for this thesis (except Chambers 1981: 20, of course).

Also, the focus of this subchapter is a completely different one. In standard Canadian speech, /aʊ/-raising is one of the last remaining features that distinguish the variety from GenAm. /aɪ/-raising has been increasingly adopted by American speakers and, as could be seen above, occurs in several other varieties as well (e.g., the English Fens), which is probably due to its high degree of naturalness. /aʊ/-raising, on the other hand, is one of the few salient features of CanE that is known and noted by outsiders (cf. stereotypes such as “aboot the hoose”). Nevertheless, in the past years, a new change has been noted, namely one that affects /aʊ/ and has been interpreted as “the Americanization of Canadian Raising” (Chambers 1981) or even as a change that might “eradicate the most distinctively Canadian sound” completely (Chambers 1989: 82).

Several studies have shown that, in Canadian speech, /aʊ/ is not only raised but sometimes also fronted (e.g., in Toronto [Chambers 1981: 20, Chambers 1989: 81], Vancouver, and Victoria [Chambers 1989: 81]). Thus, the affected speakers do not only have the variants [əʊ] before voiceless consonants and [aʊ] elsewhere, but exhibit diphthongs approximating [aʊ, ʌʊ, æʊ] in voiced environments and any of these three or one of the raised / raised and fronted variants [əʊ, ʌʊ, ɐʊ, ɛʊ] before voiceless consonants. (Chambers 1981: 20) The trend appears to be increasing.

Initially, the fact that the fronted variants sometimes remained low led Chambers (1980) to suggest the following:

As fronted vowels become more frequent during the progress of the change in succeeding generations, we can expect that failure to raise the

onset before a voiceless consonant will also become more frequent. (Chambers 1980: 25 in Chambers 2006: 112)

However, later, Chambers (1981) found that Raising was, in fact, not threatened by the fronting change in progress. His studies demonstrated that, although fronted onsets remained low in some instances before voiceless consonants, they were never raised before voiced consonants or in other environments. Thus, Chambers concluded, /aʊ/-raising was still present in Canadian speech, even if only opaquely. (1981: 21) Regarding his earlier concerns that CR might be disappearing, he simply concluded that “[i]t has not happened” (Chambers 2006: 112)

Taking into account sociolinguistic factors, the studies carried out on /aʊ/-fronting all suggested that the fronted variant occurred most frequently in the speech of young females. Chambers (1981) argued that fronting of /aʊ/ was “sharply stratified” in terms of age group, but that in all age groups, females fronted considerably more frequently than males (22). Still, male speakers front the onsets too (particularly younger speakers). However, in his 1981 study, Chambers pointed out that one male had unusual patterns of raising and fronting: Mr. J consistently fronted the diphthong, but he failed to raise the fronted onset in attentive speech, which other speakers did not do to the same extent. (Chambers 1981: 32) This pattern can be explained in terms of Mr. J’s background: He was born in New York and only moved to Canada at the age of 11. Although it might be suggested that 11 years was simply too late for Mr. J to acquire the patterns of CR correctly (ibid.: 33), Chambers argues for a sociolinguistic explanation that takes into account questions of identity:

I suspect – and so apparently does Mr. J – that Mr. J considers the Americanness of his speech to be worth cultivating. That would nicely account for the fact that his failure to raise is more frequent in his more self-conscious speech, whereas in his casual speech he is much more similar to his peers. (Chambers 1989: 32)

Nevertheless, Raising usually appears to be retained despite /aʊ/-fronting.

Boberg (2004) provided interesting results for Montreal, which suggest different patterns of fronting according to a speaker’s ethnicity. Apparently, specific ethnic groups choose to remain a back onset despite the fact that, generally, Montreal speakers also have a fronted and raised variant of /aʊ/. For example, he pointed

out that speakers of Italian descent usually have a low and back onset instead of a raised and fronted one. (Boberg 2004 in Roberts 2007: 186)

Nevertheless, since an increasing number of Canadian speakers does use a fronted, raised onset, the social implications of this sound change need to be considered. First, however, it needs to be pointed out that a fronted version of /aʊ/, one usually approximating [æʊ], is a common – if not salient – feature of American speech. Therefore, /aʊ/-fronting in Canadian English is generally interpreted as a change in the direction of GenAm. (e.g., Chambers 1989)

Researchers have thus tried to explain /aʊ/-fronting in terms of the high presence of American speech and culture in Canada. Chambers (1981: 23-4) used the notions of *geographic proximity*, *historical proximity*, and *media saturation* to account for the new sound change. Thus, one argument is that, due to the fact that Canada and the United States share a border of over 4,000 miles (ibid.: 23) and as a result of their close contact ever since the initial settlement of Canada by Americans (ibid.: 24), features of American speech are slowly being adopted by Canadians. Of course, the presence of US-American pop culture also has considerable linguistic influence. (ibid.)

