Social and Linguistic Correlates of Adverb Variability in English: A Cross-varietal Perspective

by

Cathleen Moira Waters

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Department of Linguistics
University of Toronto
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Abstract

Linguistic research on adverbs has taken many forms: typological, morphological, syntactic, semantic and pragmatic. However, little work has been conducted on adverbs using the tools of quantitative sociolinguistics, and most of that work has focused solely on morphological variation of the -ly suffix.

This work addresses the lacuna by examining two adverb phenomena using quantitative variationist methodology. Data come from two large, socially stratified, sociolinguistic corpora of vernacular English. The two corpora contain data collected in Ontario, Canada and in Northern Britain, and are comprised of the speech of over 150 speakers across all age groups.

In the first case study, I examine a claim in usage guides (e.g., Swan 2001) that North American English widely permits pre-auxiliary adverbs in canonical, declarative sentences, while British English prohibits them unless accompanied by contrastive stress. As I show, the varietal differences in speech are not only minimal and unrelated to stress, but instead are highly circumscribed. In addition, I demonstrate that the positioning of adverbs observed here must involve post-syntactic processes.
The second case study examines variability in the discourse adverb *actually* and several related adverbials (e.g., *really* and *in fact*) and examines the path of grammaticalization (Traugott & Dasher 2002) in the two communities. I demonstrate that Canadians, regardless of sex or education level, prefer the more grammaticalized forms of *actually*; in the UK, the more grammaticalized use is less common, though some young men are leading a shift to the more grammaticalized pattern.
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Chapter 1
Introduction

1 Overview

There is an often-repeated saying\(^1\) which suggests that Anglophones on the two sides of the Atlantic are divided by a common language. This (perceived) division has arisen over several hundred years, with Strevens (1972: 27) dating American English from 1600, though other scholars (e.g., van Gelderen 2006:51) place the divergence after 1700. As described below, many studies of variation and change in English have focused on the differences between British and North American varieties, with Canadian English generally subsumed under the larger category of North American English (Brinton and Arnovick 2005:395). However, little comparative work between these varieties has been conducted on adverbs, especially using the tools of quantitative sociolinguistics, and much of the work that has been undertaken has focused solely on morphological variation of the -LY suffix. This work addresses the lacuna by examining two adverb phenomena using quantitative variationist methodology. Data come from two large, socially stratified, sociolinguistic corpora of vernacular English. The two corpora contain data collected in Ontario, Canada and in York, England, and are comprised of the speech of over 200 speakers ranging in age from 9 to 92, though only adult speakers were considered in this work.

In the first case study, I examine a claim in usage guides (e.g., Swan 2001) that North American English widely permits pre-auxiliary adverbs, while British English\(^2\) prohibits them unless accompanied by contrastive stress. As I show, the varietal differences in speech are frequency-related, with usage differences not only minimal and unrelated to stress, but

\(^1\) Attributed to George Bernard Shaw in the *Oxford Dictionary of Modern Quotations.*

\(^2\) These claims, and others about adverb use, are generally applied to British English as a whole. However, as Karen Corrigan (p.c. 8 August 2011) has pointed out to me, it is likely that contact with Celtic languages is a factor in adverb placement in some varieties in the UK, and thus I restrict my generalizations based on the York data to English English, while referring to British English in my discussions of other work.
instead related to language-internal factors such as contraction rules, with dialect-based variability being both highly circumscribed and confined to a small set of lexical items.

The second case study examines variability in the discourse adverb *actually* and several related adverbials (e.g., *really* and *in fact*), examining the path of grammaticalization (Traugott & Dasher 2002) in the two communities. I demonstrate that the language-internal factor of polarity is operating in the same manner (with affirmative environments strongly favoring the use of *actually*). However, grammaticalization has not advanced equally in the two varieties. Speakers in Canada use the sentence-level functions far more than their English counterparts. Moreover, whereas sex and education differences are not statistically significant in Canada, educated men are leading the change in England.

The rest of this chapter provides an introduction for the rest of the work. In the next section, I summarize the background literature on transatlantic variability. In section 3, I briefly describe why adverbs are a good candidate for linguistic study. Then, in section 4, I outline the broad research questions which I tackle through the case studies, and provide an overview of the topic of each case study. Section 5 outlines the structure of the rest of the work.

### 2 Variation and change in Standard British and Standard North American English

Discussions of transatlantic linguistic differences engage linguists and non-linguists alike. In the past one hundred years in particular, the topic has been taken up in numerous scholarly works, some quite recent (e.g., Rohdenburg & Schlüter (eds.) 2009). While some large-scale works treating different varieties of English (e.g., Partridge (ed.) 1951, Cheshire (ed.) 1991) have approached the topic by giving separate descriptions of each variety, the trend in the past decade has been to select several linguistic phenomena and contrast their behaviour in different varieties (e.g., Biber et al. 1999, Trudgill & Hannah 2002, Algeo 2006, Mair 2006, Rohdenburg & Schlüter (eds.) 2009). Most commonly, variables are examined in terms of
Standard British English (of the UK) versus Standard American English (of the US), presumably because “there is more material available in them than in any other variety” (Algeo 2006:1).

To the varieties of English in the US, the varieties of Canada are sometimes added, grouped together as “North American English” and treated as a unit. Brinton and Arnovick (2005:395) observe, “Patterns of colonization and historical developments have led to the emergence of two supranational varieties: North American English and British English. The first is the basis of US and Canadian English.” The close association of the two varieties is unsurprising as some of the varieties now spoken in Canada and the US have some common historical roots. In the late 1700s, many British settlers in what is now Canada migrated there from the former British colonies that became the United States after the American Revolution (Chambers 1991; Brinton and Arnovick 2005). The grouping of the varieties of English of Canada and the United States into a single larger category is also consistent with the linguistic research. Differences between the Standard English spoken in the United States and in Canada are described as consisting mostly of lexical variability (e.g., the Canadian use of TOQUE for a knitted hat or CHESTERFIELD for an upholstered piece of furniture seating three people) with grammatical variation between the two Standard varieties described as minimal. As Brinton and Arnovick (2005: 404) state, “Apart from a few minor differences, little distinguishes CanE from its American counterpart grammatically.” McCrum et al. (1986: 245) concur, saying “There is no distinctive Canadian grammar.” Given this grammatical similarity, there is no reason to believe that the descriptions of “American” English to which I return in a moment are not equally applicable to Canadian English in general.

Of course, there is also variability within Britain (e.g., see Trudgill (ed.) 1984 for an overview) and within England (see Trudgill 1999, inter alia). However, Trudgill (1999:5-6)

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3 Partridge (ed.) 1951, Cheshire (ed.) 1991 and Trudgill & Hannah 2002 also consider other varieties.  
4 This, of course, means that the conclusions drawn based on Canadian data are likely to be applicable to US varieties as well.
notes that the varieties spoken in the UK by those who are outside of rural areas are very similar to Standard. It has also been noted that there are few cases of syntactic variability (Wakelin 1984:84; Trudgill 1999:6). Therefore, it is also reasonable to assume the York data used in this study are likely to be representational of English English more generally. Having established that the two varieties examined here (those of Toronto, Canada and York, England) represent the broader categories of North American and English English, respectively, I now turn to previous work comparing these two major varieties.