A more recent and, probably, more accurate suggestion is that some features of CanE and GenAm might be converging, ultimately causing an “international standard” to develop. (Chambers 1999: 118) In fact, although /aɪ/-raising is still much more common and applies more generally, in the meantime, a /aʊ/-raising has begun to become established in some varieties as well. /aʊ/-raising has been noted, for instance, by Dailey-O’Cain (1997) in Ann Arbor, Michigan; however, it remains highly dependent on the age and gender of the speaker. (Dailey-O’Cain 1997: 114) Just like /aʊ/-fronting in Canada, /aʊ/-raising in Michigan was found to be most frequent among young females, but also relatively frequent among young males and middle-aged females. (ibid.: 115) Chambers (1999) points out that

[t]he way in which /aʊ/-raising correlates with age and sex reveals a prototypical pattern of a change in progress at its early stages. The raised onsets occur mostly in the speech of younger Ann Arborites, and most frequently in the speech of younger women. (Chambers 1999: 119)

It is, in fact, quite normal that young women lead both these sound changes: According to Labov (1990: 215-8 in Dailey-O'Cain 1997: 117), sound change from below most frequently affects females first. In Ann Arbor, speech style was found to have no influence on the extent of /aʊ/-raising, which indicates that it is, in fact a change from below (the level of consciousness). (Dailey-O'Cain *ibid.*)

It has been mentioned above that the changes in progress in Canadian and American English suggest that the two varieties might be converging to form a single, more homogenous standard. This view is supported by the data, which show that /aʊ/-fronting (and raising) in Canada and /aʊ/-raising (and fronting), in fact, often result in a very similar sound, namely fronted and raised [ɛʊ]. (Dailey-O'Cain 1997: 116)

It is commonly believed (Chambers 1999, Dailey-O'Cain 1997) that the fact that both changes are led by the same social group suggests that the varieties might really be converging. Although the sound is affected by two different processes in Canadian and American English, the result should be the same: a raised and fronted diphthong before voiceless consonant. (Dailey-O'Cain 1997: 117)

At this point, it seems necessary to note that, apparently, it is not always the United States which influence Canada. As it seems, Canadian speech can just as well affect American speech as vice versa, which is also pointed out by Chambers (1999):

Nowadays, with some of the former Canadian-American linguistic differences being leveled, some people assume that Canadian English is surrendering its distinctiveness by taking on American features. [...] [However,] the features which are converging in Canadian and American varieties are not always American features spreading northward but are sometimes Canadian feature spreading southward [...]. (Chambers 1999: 119)

From a sociolinguistic perspective, a further question arises. Given that, as elaborated above, women tend to use more standard and prestige forms, fronting of /aʊ/ seems to be an unlikely process, since in the Canadian English standard is not to use fronted /aʊ/ but raised /aʊ/. Since a fronted variant of /aʊ/, approximating [æʊ], is the standard variant in GenAm, a different explanation can be offered. If the change is interpreted as moving toward American standard or

toward an international North American variety, then fronting of /aʊ/ is definitely less problematic. This view is also held by Chambers (1981: 23).

5.2.2. Martha's Vineyard

Martha's Vineyard (MV), a small island located off the coast of Massachusetts, is probably one of the most intriguing cases to study in a sociolinguistic discussion of Canadian Raising. It is so important to mention here because Raising on MV is probably one of the most salient examples of socially conditioned sound change. Labov (1962) was first to note the peculiar social situation on the island and to suggest that the use of raised variants was related to the speakers' local identity.

Until the 1960s, the Vineyard's industry consisted mainly of fishing businesses or rather, more appropriately, close-knit networks of local fishermen. During the 60s, however, the majority of fishermen were forced to give up their job due to considerable economic difficulties. At the same time, the cost of living increased considerably and rendered it almost impossible to make a living on the island. (McMahon 1994: 242) At the same time, summer tourism began to rise, and wealthy summer visitors started to come to the island for the season. (ibid.) Due to the economic pressure, the islanders were forced to rely on tourists as a source of income. (Blake & Josey 2003: 478)

Many residents left MV during this period, and those who stayed sought a way to maintain their identities as inhabitants – or even owners – of the island. (McMahon 1994: 242) Thus, permanent residents needed something that could be used as a symbol or marker of their identity. Particularly the close-knit, rural fishing communities wished to express their resentment toward the “mainlanders” or “summer people”. Over the years, Raising of /aɪ/ and /aʊ/ was established as a linguistic marker for permanent residents of the island. The following statement of a local resident demonstrates particularly well how proud Vineyarders are/were of their distinct speech:

You people who come down here to Martha's Vineyard don't understand the background of the old families of the island ... strictly a maritime background and tradition ... and what we're interested in, the rest of America, this part over here across the water that belongs to you and we

don't have anything to do with, has forgotten all about ... I think perhaps we use entirely different ... type of English language ... think differently here on the island ... it's almost a separate language within the English language. (Labov 1972: 29)

Although an entirely “separate language” seems a bit over the top and is labeled mere “wishful thinking” by Labov (*ibid.*), Vineyarders certainly do have their very own way of speaking.

It is important to note that the islanders did not choose CR consciously as a sociolinguistic marker. Rather, it was “chosen” subconsciously and is also, still, applied that way: As Labov (1972: 9) points out, speakers are generally not aware of the change in their language and, furthermore, they cannot control or change it. Thus, CR on MV is a clear case of a phonetically more natural variant being chosen over a less natural variant. Of course, the actual motivation remains social; but the fact that Raising on MV is not inherited from another variety or the result of language contact (due to its isolated geographical status) clearly speaks for the naturalness of Canadian Raising and suggests that it is an independent innovation.

On Martha's Vineyard, /aɪ/ and /aʊ/ are raised most favorably before /t/ and /s/, then in order /p, f, d, v, z, k, θ, ð, #, l, r, n, m/. (Labov 1963 in Wells 1982: 526) Thus, the pattern is not entirely consistent with that found in Canada, and Raising appears to apply more generally. This might be due to the increased need for CR as a tool for self-identification on MV as compared to Canada. McMahon (1994: 242) suggests that the amount of Raising increases from generation to generation; still, it appears that it remains to be found most frequently in the speech of 35- to 45-year old male inhabitants of Chilmark (a small rural community), particularly in the speech of fishermen. (Labov 1963 in Wells 1982: 526, Blake & Josey 2003: 453) However, self-identification with the island and the community is the crucial factor in determining whether CR will be applied or not. (Labov 1963 in Wells 1982: 526)

As has already been mentioned, by having raised or more central onsets, Vineyarders wish to show their affiliation with the island, to express their solidarity among each other, and – most importantly – to emphasize their distinctiveness from the summer residents and from mainland American speech. One interesting point to make is that, in present-day MV speech, the diphthong in

like appears to stay low when the word is used as a hedge. Pope, Meyerhoff, and Ladd (2007) suggest that *like* as a hedge is apparently interpreted as a feature of metropolitan, urban speech and should not appear in connection with the locally salient feature of Raising. Therefore, “the distinctively local option of a centralized onset is subconsciously resisted” (Pope, Meyerhoff & Ladd 2007: 620).

(Canadian) Raising on MV is thus not only a linguistic tool for self-identification as a Vineyarder but also a subconscious but obvious sign of the residents’ resistance toward the entire tourism industry, which is held responsible for the masses of “summer people” intruding into the Vineyarders’ community. (Blake & Josey 2003: 478) The social motivation for Raising becomes especially apparent with MV’s fishermen, who are and have always been a close-knit community and, last but not least through their profession, have a close connection to the island. They are a self-employed group of men; thus, according to the model presented above, their life mode is Life Mode 1. Thus, their solidarity with other fishermen, other Vineyarders, and, most importantly, the fact that their job is a defining part of their identity do not seem surprising. MV’s fishermen are, according to Blake and Josey (2003) “characterized by their independence, skill, courage, and strength, and their conviction that the island of Martha’s Vineyard belongs to the local fishing community”, and they are the residents “most stubbornly opposed to the incursions of ‘summer people’” (453-4). As a community, Vineyarders, and especially MV’s fishermen, thus felt the need to signal their belonging to the island both to other community and members and to outsiders:

It is entirely plausible that they should have done so partly through their language; on this view, the centralisation of diphthongs is the linguistic equivalent of wearing a T-shirt which says “I’m not a tourist, I live here”. (McMahon 1994: 242)

Today, although Martha’s Vineyard is still known as “the playground of the rich and famous” (Blake & Josey 2003:478) many former mainlanders live permanently on the island, and the tourism industry (also) relies strongly on vacationers from other countries (including European countries) and from other social classes. This leads Blake and Josey (2003) to argue that the local network ties have loosened and the impetus for Raising has diminished. They note that, today, the fishermen have to engage with tourists; as one fisherman points out in

an interview, “They’re definitely what keeps my business open” (ibid.: 458). Furthermore, Blake and Josey (2003) comment on young Vineyarders’ increased mobility and their tendency to move to the mainland. Apparently, mainland America is more and more identified as an “avenue for opportunity” (ibid.: 482), which becomes clear from the following statement of a younger resident: “You [young people] have to get off the island, at least for a little bit, or you start to develop the ‘**island mentality**’ [emphasis added]” (ibid.: 459). In 2003, Blake and Josey thus argued that there is a change in the attitudes that speakers hold toward summer visitors and the mainland, and they identified this as the reason why /aɪ/-raising appeared to have receded according to their results. (ibid.: 479) If we still were to interpret a tendency toward loss of /aɪ/-raising in terms of the speakers’ “island mentality”, one might argue that the frequent occurrence of /aɪ/-raising in present-day mainland American speech might have led Vineyarders to drop this change subconsciously.

Pope, Meyerhoff and Ladd (2007), however, argue that a close replication of Labov’s original methods demonstrated that, although /aɪ/-raising appeared to be receding (a bit), both /aɪ/- and /aʊ/-raising are “alive and well” on the island (621), and they criticize Blake and Josey’s narrow approach (who only studied /aɪ/ and only in one community). Furthermore, they note that Raising is still most common among MV’s fishermen. Regarding the apparent decline in /aɪ/-raising, Pope, Meyerhoff, and Ladd (2007: 623) suggest that /aʊ/-raising simply appears to have become more characteristic in the past 40 years. Notably, this is the same pattern found in Canada (leaving aside /aʊ/-fronting, of course) and might be accounted for in terms of the increased use of /aɪ/-raising in American speech, as already suggested in the previous paragraph.

4.2.3. Dialect contact in the English Fens (and elsewhere)

To recall what has been said above, speakers in the English Fens commonly have /aɪ/-raising before voiceless consonants, but low onsets before voiced consonants, morpheme boundaries, and schwa. (Britain 1997: 15) Whereas Raising appears to be most frequent among older speakers, it is still common among younger speakers. (ibid.: 25) It has to be noted that, although /aɪ/-raising in the Fens could

definitely be called Canadian Raising due to its application patterns, /aʊ/-raising does not occur in Fenland speech.