In the introduction to a volume examining variation between Standard British and Standard American English, Rohdenburg & Schlüter (2009a:1) remark that the two varieties “should still be considered one and the same language… [though] at many levels of description, British-American contrasts are widely recognized.” These contrasts have been identified at every level of the grammar. There are numerous phonetic and phonological differences (see Trudgill & Hannah 2002 for a detailed account), as well as differences in intonational patterns (Algeo 2006:2). In fact, at the level of phonology, Trudgill (1998:32) argues that the major varieties of English continue to diverge. There are also numerous varying lexical items in categories as diverse as nouns (e.g., the BOOT of a car versus the TRUNK of a car) and conjunctions (e.g., Whilst versus WHILE) (see Algeo 2006 for an extensive listing). Trudgill (1998:30) notes that many lexical differences are disappearing, which he attributes to the globalization of media, though he states the role of the media in language change is usually negligible (1998:34). In addition to categorical lexical differences between British and American varieties (e.g., TRUCK versus LORRY), there are also cases where a single word or expression exists in both varieties but with a difference of meaning. One such example is BRACES, which, in North American English, describes devices for straightening teeth (among other meanings), but in British English can also refer to a means of holding up trousers (called SUSPENDERS in North American varieties).6

5 Trudgill (1999:5ff.) describes rural areas as where what he calls “Traditional dialects” are found.
6 In addition to convergence and divergence, a third possibility has been proposed, that of “dynamic equilibrium” (Maguire et al. 2010:77) in which multiple simultaneous changes yield a state in which some features converge while others diverge.
In addition to the highly salient lexical and meaning differences, researchers of language variation, especially in the past two decades, have been exploring more subtle cases of linguistic variation. This variation occurs when multiple variants are available in both varieties, without meaning differences across varieties, but where the variant distributions differ between the two locales. Tottie (2009: 342) describes this situation:

One basic fact that we need to keep in mind when discussing differences between American and British grammar is that they are rarely categorical. As a rule, they can be expressed as proportions or probabilities. We might say that, most of the time, American and British speakers have the same grammars, with the same inventory of forms and the same rules, but that the application of the rules differs between varieties. Capturing this variation is the goal of most of the research in this field.

This frequency-based approach has been used to examine lexical variation between British and American English in such diverse topics as adverbs ending in –WISE (Lindquist 2007), modals (Ljung 1996), GET- versus BE-passives (Mair 2006) and quotatives (Buchstaller 2008).

In terms of syntactic differences, Rohdenburg & Schlüter (2009a:1) note that an assumption that “accent divides, and syntax unites” has been challenged by recent research. They argue that the notion that there is a lack of variation in syntax is a misconception resulting from insufficient research in phenomena other than those of phonetics/phonology, and that furthermore, “contrasts in the grammar of BrE and AmE have so far been largely ignored” (Rohdenburg & Schlüter 2009a:2). This sentiment echoes those of others such as Algeo (2006:2) and Tottie (2009:362). Moreover, Tottie (2009:341) states that “as soon as we begin to scratch the surface of grammatical phenomena, we find unexpected differences between the two varieties” and that further work will demonstrate that “there are more differences between American and British grammar than previously dreamt of in our philosophy.”

Although it may be less extensive than phonological and lexical work, studies examining morphosyntactic differences between British and North American varieties have been
undertaken. Algeo (2006) surveys a number of differing phenomena such as patterns of complementation (e.g., *dispose of X* versus *dispose X*), variation in number concord with collective nouns (e.g., *the team is/are winning*), ellipsis (e.g., *I should have versus I should have done*) and tag questions. Mair (2006) explores a number of verb-related changes in the 20th century using written data, including the *GOING-TO* future, changes in the relative frequency of progressive aspect and the decline of the modal uses of *MUST* and *SHALL*. A volume edited by Rohdenburg & Schlüter (2009) includes examinations of prepositions and postpositions (Berlage), tag questions (Allerton), comparatives (Mondorf) and the subjunctive (Kjellmer, Crawford, Schlüter), among other topics. Works on a particular variable have also examined morphosyntactic varietal differences, including adverbial position (Jacobson 1975), negation (Tottie 1991), preterit/perfect alternation (Elsness 1996) and the mandative subjunctive (Hundt 1998), to name but a few. In addition, a number of studies have been undertaken using the corpora that I employ here to examine lexical and morphosyntactic variables such as stative possession (Tagliamonte 2003; Tagliamonte, D’Arcy & Jankowski 2010), deontic modals (Tagliamonte & Smith 2006; Tagliamonte & D’Arcy 2007) and intensification (Ito & Tagliamonte 2003; Tagliamonte 2006b, 2008).7

Despite this work, generalizations about differences between the varieties remain elusive. A number of terms such as *COLONIAL LAG* and *COLONIAL LEAD* have been suggested to describe the different patterns of variation. However, this approach to describing variation has been criticized as an oversimplification. As Hundt (2009:14) says, “The dichotomy of ‘colonial lag’ and ‘colonial innovation’… implies a far too simplistic view of the much more complex patterns and processes in language change.” Instead, the approach usually taken by twenty-first century researchers of varietal differences (other than in studies of the few truly categorical differences) is to discuss tendencies or trends. For example, Rohdenburg & Schlüter (2009a:5-6) propose four “generalizations about British-American differences in the domain of grammar,” namely, they claim that:

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7 These corpora have also been used to examine phonological variables such as variable (ing) (Tagliamonte 2004) and (t/d) deletion (Tagliamonte & Temple 2005).
1. In writing, there is a greater tolerance and inclination of AmE towards structures characteristic of colloquial usage.

2. AmE grammar exhibits a comparatively stronger pull in the direction of regular grammatical patterns.

3. AmE tends to add clarifying material or to choose easier-to-process constructions, while BrE leaves a greater processing load for the reader/hearer.

4. AmE shows a more marked tendency to dispense with function words that are semantically redundant and grammatically omissible.

These tendencies, to which I return in the discussion chapter, all describe language-internal forces. In terms of trends in social correlates of transatlantic variability, even less is known.

A study by Tagliamonte & Waters (2009) shows that social correlations are even more difficult to generalize, with social meaning being determined locally on a variable-by-variable basis. The lack of information on social tendencies, is, in part, a result of the data available for study. While a frequency-based approach using a corpus provides a quantitative mechanism for examining linguistic change, the data are usually lacking any social information about the speakers, a crucial element of understanding language change (see Labov 2001). The inclusion of social information allows us to not only see that language is changing, but also who is changing it. Specifically, an examination of social information elucidates who the leaders of a particular change are and how variants convey meanings beyond the literal, such as the construction of identity within a given community (see Tabouret-Keller 1997 for an overview). Therefore, work based on socially-stratified corpora is crucial to the understanding of language change. Unfortunately, work of this sort is very infrequent, due to the limited number of corpora available for this type of research. In addition, because corpora are often constructed using substantially different methods and data sources, comparability can be problematic.

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8 Some studies are able to overcome differences in collection strategy; see Buchstaller & D’Arcy (2009) for a successful comparative study.
Fortunately, two parallel and socially stratified corpora exist that allow the comparison of a British variety and a North American variety, respectively: the York English Corpus and the Toronto English Archive. These corpora allow an analysis of both internal (linguistic) and external (social) independent variables over apparent time, and are large enough to permit the observation of even infrequent morphosyntactic and discourse variables. Furthermore, as these two corpora were collected using the same methodology (sociolinguistic interviews by in-group community members), they allow a comparison across the two varieties. I return to the composition of the corpora in more detail in Chapter 3.

3 Why adverbs?

Adverbs serve many functions, as shown in this brief enumeration of adverb categories from Vendler (1984:304-6):

(1.1)  

a. He rang the bell **LOUDLY** (event)  
b. He danced **GRACEFULLY** (manner)  
c. He solved the problems **EASILY** (facility)  
d. He spilled the tea **ACCIDENTALLY** (moral)  
e. He applied **LATE** (timing)  
f. **STUPIDLY**, he quit his job (sentence)  
g. **HOPEFULLY**, he’ll not return (illocutionary)

In addition, some adverbs also have functions that signal an expression of speaker opinion (e.g., **PROBABLY**) or that link utterances in discourse (Aijmer 2002:3), such as some uses of **WELL** (e.g., **Well, it looks like rain today**), which I describe further in Chapter 2.

Given this diversity of meaning, adverbs are an interesting linguistic phenomenon in their own right. Indeed, adverbs have been studied in terms of their syntax and semantics (e.g.,

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9 Both corpora are housed at the University of Toronto Sociolinguistics Lab (Sali A. Tagliamonte, Director).
Ernst 2002; Cinque 1999; Jackendoff 1972), their diachronic change (e.g., Traugott & Dasher 2002; Nevalainen 1994; Swan 1991) and their synchronic variation in British and North American English (e.g., Rohdenburg & Schlüter 2009b; Opdahl 2000). Moreover, it has been claimed (Swan 1991:421) that adverb use in English is particularly nuanced, although adverbs are present cross-linguistically. In addition, there are also perceptions (though these are not necessarily borne out empirically) of cross-dialectal differences. For instance, Swan (1991:418), commenting on British English, says, “HOPEFULLY has been hated and denounced as American and all sorts of nasty things.” However, little is known about what social factors may be at work with adverb variation and variationist studies on the topics I will examine here (described below) have been non-existent, to the best of my knowledge. Therefore, adverbs are an excellent candidate for study using sociolinguistic corpora as they are an untapped area for investigation. In the next section, I introduce the specific features of adverbs which I will examine in the case studies.

4 The research questions and the case studies

Previous studies comparing varieties have generally used written sources, such as novels and newspapers, or partially scripted speech, such as news reports, to examine variation phenomena (Conrad & Biber 2001, Mair 2006, Algeo 2006, *inter alia*). Where vernacular spoken data are examined, it is generally only one geographic region that is considered. Examining variation and change in two dialects using the vernacular allows the investigation of a number of issues: Does variation pattern in the same way linguistically in both locations? What are the differences in social embedding? Does social meaning impact the trajectory of change? What do the similarities and differences tell us about the nature of variation and change in varieties that are not geographically contiguous? To explore these issues, I undertake two case studies, both using contemporary, natural speech data. The particular case studies have been chosen because they cover different levels of grammar, as I describe below.
In the first case study, I examine a syntactic variable, the position of an adverb with respect to an auxiliary. The placement of an adverb in proximity to auxiliaries is claimed to vary regionally, with the placement in North American English being more flexible than in British English (e.g., Swan 2001) as shown in (1.2).

(1.2)  

a. British English (adverb only possible after the auxiliary, with normal stress):
   
   She will PROBABLY go

   
   She will PROBABLY go (same as (a))
   She PROBABLY will go

Jacobson (1975) describes a statistically significant region-based difference, consistent with that described in the style guides, but only in newspaper writing, though he examined other contexts.10 Granath (2002) finds a statistically significant difference in frequency of pre-auxiliary adverbs between US and British data (Brown and LOB corpora) for 1961, but not for 1996, suggesting that the dialects are converging. Other research has suggested that the placement differences may be highly correlated with register. Hsieh & Wagner (2008:1-2) investigate the phenomenon in the US using the Corpus of Contemporary American English and find post-auxiliary adverbs (e.g., in (1.2a) above) more common generally, but that pre-auxiliary adverbs are more common in news writing than in news speech and they conclude that further study of spoken data is required. This variable is syntactic in nature (at least on the surface) but it has not previously been examined with socially stratified spoken corpora. Thus, this study is the first investigation of what, if any, social factors may be related to the choice of adverb placement.

In the second case study, I examine variation in adverbs indicating realness (e.g., ACTUALLY, REALLY); this phenomenon has been investigated as a question of pragmatics, but has not

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10 Algeo (2009:149) found pre-auxiliary position more common for CERTAINLY and PROBABLY with the auxiliary verb HAS in American English. However, given the limited scope and absence of statistical significance testing, his results must be treated as anecdotal.
previously been explored using sociolinguistic methods. Numerous pragmatic studies have
been conducted on *actually* (Aijmer 1986; Lenk 1998; Clift 2000; Oh 2000; Taglicht
2001; *inter alia*). It is said to perform a number of functions including linking utterances (Oh
2000: 254; Traugott & Dasher 2002:171), marking self-correction (Tognini-Bonelli
1993:209; Lenk 1998:156), reopening a previously closed topic (Clift 2001:267) and
signalling disagreement (Oh 2000: 256; Taglicht 2001:2). It is said to be synonymous with a
variety of other adverbials, primarily the adverb *really* (Greenbaum 1969; Jacobson 1978;
Aijmer 1986; Watts 1988; Biber & Finegan 1988; Lenk 1998; Andersen 2001), but also *in
fact* (Aijmer 1986; Lenk 1998; Oh 2000; Traugott & Dasher 2002; Clift 2003), *as a
matter of fact* (Aijmer 1986) and *indeed* (Traugott & Dasher 2002). In studies based on
mostly written data, these adverbials are also described as currently undergoing
grammaticalization (Traugott and Dasher 2002 for *actually*, *in fact*, *indeed*; Partington
1993 for *really*).

As these adverbs are independently said to be undergoing change, this variable is a good
candidate for study in two dialects to determine if i) the process of grammaticalization has
advanced to the same degree in both locations; ii) if this variable has acquired any social
correlates; and iii) if there is any evidence that social significance is related to differing levels
of grammaticalization.

To sum up, by using these two case studies, which examine adverbs at two different levels of
the grammar (syntax and discourse), I will be able to elucidate the patterns of variation or
change taking place in the two regions and to shed more light on the processes of parallel
development of dialects. The specific research questions are:

- Does the variation in these two variables pattern in the same way in both locations?
- Are these variables stable phenomena or is there evidence of change over time?
- How, if at all, are these variables socially embedded in each locale?
- To the extent it is possible to see in an apparent time study, how do social factors
  impact the trajectory of change?
• What methodological considerations are necessary for working with syntactic and pragmatic variation?

• How, if at all, are the behaviours of these variables interacting with other phenomena in these varieties (such as changes in the intensifier system, differences in patterns of contraction, modals of permission, etc.)?

• What can these two cases tell us more generally about parallel variation and change in dialects that are not in immediate (geographic) contact?

Through an exploration of the answers to these questions, I shed light on the relationship between variation as it occurs synchronically and as it changes over time, as well as the behaviour of adverbs more generally.

5 Summary

In this chapter, I have described some general findings about transatlantic variation in English, introduced the research questions which I am investigating and outlined the two case studies which I am using to explore these questions. In this work, I explore adverbs – positioning with respect to auxiliary and variability in those marking realness – in two varieties of English. Moreover, through the use of sociolinguistic methodology, I elucidate both linguistic and social correlates of the variability.

The structure of the rest of the work is as follows. In chapter 2, I discuss the background work on adverbs that is generally relevant to both of the case studies. I examine syntactic models of adverbs, categorization schemata, diachronic change in English adverbs and general empirical studies of adverbs. In chapter 3, I describe the methodology I use to conduct the case studies, and discuss some of the issues which arise in dealing with adverbs. Chapter 3 also includes a discussion of the corpora used in the case studies and the social variables considered in those analyses. In chapter 4, I present the first case study, namely, that of adverb position with respect to an auxiliary. I discuss the previous work on the
phenomenon and the results of the study conducted here. As I show, variability is present in both varieties and the variability patterns in similar ways, governed by grammatical factors, rather than social ones. Moreover, although adverb placement is generally treated as a syntactic phenomenon, the nature of the variability cannot be explained by any current (generative) syntactic mechanisms, indicating that this type of variation is in fact post-syntactic. In the second case study, taken up in chapter 5, I examine variability with adverbs that indicate realness (e.g., ACTUALLY and REALLY). As I show, grammaticalization has not progressed the same distance in the two varieties, and contextual differences influence lexical choice in different ways. Unlike adverb placement, this variable does have social correlates and I demonstrate that the social associations are entwined with diachronic change. In the final chapter, I summarize, before returning to the research questions to describe how the findings of the two case studies provide answers and insight, along with outlining directions for future work.
Chapter 2
Background on adverbs

In this chapter, I focus on the previous work on adverbs which is generally relevant to both of the case studies undertaken here.¹ Linguistic research on adverbs takes many forms, including morphological, syntactic, semantic and pragmatic (see the rest of this section for numerous citations). The syntactic analyses in particular are copious, with numerous proposals for the rules governing adverb placement. Therefore, I begin this chapter with a discussion of adverb syntax from the perspective of a Minimalist framework.² In section 2, I describe some of the schemata used to categorize adverbs, a topic which is closely interrelated with adverb syntax, but merits its own discussion. In section 3, I examine the evolution of English adverbs, including grammaticalization and semantic change. Section 4 covers general studies of adverbs using empirical data; remarkably, few studies have been conducted on adverbs using the methods of quantitative sociolinguistics, and much of the comparative work that has been undertaken has focused solely on British/American morphological variation. I summarize the chapter in section 5.