In fact, Raising is quite stigmatized in the English Fens, both among residents of the region and among outsiders, which becomes clear from the following statement of a female speaker, who, interestingly, lives in the Fens herself (and uses raised onsets herself):

A friend of mine she used to live in Downham Market and she moved to Wisbech and she'd only been there what a couple of years and she's really got the Wisbech accent off + cos they keep saying *right* [rəiʔ] and *night* [nəiʔ] don't they? *right* [rəiʔ] ooohhh! my son goes over to Outwell most nights [nəiʔs] and he comes here right [rəiʔ] I went along the road *tonight* [tənəiʔ] *right* [rəiʔ]? ooohhh stop saying *right* [rəiʔ]! (in Britain 1997: 21)

For the purpose of investigating the origins of Raising in the Fens, it needs to be mentioned that the dialects spoken to the east and the west of the Fens are, in fact, radically different. (Britain 1997: 15) Britain suggests that speakers to the east of the Fens, who are known to be more conservative, usually have raised onsets in all positions, whereas speakers to the west have low ones. (ibid.: 36)

Before 1650s, the Fens consisted mainly of “impassable marshland”, which would have acted as a “barrier to linguistic change from outside” (Britain 1997: 42). In the mid-17th century, however, a drainage system was built and made the Fens one of the most fertile parts of the UK, which led to a wave of immigration from very mixed origins. (ibid.: 19-20) Britain thus suggests that this wave of immigration led to breaks in the ties and routines of the original residents of the Fens.

Routines, defined by Giddens (1984) as “the habitual, taken for granted character of the vast bulk of activities of day-to-day social life, the prevalence of familiar styles and forms of conduct” (376 in Britain 1997: 39), basically work like strong network ties in the Milroys' models. They satisfy security needs (Johnson 1990: 111 in Britain 1997: 39), have a conservative effect, and lead to the establishment of community-specific norms (Giddens 1989: 197 in Britain 1997: 39). Similar to weak community-internal network ties, breaks in routines lead to language instability and change. (Britain 1997: ibid.) These breaks result, for instance, from the invasion into an individual's and a group's space, as might have been the case

in the Fens when people from several other areas immigrated into the new fertile Fenland.

Among others, Trudgill (1986) has shown that, in instances of dialect contact (and even in normal face-to-face interaction),

speakers accommodate to each other linguistically by reducing the dissimilarities between their speech patterns and adopting features from each other's speech. (Trudgill 1986: 39)

Usually, dialect contact leads to a koinéization, a process combining dialect leveling (“the loss of minority, or marked, variants present in the dialect mixture in favor of majority, or unmarked forms also present” [Trudgill 1986: 106]) and simplification, which basically refers to a simplification and optimalization of the rules of a language (ibid.: 266, Britain 1997: 35). The process of phonological reallocation, which has already been introduced, is a common form of simplification. To recall what has been suggested above, phonological reallocation refers to the process of ascribing a specific environment (usually the phonetically most natural environment) to a certain segment of speech. Of course, there are other forms of reallocation, where segments of speech are assigned a certain lexical environment or restricted to a certain speech style. (Trudgill 1986) Thus, as Britain (1997) points out,

[t]he outcome of koinéization appears, then, to be linked to a complex interplay of recurrent and embedded social behavior, network strength, norm enforcement, the language acquisition process, and the development of linguistic salience. (Britain 1997: 42)

In conclusion, it needs to be made clear that the English Fens cannot be the source of Raising in Canada and the United States, since there were not many people who emigrated from the Fens to North America. Rather, the occurrence of Raising in the Fens demonstrates how similar linguistic processes can happen in different places, even if these places are separated by an ocean – which, again, emphasizes the phonetic naturalness of Canadian Raising. Furthermore, Trudgill (1986) points out that similar raising patterns also occurs “in *nearly every* form of non-creolized, mixed, colonial English outside Australasia and South Africa” (160) and cites Bermuda, Bahamas, Saba, St. Helena, Tristan de Cunha, and the Falkland Islands as examples (ibid), which, again, demonstrates how similar dialect contact scenarios can lead to the same result.

6. Conclusion

This thesis provided a thorough description of Canadian Raising and of the factors that underlie its application, specifically, and of those that influence sound change in a broader sense. In general, it needs to be said that there is no theory or factor that can predict at 100% whether Raising will be applied or not. As expected, both the frequency of occurrence as well as the form of occurrence (only /aɪ/-raising, /aʊ/-raising, or both) depend on a combination of various factors.

Canadian Raising was found to be one of the most salient features of CanE. Of the varieties studied, it seems that CR is most entrenched and stable here. Especially /aʊ/-raising functions as a linguistic marker in Canadian speech and its purpose is to maintain a clear distinction between CanE and GenAm. However, as discussed in Chapter 5, there is a change in progress that affects the application and outcome of /aʊ/-raising. Interestingly, the trend seems to be that the major North American varieties of English are gradually converging to form an international standard variety: Whereas in CanE, the tendency is to front the raised diphthong, American speakers apparently now raise the traditionally fronted diphthong. As a result, a fronted and raised diphthong approaching [ɛʊ] before voiceless consonants appears to be emerging in both varieties.

The situation in the United States is fundamentally different from that in Canada. Overall, /aɪ/-raising is much more frequent than /aʊ/-raising. However, there appear to be two changes in progress: The first one involves /aɪ/-raising, which still seems to be spreading throughout the US and has been noted in various regions by now. The second change concerns the one mentioned above, whereby American and Canadian English appear to be converging in terms of their pronunciation of /aʊ/.

Newfoundland proved to be an interesting example to study. The patterns of Raising in NfldE differ from those of Canadian English in several respects. Many of these differences could be explained in terms of the largely IrE origins of Newfoundland speech. Regarding /aʊ/, it needs to be said that Newfoundland speakers also have a tendency to front the diphthong. This could go back both to Irish English, where a fronted diphthong appears to be common, or it might be

that NfldE is also taking part in the supranational change involving CanE and GenAm.