1 Adverb syntax³

Adverbs have been a rich topic for syntactic research. However, consensus on a syntactic (and/or semantic) model for the behaviour of adverb positioning remains elusive, even within a single framework. Delfitto (2006:84-85) notes that “[a]dverbial syntax…is notoriously a fairly complex domain” and goes on to say that “the syntax of adverbs… still represents one of the most controversial domains of research.”⁴ Recent theoretical work on the syntax and semantics of adverbs has built on earlier observations, including the landmark work by Jackendoff (1972), and links semantic differences to adverb syntax, such as the observation

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¹ Details of studies on which I rely for the individual case studies are discussed in the relevant chapter for each topic.
² It has been noted that there is a tendency for variationist work to “situate itself” in a generativist framework (Sankoff & Thibault 1981:206).
³ This section will be particularly important in the later chapters.
⁴ Ernst (2002:1) more succinctly describes the “overall landscape” as “a swamp.”
that speaker-oriented adverbs are “attached to S” rather than to a verb phrase (Jackendoff 1972: 73). A variety of cross-linguistic approaches have been developed in the past twenty years (book-length analyses include Belletti 1990; Alexiadou 1997; Cinque 1999; Ernst 2002; Haumann 2007); all include some element of both syntax and lexical meaning, though with varying degrees of reliance on one or the other.

One of the central issues in the debate is whether, and if so, how, different surface positions can convey the same meaning. This question is further complicated by differences in behaviour among adverbs. Some adverbs obligatorily receive different interpretations based on their relative positions in a clause, as shown here:

(2.1) a. Mary CLEVERLY has written the paper.
    b. Mary has written the paper CLEVERLY.

In (2.1a), the adverb CLEVERLY receives a speaker-oriented reading (*it was clever of Mary to write the paper*), whereas in (2.1b) CLEVERLY functions as a manner adverb (*the manner with which Mary wrote was clever*). Therefore, in (2.1), the difference in placement of the adverb yields a meaning change. One analysis of this distinction in interpretation is attributed to differences in adverb attachment; in (2.1), the meaning differences arise because the adverb in (a) is attached to S, whereas in (b) it is attached to the VP (Jackendoff 1972:77-107). This distinction also can explain the ambiguity seen in (2.2), which can be equivalent to either (2.1a) or (2.1b), as both the S-attachment and the VP-attachment reading are possible (Delfitto 2006:96).

(2.2) Mary has CLEVERLY written the paper.

While a possible equivalence between (2.1b) and (2.2) is the most generally accepted judgement, some analyses, such as Cinque’s universal hierarchy of heads analysis, claim a

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5 The examples in (2.1) – (2.3) are based on Delfitto 2006:96-97, though they are very similar to numerous other analyses of adverb behaviour, including Jackendoff 1972.

6 See also McConnell-Ginet 1982.
nuance of meaning difference between the manner readings of (2.1a) and (2.2) which are reflected in/arise from the position difference (Cinque 1999:20).

In contrast to adverbs like CLEVERLY, many other adverbs appear to have multiple possible positions which convey the same meaning:

(2.3)  
   a. EVIDENTLY, Mary has written the paper.  
   b. Mary EVIDENTLY has written the paper.  
   c. Mary has EVIDENTLY written the paper.  
   d. Mary has written the paper, EVIDENTLY.

In most analyses, all cases in (2.3) receive the same reading (based on some evidence, I assert that Mary has written the paper) despite the position differences. In Keyser’s (1968:368) account, adverb movement was explained by a “transportability convention” which allows adverbs to appear in the various positions seen above. For Cinque (1999:19), the position variability is the result of movement, either of the adverb itself from its base-generated position to a “wh- or focus” position, or of another element in the sentence. For example, Cinque (1999:19-20) states that something like (2.3c) would be derived from (2.3b) by a raising of the auxiliary.

Another analysis of the behaviour in (2.3), by Belletti (1990:31-43), posits that both (a) and (c) have a similar, though not identical, structure. Belletti argues that in (2.3a) and (2.3c) an adverb is in a sister relationship to an AgrP.\footnote{I leave aside the independent question of whether AgrP is a legitimate functional head or not.} The form in (2.3a) results from the adverb modifying a higher AgrP, whereas (2.3c) results from the adverb modifying a lower AgrP. Belletti further argues that the form in (2.3d) is derived from right dislocation of the adverb from the base-generated initial position seen in (2.3a). Finally, she claims that (2.3b) is a result of the leftward movement of the subject to a Topic position. However, the evidence for movement of the subject is based solely on Italian, and it has been noted (e.g., Ernst 2002:}
that Belletti’s analysis incorrectly predicts that i) the subject in (2.3b) would
obligatorily receive stress; and ii) all adverbs which can occur after a subject should also be
able to occur before it. That is, if (2.3b) is generated solely by the topicalization of the
subject of (2.3a), then all adverbs which can occur after the subject but before the auxiliary
should also be possible before the subject, which is not the case (as shown here, based on
Ernst 2002:395):

(2.4)  
   a. Audrey ALMOST had woken up by that time.
   b. *ALMOST, Audrey had woken up by that time.

Ernst’s (2002) analysis of adverb position posits that the characteristics in (2.1) – (2.4) are a
function of a set of rules of compositionality for each particular adverb, acting in concert
with other linguistic mechanisms, such as the effects of prosodic weight. For example, in
Ernst’s analysis, some adverbs (e.g., ALMOST) require an event (e.g., WAKE UP) whereas other
adverbs (e.g., EVIDENTLY) require a proposition (e.g., AUDREY WOKE UP). An adverb can
grammatically occur in any position in a sentence which permits it to combine with the
proper corresponding element; ungrammaticality is a result of an adverb occurring in a
position where it combines with an inappropriate element (e.g., the combination of a
proposition-taking adverb with an event). Thus, the position variability seen in (2.3) is
possible because, in all four cases, the adverb EVIDENTLY can combine with the proposition
MARY HAS WRITTEN THE PAPER.

In Ernst’s analysis, different syntactic structures can yield the same meaning, and thus
structural equivalence is not necessary (or present) in (2.3). According to Ernst, (2.3a) is a
result of adjunction of the adverb to TopP\(^8\) (2002: 411). The cases of (2.3b) and (2.3c) are
both the result of adjunction in what he calls “the AuxRange” (Ernst 2002: 309, \textit{inter alia}), a
series of functional heads below Tense consisting of modal, aspect and passive heads in

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\(^8\) Cinque also states that “the absolute initial position” is a “topic-like position” for “adverbs of setting”
English. The structure from TP to VP is presented in (2.5), from Ernst (2002:312 (7.3), heads/projections labelled as in the original).

(2.5)  

Although this Range can have multiple non-null heads (e.g., has been being done), Ernst (2002: 324-325) states that in cases with more than one auxiliary, adverbs which require a proposition cannot occur any lower than immediately after the first (i.e., the finite) auxiliary, as shown here:¹⁰

(2.6)  

   a. That work has been ?PROBABLY done in stages.
   b. That work has been CAREFULLY done in stages.

This part of Ernst’s analysis describes a phenomenon which is articulated by Delfitto (2006:96) as the generally accepted view “that adverbs following more than one auxiliary...exclud[e] S-attachment”. Finally, Ernst (2002:15) describes adverbs of the sort in (2.3d) as

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⁹ This is Modal, not Modifier.
¹⁰ The limitation is presumably because, in Ernst’s system, the elements to the right of the post-finite-auxiliary position form events, thus not meeting the requirement to have a proposition.
“afterthoughts...derived by some low-level movement from preverbal position” though he (2002:416) subsequently discusses parenthetical adverb positions as being a result of “post-Spell-Out movement”.

Given the numerous unresolved questions of adverb behaviour, I will make some general assumptions that are consistent with the facts. Although I do not wholly embrace any one theory, my assumptions are most closely aligned with Ernst (2002). First, I assume that there is the possibility, though not the certainty, of equivalence and/or interchangeability for the same adverb in more than one position; decisions about equivalence will need to be further informed by examining the adverbs in question, including their semantics and pragmatics. Second, I assume that adverbs which occur in initial position are in some way topicalized, and thus marked, as compared to adverbs which occur in proximity to the finite verb/auxiliary, though I take no position on whether they are generated in, or moved to, the higher position. Third, I assume adverbs occurring in clause-initial position have equivalent scope (i.e., sentence-level) to those occurring after comma intonation in clause-final position. Finally, I assume that the positions immediately before and immediately after a finite auxiliary (i.e., (2.3b) and (2.3c)) can have sentence-level interpretations, but that adverbs occurring after subsequent auxiliaries (e.g., (2.6b)) cannot.