The communities on Martha's Vineyard were among the most important groups to be studied here. Chapter 5 provided proof that Raising on Martha's Vineyard is definitely socially conditioned and closely tied to the speakers' identity and their affiliation with the island. Interestingly, it has been noted that /aɪ/-raising seems to be receding on Martha's Vineyard, whereas /aʊ/-raising is simultaneously becoming more salient as a marker of identity.

In conclusion, it has to be said that both phonetic and social factors influence the application of Canadian Raising. Although different (social) factors prevail in different varieties, the common reason underlying its application must be its phonetic naturalness. The fact that "genuine" Canadian Raising only occurs before voiceless consonants was easily explained in terms of pre-voiceless shortening, which causes the parts of the diphthong to assimilate in order to reduce the phonetic distance between them. Nevertheless, even if Raising applies more generally (that is, in other environments), the assimilation can be considered a lenition process and can be accounted for in terms of ease of articulation. Interestingly, however, Canadian Raising increases ease of articulation at the expense of intelligibility. This, in turn, points to the fact that CR serves another – social – purpose in communication that overrides the need for perceptibility.

7. References

7.1. Literature

- Ahrend, Evelyn R. 1934. "Ontario Speech". *American Speech* 9 (2). 136-139.
- Aitken, Adam J. 1962. *Vowel Length in Modern Scots*. MS.
- Aitken, Adam J. 1981. "The Scottish Vowel Length Rule". In Benskin, Michael; Samuels, Michael L. (eds.). *So many people, longages and tonges*. Edinburgh: Middle English Dialect Project. 131-57.
- Andersen, H. 1986. "Center and periphery: adoption, diffusion and spread". Paper delivered to the Conference on Historical Dialectology, Poznan, Poland.
- Avis, Walter S. 1954. "Speech Differences Along the Ontario-United States Border". *Journal of the Canadian Linguistic Association* 1: 13-18, 1: 14-19, 2: 41-59.
- Avis, Walter S. 1973. "The English Language in Canada". In Sebeok, Thomas A. (ed.). *Current Trends in Linguistics 10: Linguistics in North America*. The Hague: Mouton. 40-74.
- Ayearst, Morley. 1939. "A Note on Canadian Speech". *American Speech* 14 (3). 231-233.
- Bayard, Donn. 1990. "'God help us if we all sound like this': Attitudes to New Zealand and other English accents". In Bell, Allan; Holmes, Janet (eds.). *New Zealand ways of speaking English*. Clevedon, UK: Multilingual Matters. 67-96.
- Bazell, Charles E. 1954. "On the choice of criteria in structural linguistics". *Word* 10, 6-15.
- Blake, Renée; Josey, Meredith. 2003. "The /ay/ diphthong in a Martha's Vineyard community: What can we say 40 years after Labov?". *Language in Society* 32. 451-485.
- Bloomfield, Morton. 1948. "Canadian English and its Relation to Eighteenth Century American Speech". *Journal of English and Germanic Philology* 47. 59-67.
- Boberg, Charles. 2004. "Ethnic patterns in the phonetics of Montreal English". *Journal of Sociolinguistics* 8. 538-568.
- Boberg, Charles. 2008. "English in Canada: phonology". In Schneider, Edgar W. (ed.). *Varieties of English, Volume 2: The Americas and the Caribbean*. Berlin: Mouton de Gruyter. 144-160.
- Britain, David. 1997. "Dialect contact and phonological reallocation: 'Canadian Raising' in the English Fens". *Language in Society* 26. 15-46.
- Brown, P. 1980. "How and why women are more polite: some evidence from a Mayan community". In McConnell-Ginet, S. et al. (eds.). *Women and Language in Culture and Society*. New York: Praeger.

- Chambers, Jack K. 1973. "Canadian Raising". *Canadian Journal of Linguistics* 18. 113-35.
- Chambers, Jack K. 1980. "Linguistic variation and Chomsky's 'homogenous speech community'". In Kinloch, A. Murray; House, A. B. *Papers of the fourth annual meeting of the Atlantic Provinces Linguistic Association*. Atlantic Provinces Linguistic Association. 1-31.
- Chambers, Jack K. 1981. "The Americanization of Canadian Raising". In Masek, Carrie S.; Hendrick, Roberta A.; Miller, Mary Frances (eds.). *Papers from the parasession on language and behavior*. Chicago: Chicago Linguistic Society. 20-35.
- Chambers, Jack K. 1989. "Canadian Raising: Blocking, Fronting, etc." *American Speech* 64. (1) 75-88.
- Chambers, Jack K. 1995. *Sociolinguistic Theory: Linguistic Variation and its Social Significance*. Oxford: Blackwell.
- Chambers, Jack K. 1999. "Converging Features in the Englishes of North America". *Cuadernos de Filología Inglesa* 8. 117-127.
- Chambers, Jack K. 2006. "Canadian Raising. Retrospect and Prospect". *Canadian Journal of Linguistics* 51 (2/3). 105-118.
- Chambers, Jack K.; Trudgill, Peter. 1998. *Dialectology*. (2nd edition). Cambridge, New York, Oakleigh: Cambridge University Press.
- Clarke, Sandra. 2006. "Nooz or Nyooz?: The Complex Construction of Canadian Identity". *The Canadian Journal of Linguistics* 51 (2/3). 225-246.
- Clarke, Sandra. 2008. "Newfoundland English: phonology". In Schneider, Edgar W. (ed.). Berlin: Mouton de Gruyter. 161-180.
- Clarke, Sandra; Elms, Ford; Youssef, Amani. 1995. "The third dialect of English: Some Canadian Evidence". *Language Variation and Change* 7. 209-228.
- Coupland, Nikolas. 2007. *Language variation and identity*. Cambridge, New York: Cambridge University Press.
- Dailey-O'Cain, Jennifer. 1997. "Canadian raising in a midwestern U.S. city". *Language Variation and Change* 9. 107-120.
- Dalton, Christiane; Seidlhofer, Barbara. 1994. *Pronunciation*. Oxford: Oxford University Press.
- De Boer, Bart. 2001. *The Origins of Vowel Systems*. Oxford: Oxford University Press.
- Donegan, Patricia Jane. 1978. *On the Natural Phonology of Vowels*. PhD thesis, Ohio State University.
- Donegan, Patricia Jane. 1993. "On the phonetic basis of phonological change". In Jones, Charles. (ed.). *Historical Linguistics: Problems and Perspectives*. London: Longman.

- Donegan, Patricia Jane; Stampe, David. 1979. "The Study of Natural Phonology". In Dinnsen, Daniel A. (ed.). *Current Approaches to Phonological Theory*. Bloomington, Indiana: Indiana University Press.
- Dressler, Wolfgang U. 1999. "What is *Natural* in Natural Morphology (NM)?" In Eva Hajičová, Eva; Hoskovec, Thomáš; Leška, Oldřich; Sgall, Petr; Skoumalová, Zdena. (eds.). *Prague Linguistic Circle Papers*, Vol. 3. Amsterdam, Philadelphia: John Benjamins Publishing Co. 135-144.
- Dziubalska-Kołaczyk, Katarzyna. 2007. "Natural Phonology: Universal Principles for the Study of Language (Insiders Meet Outsiders)". In Trouvain, Jürgen; Barry, William J. (eds.). *Proceedings of the 16th International Congress of Phonetic Sciences, Saarbrücken, 6-10 August 2007*. 71-75.
- Edwards, John. 1999. "Refining our understanding of language attitudes". *Journal of Language and Social Psychology* 18. 101-10.
- Fairbanks, G.; House, A. S.; Stevens, E. L. 1950. "An experimental study in vowel intensities". *Journal of the Acoustical Society of America* 22. 457-459.
- Fowler, Carol A. 1991. "Vowel Duration and Closure Duration in Voiced and Unvoiced Stops: There Are No Contrast Effects Here". Haskins Laboratories Status Report on Speech Research. SR-107/108. 123-40.
http://www.haskins.yale.edu/sr/SR107/SR107_09.pdf (10 December 2012)
- Fruehwald, Josef T. 2007. "The Spread of Raising: Opacity, lexicalization, and diffusion". CUREJ – College Undergraduate Research Electronic Journal (College of Arts and Sciences, University of Pennsylvania).
<http://repository.upenn.edu/curej/73> (16 April 2012)
- Gay, Thomas. 1968. "Effect of speaking rate on diphthong formant movements". *Journal of the Acoustical Society of America* 44. 1570-1573.
- Giddens, Anthony. 1984. *The constitution of society: Outline of the theory of structuration*. Cambridge: Polity Press.
- Giddens, Anthony. 1989. "A reply to my critics". In Held, David; Thompson; John B. (eds.). *Social Theory of Modern Society: Anthony Giddens and his Critics* 249-301.
- Goman, Roderick David. 1979. *Consonants in Natural Phonology*. PhD thesis, Ohio State University.
- Gottfried, M., Miller, J. D.; Meyer, D. J. 1993. "Three approaches to the classification of American English diphthongs". *Journal of Phonetics* 21. 205–229.
- Gregg, Robert J. 1973. "The diphthongs əi and ai in Scottish, Scotch-Irish and Canadian English. *Canadian Journal of Linguistics* 18. 136-45.
- Gregg, Robert J. 2004. "The Survey of Vancouver English, 1976-1984: Methodology, planning, implementation and analysis". In Dodds de Wolf, Gaelan; Fee, Margery; McApline, Janice (eds.). *The survey of Vancouver English:*

- A sociolinguistic study of urban Canadian English. Kingston, ON: Strathy Language Unit, Queen's University. 1-138.
- Grammont, Maurice. 1965. *Traité de Phonétique*. 8th edition. Paris: Delagrave.
- Granovetter, M. 1973. "The strength of weak ties". *American Journal of Sociology* 78. 1360-80.
- Hall, Kathleen Currie. 2005. "Defining Phonological Rules over Lexical Neighbourhoods: Evidence from Canadian Raising". In Alderete, John *et al.* (eds.). *Proceedings of the 24th West Coast Conference on Formal Linguistics*. Somerville, MA: Cascadia Proceedings Project. 191-199.
- Hickey, Raymond. 2002. "The Atlantic edge: the relationship between Irish English and Newfoundland English". *English World-Wide* 23 (2). 283-316.
- House, Arthur S.; Fairbanks, Grant. 1953. "The Influence of Consonant Environment upon the Secondary Acoustical Characteristics of Vowels". *The Journal of the Acoustical Society of America* 25 (1). 105-113.
- Hubmayer, Karl. 1986. "*Natürliche Diachronie*": *Untersuchungen zur phonetischen Motivation historischer phonologischer Prozesse im Englischen*. Salzburger Studien zur Anglistik und Amerikanistik, Band 15. Professorial dissertation, Universität Salzburg.
- Hyman, Larry M. 1970. "How concrete is phonology?". *Language* 46. 58-76.
- Idsardi, William J. 2006. "Canadian Raising, Opacity, and Rephonemicization". *Canadian Journal of Linguistics* 51 (2/3). 119-126.
- Jakobson, Roman. 1968. *Child Language: Aphasia, and Phonological Universals*. The Hague: Mouton.
- Johnson, D. P. 1990. "Security versus autonomy motivation in Anthony Giddens' concept of agency". *Journal for the Theory of Social Behaviour* 20. 111-30.
- Joos, Martin. 1942. "A phonological dilemma in Canadian English". *Language* 18 (2). 141-144.
- King, Robert. 1972. "A note on opacity and paradigm regularity". *Linguistic Inquiry* 3. 535-38.
- Kiparsky, Paul. 1979. "Metrical Structure Assignment is Cyclic". *Linguistic Inquiry* 10. 421-41.
- Kirwin, William J. 1993. "The planting of Anglo-Irish in Newfoundland". In Clarke, Sandra (ed.). *Focus on Canada*. 65-84
- Kirwin, William J. 2001. "Newfoundland English". In Algeo, John (ed.). *Cambridge History of the English Language*, Vol. 6: *English in North America*. Cambridge: CUP. 441-55.