However, Ernst treats final position adverbs (as in (2.3d)) as something not yet part of his integrated system (they are “afterthoughts”), while I treat them as functioning like those in initial position (as in (2.3a)). Also, Ernst’s position seems to be that there is equivalence between initial adverbs (such as (2.3a)) and those in proximity to the auxiliary (such as (2.3b) and (2.3c)), whereas I treat the first case as NOT part of the variable context of my position study, because it occurs in a topicalized position.

In summary, much syntactic work has been undertaken on adverbs, but a consensus on adverb behaviour remains elusive. The mutability of adverbs both in terms of what positions

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11 For instance, as I explain fully in chapter 4, I exclude focusing adverbs such as ONLY from the adverb position study.
12 Though this is a claim that can be tested empirically, and I examine it the adverb position case study.
they can occupy and of what meaning(s) they may convey make them problematic yet at the same time intriguing. The syntax of adverbs is far from settled; the sheer number and variety of adverbs demands restrictions on the scope of empirical studies. Working within these unavoidable issues, however, I undertake an examination of the research questions presented in the introduction chapter, with the hope that it will contribute to our understanding of adverb use more broadly.

2 Categories of English adverbs

Adverbs in English occur “at the crossroads of morphology, syntax, lexis and semantics” (Opdahl 2000:50). As a result, categorizing adverbs (and adverbials in general) can be problematic, with a particular form falling into more than one category, depending on context (Hasselgård 2010:302). For example, CLEVERLY, which was discussed in the adverb syntax section (see (2.1)), is a single form that may have multiple interpretations, depending on where it occurs in an utterance (Ernst 2002; Cinque 1999; Greenbaum 1969; inter alia). As noted by Hasselgård (2010:20), “adverbials probably illustrate better than any other grammatical category the interdependency between grammar and meaning.” Furthermore, some functions relate to the organization of the discourse, rather than being modifiers of a proposition (or a part of it, such as a verb), as illustrated by WELL (Greenbaum 1969:5):

(2.7)  a. WELL, David may play chess
       b. David may WELL play chess
       c. David may play chess WELL

In (2.7a), the adverb links the utterance to previous utterances (meaning something like given what was previously uttered it is appropriate to say what follows, see Swan (1991)); in (2.7b) the adverb has a modal interpretation; in (2.7c), the adverb describes the skill level of David’s chess playing. Therefore, these three instances of WELL would be assigned to

13 In addition, most adverb categories are open classes, with the rise of new meanings resulting in a use with a different categorization, a process I describe in more detail in the next section.
different categories. Although position contributes to the interpretation of an adverb, surface position alone is not a sufficient criterion for identifying adverb function, as I described in the previous section.\textsuperscript{14} For instance, adverbs with different functions may occur in the same position:

\begin{enumerate}
\item a. \textsc{Inadvertently}, John arrived after anything useful could be done
\item b. \textsc{Frankly}, John arrived after anything useful could be done
\end{enumerate}

In (2.8a), the adverb provides information about John’s arrival, whereas in (2.8b), the adverb describes the speaker’s assessment of the manner in which the utterance is being said. Thus, adverb categorization criteria are often based on function, syntax and semantics. For instance, Greenbaum (1969:25) groups (initial) \textsc{yet} and \textsc{besides}\textsuperscript{15} together, based on their similar syntactic distributions and discourse connection function, but notes that the former allows subject ellipsis (as in (2.9a)) but the latter does not (2.9b) (based on Greenbaum 1969:25-26) and thus they are similar (rather than identical) syntactically:

\begin{enumerate}
\item a. He’s seventy-three and \textsc{yet} \textsc{Ø} has gone to the football match
\item b. *He’s seventy-three and \textsc{besides} \textsc{Ø} has gone to the football match
\end{enumerate}

Despite these complications, classification schemes for adverbials have been undertaken, using a variety of criteria (e.g., Ernst 2002; Huddleston & Pullam 2002; Biber et al. 1999; Quirk et al. 1985; Vendler 1984; Greenbaum 1969; \textit{inter alia}).\textsuperscript{16} Assuming functional heads are a form of categorization, the thirty functional heads that Cinque (1999:\textit{passim}) posits cross-linguistically would correspond to thirty categories, most of which are present in English.

\textsuperscript{14} See also Ernst 2002; Traugott & Dasher 2002; Cinque 1999; Quirk et al. 1985: McConnell-Ginet 1982; Greenbaum 1969; \textit{inter alia}.

\textsuperscript{15} Greenbaum (1969: \textit{passim}) treats these as a type of adverbial, not as conjunctions.

\textsuperscript{16} See Hasselgård 2010:19-20 for a comparison of some categorization criteria.
Quirk et al. (1985: 478-653) categorize adverbials (including prepositional phrases) into four groups based on position and function, which is summarized in (2.10).

(2.10)  a. Adjuncts of space, time, process (e.g., AT THE MOMENT)
        b. Subjuncts (e.g., VERY)
        c. Disjuncts (e.g., ACTUALLY)
        d. Conjuncts (e.g., NONETHELESS)

ADJUNCTS, which can occur initially or after the main verb, describe temporal and spatial relations. SUBJUNCTS perform functions such as intensification or focusing and occur next to the element they modify. DISJUNCTS express opinions about the utterance (e.g., FRANKLY in (2.8b)). CONJUNCTS organize the discourse by linking the current utterance to previous utterances.

Main categories are generally further divided into subgroups (see Ernst 2002; Huddleston & Pullam 2002; Biber et al. 1999; Quirk et al. 1985; Greenbaum 1969).\textsuperscript{17} For example, Ernst (2002:9), who categorizes adverbials based on semantics and syntax (as described in section 1 above), provides more than one level in his grouping schema. Several of these main categories and subcategories, including an example (where provided in the original), are shown here (based on Ernst 2002:9):

(2.11)  a. predicational
        speaker-oriented: FRANKLY
        subject-oriented: DELIBERATELY
        event-internal: TIGHTLY\textsuperscript{18}
        b. domain: MATHEMATICALLY
        c. participant: ON THE WALL

\textsuperscript{17}See also Ernst 2002: 9-10 and Hasselgård 2010:14-39 and the sources cited therein for further discussion.
\textsuperscript{18}Vendler (1984:passim) also distinguishes adverbs which modify events as a whole from the manner with which an action was undertaken.
The different schemes arise, in part, because the criteria used to categorize adverbs depend on the approach of the researcher. In presenting his categorization of one set of adverb functions, Greenbaum (1969:16) notes, “Different groupings would result from a different choice of criteria, and additional criteria would separate items grouped together.” This statement is equally true of all adverb categorization strategies. That is, the criteria used to group or distinguish adverbs are at the discretion of the analyst, and thus the categorization strategies are, to some degree, subjective (see next paragraph for another example).

Studies of subsets of adverbs are no less likely to subdivide categories than studies of adverbs more generally. For instance, considering only sentence adverbs, Greenbaum (1969:passim) classifies them into three main categories:

(2.12) a. Conjuncts (which link utterances, e.g., ALSO, YET, NOW)

b. Style disjuncts (which express speaker’s appraisal of the manner of speaking, e.g., HONESTLY, PERSONALLY)

c. Attitudinal disjuncts (which express something additional the speaker wishes to convey about the utterance, e.g., PREFERABLY, POSSIBLY, ALLEGEDLY)

These categories are then further subcategorized based on semantics. For example, Greenbaum (1969:202-3) broadly groups REPORTEDLY, DEFINITELY and POSSIBLY together as attitudinal disjuncts, based on the positions in which they can grammatically occur and their identical function (to give “an opinion on the truth-value of what is being said”). Greenbaum (1969:202-3) subsequently divides REPORTEDLY, and adverbs like it (such as ALLEGEDLY) which express epistemic information, from those which express degree of certainty (e.g., DEFINITELY and POSSIBLY). Greenbaum (1969:202-3) then further distinguishes DEFINITELY

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d. functional

time-related: STILL

quantificational: FREQUENTLY

focusing: EVEN
and POSSIBLY from each other, noting that DEFINITELY “expresses conviction” while POSSIBLY “expresses some degree of doubt.”

Similarly, in a study of the evolution of focusing adverbs (those that highlight a particular element in an utterance), Nevalainen (1994:254) describes three types of means of focusing attention:

(2.13) a. Exclusives (which exclude all but the focused element, e.g., ONLY)
   b. Additives (which express the addition of the focused element, e.g., ALSO)
   c. Particularisers (which highlight the focused element, e.g., EXACTLY)

In a similar fashion, Swan (1991: 410) examines only adverbs that occur in initial position, but subcategorizes them into four functions:

(2.14) a. Evaluative (which express an evaluation by the speaker, e.g., SURPRISINGLY)
   b. Modal (which express degree of certainty, e.g., POSSIBLY)
   c. Subject disjuncts (which comment on the subject of the utterance, e.g., CLEVERLY)
   d. Speech-act adverbials (which describe the manner of speaking, e.g., FRANKLY)

Other types of adverbs, such as discourse markers19 (e.g., WELL in its use in (2.7a)) have received a similar treatment, being grouped together as a class, and subsequently subdivided by more detailed criteria, such as their semantics (see Aijmer 2002:passim).

In addition to the different classification schemes, the nomenclature describing adverb categories proliferates. Hasselgård (2010:22) compares terms used to categorize adverbials in four grammars, demonstrating that, while the grammars are similar in using multiple levels of grouping (i.e., major categories subdivided into smaller ones), the specific terms employed to describe the categories rarely overlap. Similarly, in a discussion of adverbs which chiefly modify adjectives (e.g., really good), Tagliamonte (2008:361-2) chooses the term

19 See Chapter 3 for further discussion.
INTENSIFIER while noting that other studies have used the terms INTENSIVE ADVERB or AMPLIFIER (which can be further divided into MAXIMIZERS and BOOSTERS) and DEGREE ADVERB (which includes DOWNTONERS).

From the data presented in this section, it should be clear that adverb categorization is a subjective process, based on the goals and the theoretical approach of the researcher. Categorization criteria arise from function, meaning and/or syntactic behaviour, with choice of terms based on the classification schema. Moreover, classification of adverbs requires an examination of their context, as the categorization of an adverb (e.g., WELL, as described above) depends on its relationship to other elements in an utterance. This context-based interpretation is a feature of adverb evolution over time, the topic I discuss in the next section.

3 Change over time and grammaticalization

Adverb-related change over time is a result of syntactic and semantic processes. In this section, I review how these changes have taken place in English, with a particular focus on the role of different mechanisms of grammaticalization.

An outline of the general process of grammaticalization is given in (2.15), which Hopper & Traugott (2002:7) call the “cline of grammaticalization.”

(2.15) content item > grammatical word > clitic > inflectional affix

Movement is generally unidirectional (rightward\(^{20}\)) on the cline, though “forms do not shift abruptly from one category to another, but go through a series of gradual transitions” (Hopper & Traugott 2002:6). A result of the gradual nature of grammaticalization is “layering” (Hopper & Traugott 2002:130; Hopper 1991:22), the situation in which old and

\(^{20}\) Heine et al. (1991:52) also cite a case of an adverb arising from the decliticization of an affirmative affix in Estonian, but they consider changes in this direction exceptional.
new meanings and/or uses coexist and interact. Semantic change in adverbs occurs in predictable directions, such as an evolution from spatial meanings to temporal ones (Traugott & Dasher 2002:67-8; Heine et al. 1991:65-9), and, in English, in changes in scope, which I discuss below.

Adverbs (and adpositions), particularly those with directional meanings, may arise from nouns for body parts, such as BACK (Heine et al. 1991:65, 132). In English, many adverbs, along with the -LY ending often associated with adverbs in Present Day English (PDE), arose in Middle English from the Old English ending –LIC (van Gelderen 2006:124), which was attached to adjectives (e.g., WISE > WISE-LIKE). Variability in the presence of the -LY ending for some adverbs (e.g., go slow versus go slowly), sometimes called “dual form adverbs” (e.g., Tagliamonte & Ito 2002:236) or adverbs with “dual morphology” (e.g., Nevalainen 1994:245), has been present for at least five centuries, with an observed increase in the -LY forms generally ascribed to standardization (Nevalainen 1994:243-4).22

Jacobson (1981) examines historical prose data from Old English to the 19th century to elucidate diachronic change in the relative word order of adverbs and auxiliaries (or their precursors). Based on the data, he demonstrates that the frequency of pre-auxiliary adverbs has changed over time, and he concludes the change was a result of the concurrent change in the position of the auxiliary from post-verbal in Old English to pre-verbal in later English. He observed that the frequency of adverbs after an auxiliary increased as the most common word order pattern changed from that of Old English (subject-adverb-lexical verb-auxiliary, shown in (2.16), from Jacobson (1981:15):23

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21 Cross-linguistically, adverbs have been observed to evolve from activity verbs, such as the evolution of the Ewe adverb dj (“down”) from “to descend” (Heine et al. 1991:41).
22 It also exists in PDE and has been studied synchronically (e.g., Tagliamonte & Ito 2002; Opdahl 2000), as I discuss in the section on empirical studies of adverbs.
23 The second line of the gloss is my own, and has been added to comply with the Leipzig glossing conventions and make the order of the elements more transparent.
(2.16) forþæm hie þær sittan ne mehton
because they there sit not be.able
“because they could not stay there”

Jacobson (1981:37-48, 78-79, 92) argues that the change to the more common current pattern (subject-auxiliary-adverb-lexical verb, such as Mary has frequently succeeded) was the result of independently motivated cross-linguistic factors such as directionality (i.e., headedness). However, Jacobson (1981:15) notes (without offering an explanation) that this trend did not generally include sentence adverbials (e.g., APPARENTLY) the type of adverb that forms the basis of much of the analysis in this work. However, Swan (1991:419) argues that some sentence adverbs were involved in the shift, simultaneous with a rise of sentence adverbs in initial position, which I now discuss.24

In addition to the change in word order, Swan (1991) outlines another syntactic change in adverbs from Old English to PDE, namely, the increase in sentence adverbs (e.g., FORTUNATELY, FRANKLY) occurring in initial position (i.e., before the subject). Accompanying the syntactic shift was a semantic reanalysis, (Swan 1991:409), a process she calls “adverbial shift,” in which there is a “change of scope whereby an adverb comes to modify a different element.” Specifically, these adverbs (e.g., FRANKLY) changed from modifying the verb (phrase) to modifying the sentence or the utterance as a whole. Based on her corpus of English writings from Old English to PDE, Swan (1991:412-9) traces the expansion from only a few adverbs that express speaker attitudes to the truthfulness of what they are saying (e.g., WITODLICE “truly”) or that provide a comment on the action of the subject (e.g., WISLICE “wisely”) to the diverse catalogue of adverbs with these functions currently in use.

24 In any case, there is variability in PDE, meaning that some factors other than the change in word order from Old English to Modern English must also be at work in determining position of the adverb with respect to the auxiliary.
In addition to the “tendency to adverbialise speaker comments” (Nevalainen 1994:253) described in the previous paragraph, other changes took place in adverb semantics in Early Modern English. Nevalainen (1994:254-6) describes a semantic change in which items which are “particularisers” (i.e., an adverb which brings focus to another element in an utterance, such as particularly in I like Mary particularly) acquired new meanings. For example, Nevalainen (1994:254-5) describes how the adverb even began to appear with an “additive” meaning which could be paraphrased as the focused element and everyone else (e.g., Even Mary wants to go = Mary and everyone else wants to go).

Within the broader theme of semantic change over time, Traugott & Dasher (2002:152-189) consider another type of adverbial change, namely, the development of discourse markers. Discourse markers, such as some uses of actually, are elements of an utterance which both link utterances and comment on what is being said (Traugott & Dasher 2002: 155). Therefore, Traugott & Dasher (2002: 155) distinguish discourse markers from “speech act adverbials” such as frankly and truthfully, which only provide comment. Not all discourse markers perform the same function. Those such as so, then and well “signal an aspect of the speaker’s rhetorical stance...or the addressee’s role in the discourse situation” whereas others e.g., only, serve to focus an element in an utterance (Traugott & Dasher 2002:152). The goal of Traugott & Dasher’s analysis is to track semantic development, though they (2002:159) note that syntax is also involved. According to Traugott & Dasher (2002:153), if adverbs develop pragmatic uses, “there is an overwhelming tendency” for them to move from “clause-internal” to “sentential” to “discourse markers.” This development is a semantic grammaticalization, rather than the type of morphosyntactic change described by the cline of grammaticalization. That is, the adverbs change in scope, rather than change in form (e.g., they become sentence adverbs instead of becoming, say, an affix).