- Kluender, K. R.; Diehl, R. L.; Wright, B. A. 1988. "Vowel-length differences before voiced and voiceless consonants: An auditory explanation". *Journal of Phonetics* 16. 153-169.
- Kurath, Hans; McDavid, Raven I. 1961. *The Pronunciation of English in the Atlantic States*. Ann Arbor: University of Michigan Press.
- Labov, William. 1962. *The Social History of a Sound Change on the Island of Martha's Vineyard*. Massachusetts: Master's essay, Columbia University.
- Labov, William. 1963. "The social motivation of a sound change". *Word* 19. 273-309.
- Labov, William. 1972. *Sociolinguistic Patterns*. Philadelphia: University of Pennsylvania Press.
- Labov, William. 1980. *Locating Language in Time and Space*. New York: Academic Press.
- Labov, William. 1990. "The intersection of sex and social class in the course of linguistic change". *Language Variation and Change* 2. 205-255.
- Labov, William. 1994. *Principles of Linguistic Change, Volume 1: Internal Factors*. Oxford: Blackwell.
- Labov, William. 2001. *Principles of Linguistic Change, Volume 2: Social Factors*. Malden, Oxford: Blackwell.
- Labov, William; Yaeger, M.; Steiner, R. 1972. *A quantitative study of sound change in progress*. Philadelphia: US Regional Survey.
- Lass, Roger. 1987. *The shape of English: Structure and history*. London: Dent.
- Laurer, Christina. 2005. *Poor Paul: L vocalisation and the process of syllable-coda weakening*. PhD thesis, University of Vienna.
- Le Page, Robert B.; Tabouret-Keller, Andrée. 1985. *Acts of Identity: Creole-Based Approaches to Language and Ethnicity*. Cambridge, New York, Oakleigh: Cambridge University Press.
- Lehiste, I. 1971a. "The timing of utterances and linguistic boundaries". *Journal of the Acoustical Society of America* 51. 2018-24.
- Lehiste, I. 1971b. "Temporal organization of spoken language." In Hammerich, H. H. et al. (eds.). *Form and Substance: Phonetic and Linguistic Papers Presented to Eli Fischer-Jorgensen*. Copenhagen: Akademisk Forlag. 159-69.
- McCarthy, John J. 1982. "Prosodic Structure and Expletive Infixation". *Language* 58. 574-90.
- McMahon, April M. S. 1994. *Understanding language change*. Cambridge, New York, Oakleigh: Cambridge University Press.
- Milroy, James. 1992. *Linguistic variation and change: on the historical sociolinguistics of English*. Oxford (UK), Cambridge (USA): Blackwell.

- Milroy, James. 1996. "Variation in /ai/ in Northern British English, with comments on Canadian Raising". In Meyerhoff, Miriam (ed.). *University of Pennsylvania Working Papers in Linguistics 3: (N)WAVEs and MEANS: A selection of papers from NWAVE 24*. 213-222.
- Milroy, James; Milroy, Lesley. 1985. "Linguistic change, social network and speaker innovation". *Journal of Linguistics* 21 (2). 339-384.
- Milroy, Lesley; Milroy, James. 1992. "Social network and social class: Toward an integrated sociolinguistic model". *Language in Society* 21. 1-26.
- Moosmüller, Sylvia. 2007. *Vowels in Standard Austrian German: An Acoustic-Phonetic and Phonological Analysis*. Professorial dissertation, University of Vienna.
- Moreton, Elliott. 2004. "Origins of Canadian raising in voiceless-coda effects: A case study in phonologisation". To appear in Jennifer Cole and José I. Hualde (eds.) *Papers in Laboratory Phonology 9*. Manuscript, University of North Carolina, Chapel Hill.
<http://www.unc.edu/~moreton/Papers/MoretonThomasLabPhon2004.pdf> (23 October 2012)
- Nathan, Geoffrey S.; Donegan, Patricia Jane. Forthcoming. "Natural Phonology and Sound Change". In Honeybone, Patrick; Salmons, Joseph C. (eds.). *The Handbook of Historical Phonology*.
<http://www.ling.hawaii.edu/faculty/donegan/Papers/201Xhistphon.pdf> (30 October 2012)
- Niedzielsi, Nancy. 1999. "The effect of social information on the perception of sociolinguistic variables". *Journal of Language and Social Psychology* 18. 62-85.
- Picard, M. 1977. "Canadian Raising: the case against reordering". *Canadian Journal of Linguistics* 22. 144-55.
- Pope, Jennifer; Meyerhoff, Miriam; Ladd, Robert D. 2007. "Forty years of language change on Martha's Vineyard". *Language* 83 (3). 615-627.
- Pringle, Ian. 1985. "Attitudes to Canadian English". In Greenbaum, Sidney (ed.). *The English language today: Public attitudes to English*. Oxford: Pergamon. 183-205.
- Ridouane, Rachid. 2002. "Words without vowels: phonetic and phonological evidence from Tashlhiyt Berber". *ZAS (Zentrum für allgemeine Sprachwissenschaft, Typologie und Universalienforschung) papers in linguistics* 28. 93-110.
- Roberts, Julie. 2007. "Vermont lowering? Raising some questions about /ai/ and /au/ south of the Canadian border". *Language Variation and Change* 19. 181-197.
- Schneider, Edgar W. 2008. "Synopsis: phonological variation in the Americas and the Caribbean". In Schneider, Edgar W. (ed.). *Varieties of English, Volume 2: The Americas and the Caribbean*. Berlin: Mouton de Gruyter. 383-398.