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25 This use of even is analyzed as an adverb although it arguably modifies the noun Mary.
26 For extensive further discussion on discourse markers, see Chapter 3, Section 3.
27 This process has been observed cross-linguistically, but not universally (Traugott & Dasher 2002:153) and they are “highly language-specific in their distribution and function” (Traugott & Dasher 2002:156).
Central to this change is **subjectification**, which is the relationship between a speaker’s “experience” and the grammatical forms used (Traugott & Dasher 2002:89-91). For example, Traugott & Dasher (2002:91) note that the use of forms such as I *think* are more common in discourse than forms such as YOU *think* because a “speaker does not have access to an addressee’s mind, hence it is odd to affirm something about that person’s mind”. In other words, since a speaker’s experience includes his or her own thoughts (but not the addressee’s), it is more likely that a speaker will use the linguistic forms which reflect first person experience. In addition to explaining why forms such as I *think* are more common than YOU *think*, subjectification also explains the direction of semantic change in adverbials, with subjectivity increasing over time (Traugott & Dasher 2002:94). Thus, the use of *actually* to connect an utterance to previous discourse and comment on it (e.g., *actually*, *I don’t know*) arose from the use *actually* with the sense meaning “really” (Traugott & Dasher 2002:169-175). Therefore, what changes in this type of semantic grammaticalization concerns the scope of the adverb (Traugott & Dasher 2002:160), with meanings which relate to the “external described” situation in the utterance evolving into meanings which relate to the speaker’s opinion and then ultimately to linking the discourse (Traugott & Dasher 2002:94-6). Even as these changes take place, however, the new meanings are often closely related to earlier meanings (Hopper & Traugott 2003:16), resulting in a complex system of variation, as I describe in Chapter 5.

In this section, I demonstrated that adverbs in English have been subject to morphological, syntactic and semantic evolution. These changes have created the diverse system of adverb behaviour which is present in PDE, including variability. In the next section, I review some of the empirical studies of English adverbs.

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28 The evolution toward meanings that express personal experience is in keeping with Hopper & Traugott’s (2002:207) observation that “the grammaticalization of lexical items or constructions is enabled by pragmatic factors.”
4 Empirical studies of adverbs in English

Due to the multiplicity of possible positions and nuances of interpretation, studies of adverbs in empirical data have tended to consider either one particular adverb or a few semantically similar adverbs (see the case studies for an extensive list of specific examples). Another approach has been to study the distributions of a group of similar adverbs, such as Tottie’s (1986) study of focusing adverbs (e.g., ONLY, MAINLY, see (2.13)). Other studies select a subset of adverbs which fall into a single broad category/function but focus the analysis on each adverb individually; for instance, Aijmer (2002) considers WELL, JUST, OH, NOW and others discourse markers which all link elements in conversation/writing (see (2.7)), but are not synonymous with each other. In a corpus study using the Survey of English Usage, Hoye (1997) examines collocations of adverbs with modal verbs (e.g., PROBABLY + WOULD, MAYBE + SHOULD). Other studies of empirical data have attempted to categorize English adverbs using semantic or functional criteria, such as the study by Greenbaum (1969) discussed above. Jacobson (1978) examines and classifies a subset of English adverbs, namely those appearing before a verb. Biber & Finegan (1988) use a variety of genres (e.g., speech, newspaper writing, etc.) to categorize a set of stance adverbs into one of six groupings such as “expressing manner of speaking” (e.g., HONESTLY) or “expressing conviction” (e.g., SURELY).

In a series of corpus studies from the 1960s to the 1980s, Sven Jacobson, with the help of several assistants, examined the placement of adverbials (words, phrases and clauses) in English by using various corpora constructed from chiefly written sources. Jacobson (1964:60) describes three positions in a sentence where adverbials could appear, namely, “front” (before the subject, as in (2.17a)), “mid” (as in (2.17b)) and “end” (after the main verb, as in (2.17c)).

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29 Empirical studies of diachronic change are discussed in the previous section.
30 I discuss the study further in Chapter 4, as part of the discussion of the results of the adverb placement case study.
(2.17) a. Front position: HONESTLY, Chris knows the way
b. Mid position: Chris DEFINITELY knows the way
c. End position: Chris knows the way WELL

Jacobson (1964:61-69) then subdivides these general regions into more specific positions such as between a subject and a finite auxiliary (e.g., *Mary probably has left*), between a finite auxiliary and a lexical verb (e.g., *Mary has probably left*), etc. In his 1964 book, Jacobson uses written sources of British English published after 1900 to examine all possible adverbial positions in a sentence. He describes, in terms of relative frequency, the occurrence of individual adverbs/adverbials using his own detailed position categories.

A more recent corpus-based study in the same vein is Hasselgård (2010) using the International Corpus of English – Great Britain (ICE-GB), in which she examines a wide range of adverbials, including prepositional phrases and some subordinate clauses (e.g., those beginning with *if*). Hasselgård’s goals (2010:4) were to examine differences in frequencies and placement as well as to empirically investigate previous categorization schemata and explore discourse functions. She finds (2010:86) that initial positions (i.e., before the subject) are used for the introduction of a new topic or for discourse management (e.g., to link the current utterance to a previous one) whereas end position (i.e., after the main verb) is used for “obligatory adjuncts” (adverbs which change meaning if they are omitted, such as *TOGETHER* in *LIVE TOGETHER*) and elements being focused as new information (Hasselgård 2010:135); medial positions (those after the subject but before the main verb) are used for backgrounded elements (2010:102).

Jacobson’s 1975 book uses the methodology of his 1964 study to examine sources from the United States, focusing on works published in the 1960s; he also includes some spoken data, such as television and radio broadcasts. The focus of the 1975 work, unlike the British analysis, is an examination of differences in distribution of adverbials by genre (newspapers, fiction, etc.). In addition, he conducts a further analysis of the subset of adverbs which occur in what he calls “pre-finite-auxiliary mid-position” (i.e., when an adverb appears before a
finite auxiliary as in *John probably has left*) and compares this position with other positions, such as after the finite auxiliary or a lexical verb (Jacobson 1975:28). Although he does not undertake a large-scale comparative study, Jacobson does observe on more than one occasion that differences between the British and US data for the relative frequencies, including for pre-auxiliary adverbs, are neither categorical nor extreme (Jacobson 1975:10-11, 1981: 84-85). For instance, Jacobson (1975:11) compares seventeen frequency adverbs and finds variability in placement in both varieties and generally similar rates of pre-auxiliary occurrence.

As the cases discussed above exemplify, empirical studies on adverbs in the 20th century tended to focus on single varieties. However, more recent studies have considered adverb behaviour across varieties, and differences often emerge. As Rohdenburg & Schlüter (2009b:366) note, “The large and variegated class of adverbs and adverbial expressions contains numerous examples of British-American contrasts.” As with other phenomena, adverbs display morphological variation as well as variability in frequency and contextual conditions. Studies of adverbs cross-dialectally have tended to examine varying morphology, in particular the presence or absence of the –LY suffix (Biber et al. 1999; Opdahl 2000; Aijmer 2009; Algeo 2009). Corpus-based studies reveal that the –LY suffix is more frequently omitted (e.g., *go slow* versus *go slowly*) in American English than British English (Biber et al. 1999; Opdahl 2000; Aijmer 2009). However, innovation does not always advance first in North American English. Rohdenburg & Schlüter (2009b:380) note that some clause initial adverbs may be followed by ENOUGH (e.g., *strangely enough*), which, they argue, is an explicit indicator that the adverb preceding ENOUGH is intended to have sentential scope, and becomes less necessary as the adverb becomes more acceptable in initial position. Based on newspaper data, Rohdenburg & Schlüter (2009b:380) find that the frequency of this use of ENOUGH was higher in (North) American English than British English 30 years ago, though the rate of use has dropped in both locations, with the

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31 This study will be taken up in more detail in the case study on adverb placement.
32 However, frequency alone is not an adequate explanation of the data, as I discuss in Chapter 3, Section 3.
33 Presumably, as opposed to being a topicalized manner adverb.
frequencies about equal in both regions today, and thus they argue that British English led this change.