- Shorrocks, Graham. 1997. "Celtic influences on the English of Newfoundland and Labrador". In Tristram, Hildegard L. C. (ed.). *The Celtic Englishes*. Heidelberg: Carl Winter. 320-61.
- Stampe, David. 1973. *A Dissertation on Natural Phonology*. PhD thesis, University of Chicago.
- Stockwell, Robert. 2002. "How much shifting actually occurred in the historical English vowel shift?". In Minkova, Donka; Stockwell, Robert (eds.). *Studies in the History of the English Language: A Millenial Perspective*. Berlin, New York: Mouton de Gruyter.
- Sweet, Henry. 1888. *History of English Sounds*. Oxford: Clarendon Press.
- Thomas, E. R. 1991. "The origin of Canadian Raising in Ontario". *Canadian Journal of Linguistics* 36. 147-70.
- Trudgill, Peter. 1985. "New dialect formation and the analysis of colonial dialects: The case of Canadian Raising". In Warkentyne, H. J. (ed.). *Papers from the 5th International Conference on Methods in Dialectology*. Victoria, BC: University of Victoria. 34-45.
- Trudgill, Peter. 1983. *On dialect: social and geographical perspectives*. Oxford: Blackwell.
- Trudgill, Peter. 1986. *Dialects in contact*. Oxford, New York: Blackwell.
- Vance, Timothy J. 1987. "'Canadian Raising' in some dialects of the Northern United States". *American Speech* 62 (3). 195-210.
- Wells, John C. 1982. *Accents of English 3: Beyond the British Isles*. Cambridge: Cambridge University Press.
- Wirth, L. 1938. "Urbanism as a way of life". *American Journal of Sociology* 44 (1). 1-24.
- Zipf, George Kingsley. 1949 [1972]. *Human Behavior and the Principle of Least Effort*. Oxford: Addison-Wesley Press.

7.2. Illustrations

Political map of Canada (Fig. 1):

http://atlas.nrcan.gc.ca/site/english/maps/reference/national/can_political_e/refere ncemap_image_view (9 January 2013)

8. Deutsches Abstract

Die vorliegende Arbeit befasst sich mit „Canadian Raising“, einer phonetischen Erscheinung im kanadischen Englisch sowie auch in manch anderen Varietäten des Englischen. Canadian Raising ist ein phonetisch konditionierter Lautwandel, der den ersten Teil der Diphthonge /aɪ/ und /aʊ/ vor stimmlosen Konsonanten anhebt und somit die Assimilation der beiden Segmente der jeweiligen Diphthonge zur Folge hat.

Ziel der Arbeit war es, die phonetischen und soziolinguistischen Gründe für dieses Verhalten (sowie auch für Laut-/Sprachwandel generell) zur erforschen. Als Basis für die Untersuchung der phonetischen Motivation wurden die Hypothesen der Natürlichen Phonologie herangezogen. Die Natürlichkeit des Canadian Raising ließ sich durch die Verkürzung aller Vokale im Englischen erklären, wenn diese vor stimmlosen Konsonanten auftreten. Die Motivation liegt demnach darin, die phonetische Distanz zwischen den beiden Segmenten der Diphthonge dahingehend zu ändern, als dass der kürzeren Artikulationszeit entsprochen werden kann.

Der zweite Teil der Arbeit hatte es zum Ziel, Canadian Raising aus soziolinguistischer Perspektive zu beleuchten. Es wurde unter anderem festgestellt, dass besonders /aʊ/-raising eine wichtige Rolle im kanadischen Englisch spielt, da es dazu dient, die kanadische Varietät klar von der US-amerikanischen abzugrenzen. Generell ist /aɪ/-raising dialektübergreifend weitaus häufiger als /aʊ/-raising, wodurch sich der besondere Status des letzteren ergibt. Weiters stellte sich heraus, dass Canadian Raising auf der Insel Martha's Vineyard (Massachusetts, USA) eine klar erkennbare soziolinguistische Basis hat. Fischer auf Martha's Vineyard wenden Raising unterbewusst an, um sich von den Touristenströmen vom amerikanischen Festland zu unterscheiden. Canadian Raising auf Martha's Vineyard ist demnach als essentieller Faktor in der Identitätsbildung anzusehen. Zusammenfassend wird erwähnt, dass Canadian Raising in verschiedenen Varietäten oft verschiedene Ursachen hat und auch verschiedene gesellschaftsbezogene Zwecke erfüllt. Dennoch kann die Erscheinung insgesamt ebenso auf ihre phonetische Natürlichkeit zurückgeführt werden.

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