Other dialect-related morphological differences are linked to particular lexical items, as described in Algeo (2009), such as **WHILST/WHILE**\(^{34}\) (146) and varying preferences for truncated forms such as **SPECIALY/ESPECIALY** (142) or **ROUND/AROUND** (144).\(^{35}\) Chambers & Trudgill (1991:263) describe the use of **EVER** in exclamations as a North American construction (e.g., *Does he ever drive fast!*), calling it “perhaps ubiquitous in both” the US and Canada. Adverb choice in phrasal verbs is also reported to vary (Algeo 2009:151), such as the British preference for **ABOUT** (e.g., *moving people about*) versus a North American preference for **AROUND** in the same contexts (e.g., *moving people around*). In terms of differences in adverbial function, Algeo (2009:146) states that British English has “a greater propensity to use” forms which comment on the speaker’s attitude (e.g., **FRANKLY**, **REMARKABLY**), a finding which Rohdenburg & Schlüter (2009:379) confirm. However, not all change results in divergence; Rohdenburg & Schlüter (2009: 377-378) report an increase since the 1960s in adverbs splitting an infinitive (e.g., *to clearly state* versus *to state clearly*) in both varieties.

Corpus-based studies reveal that the –**LY** suffix is more frequently omitted (e.g., *go slow* versus *go slowly*) in American English than British English (Biber et al. 1999; Opdahl 2000; Aijmer 2009). However, looking at frequency alone does not provide the full story. Opdahl (2000) considers twenty adverbs which occur variably with –**LY** (e.g., **CHEAP(LY)**, **DIRECT(LY)**, **LOUD(LY)**, **SLOW(LY))** in British English (Lancaster-Oslo/Bergen Corpus) and North American English (Brown Corpus) and she finds that the choice between the zero and the -**LY** forms is generally governed by the same factors in both varieties, such as literal versus figurative meaning (see also Tagliamonte & Ito 2002 for similar results). Thus, the

\(^{34}\) British variant given first in the pairs in this paragraph.

\(^{35}\) For example, regain consciousness = *come (a)round.*
difference between the varieties for dual adverb forms is a frequency difference, rather than a
difference in the grammar. 36

In general, the studies conducted on British-North American variability in adverbs have
revealed that differences are generally related to frequency, rather than being categorical
differences, regardless of whether the phenomenon under study is position, function or
morphology.

5 Summary

In this chapter, I have described the background work which the studies undertaken here will
build on. After reviewing various syntactic proposals, I have generally adopted that of Ernst
(2002) for the analysis which follows. I then outlined a number of different categorization
strategies for adverbs, providing examples of the multitude of names for different categories
as well as strategies for classification (depending on the approach of the researcher) based on
syntax, semantics and function. As the variety of adverb types is related (at least in part) to
historical developments, I then outlined some of the syntactic and semantic
grammaticalization processes that have taken place over the history of English. Finally, I
described some of the previous findings in empirical adverb studies. Despite the evidence of
variation from corpus studies such as those cited above, variationist studies have barely
scratched the surface of adverb phenomena. This is undoubtedly due to the highly
problematic task of fitting adverb variation into the requirements of a study undertaken using
the variationist paradigm, particularly determining syntactic, semantic and pragmatic
equivalence. In the next chapter, I discuss these issues in more detail in order to describe the
methodological considerations necessary when conducting a variationist study of adverbs.

36 Opdahl (2000:114) also finds a slightly higher use of the -ly forms over the zero forms in “complex VP”
constructions (i.e., when an auxiliary is present). However, the zero forms did not occur in my data in the
contexts examined (though the variability exists in other contexts, such as intensification, in these corpora) so I
cannot verify this claim.
Chapter 3  
Methodology and data

In this chapter, I provide an overview of the sources of data and I describe the social variables used in the case studies which follow. I then describe the elements of the current study that are specific to the subset of variationist studies to which this study belongs, namely, I articulate the way the linguistic variable has been implemented for studies of lexical, morphosyntactic and pragmatic variation (in section 2) and the methodology of comparative sociolinguistics (in section 3). In the final section, I discuss some of the issues that arise in implementing the methodology for adverbs specifically.

1 The corpora and the social variables

This section first outlines the sources of data as well as the data collection and statistical methods used to examine the relationships between variants in the systems. I then describe the social factor groups that were coded in the case studies. I also give a brief overview of the distribution of common adverbs in the two corpora.

Data for the two case studies undertaken here come from the Toronto English Archive (Tagliamonte 2006b) and the York English Corpus (Tagliamonte 2002a). These corpora are samples of speech from members of their respective communities, and thus they allow us to make observations about what is happening linguistically at a detailed level. Then, as Labov (1994: 4) states, “From these observations, we make inferences about what is happening in the community as a whole.” Both corpora consist of sociolinguistic interviews (and are thus spoken, vernacular data) collected by in-group community members. Speakers interviewed in both corpora were born in each city and still resided there at the time of the interview. The Toronto English Archive (henceforth, Toronto) data was collected in the city (in Canada) from 2003 to 2006 and consists of 214 interviews with speakers ranging in age from 9 to 92. The York English Corpus (henceforth, York) was collected from 1996 to 2003 in the city of the same name in northern England and consists of 96 interviews, with speakers ranging in
age from 14 to 91. In order to examine the grammar of speakers after they had reached a point at which their role in advancing change had mostly stabilized (see Labov 2001:454), I only included adults, i.e., speakers 17 and older, in the case studies here. Further details on speaker demographics are provided in each case study. Quotations from the corpus are labeled as T for Toronto and Y for York, with speaker codes given in the case studies; that is, a quote labeled (T/1) indicates that the data are from the interview conducted with speaker 1 from the Toronto corpus (codes used to maintain anonymity).

In addition to the collection of the interview (i.e., linguistic) data, demographic information about each speaker was also available, including the speaker’s age, sex, occupation, education and, often, the birthplace of the speaker’s parents. Both the original recordings and a carefully transcribed text of each interview was available, and I used both at different stages of the research. The recordings were used to examine claims such as the role of stress; however, the transcriptions were used for the initial extraction of data from the corpora, using the method I now describe. First, I extracted a set of data from the transcribed interviews using the AntConc concordance program (Anthony 2008). Then, using this first set of data, a second process of data extraction took place to remove cases which were not part of the variable context. Details of the data extraction and refinement processes for each case study are given in the appropriate chapter. Having established the set of tokens to be included in the analysis, the next step was to code the relevant social and linguistic factor groups (i.e., to code for the independent variables, both linguistic and social for each token). Once coding was complete, it was then possible to conduct a series of multivariate analyses, as embodied in the variable rule program GoldVarb X (Sankoff, Tagliamonte & Smith 2005), and to elucidate the results using the methods of comparative sociolinguistics (Tagliamonte 2002b; Hellinger 2005) outlined in section 3.

Labov (2005:7) notes, that it “is the social or linguistic problem that dictates the choice of independent variables.” Both the linguistic case studies conducted here have, at their core,
the questions of social embedding and regional variation. The social data available for each speaker allowed the examination of several language-external variables. First, the speakers could be identified by region (Toronto or York). In addition, it was possible to examine sex, education\(^2\) and age. Sex was coded with a binary division: male or female. Education was coded as either “up to and including the completion of mandatory education” or “beyond the mandatory education requirement” for that locale.\(^3\) I looked at age as a continuous variable for my initial exploration of behaviour, but ultimately grouped speakers into three categories: 18 to 39, 40 to 69, and 70 to 92. This age-group division was not arbitrary; where patterns were visible in the data, speakers in their 30s behaved more like those under 30 than over 40, and those in their 60s patterned more like those under 60 than over 70. There was a slight relationship between age and education, with more of the younger speakers than the older speakers having more than the mandatory education level, but the interaction was not strong enough as to create non-orthogonal independent variables.

In addition to the social factor groups, linguistic factor groups (i.e., language-internal independent variables) were included in each analysis. However, while the independent social variables identified for the two communities were held constant for the two case studies, the specifics of the independent linguistic variables depend on the individual linguistic phenomenon, and thus the details of the internal variables are discussed in the relevant chapter presenting each case study.

Before moving on to methodology, I briefly discuss the twenty-five most frequent adverbs in the two corpora, presented in Table 3.1. The corpora studied here are not tagged by part of speech; thus, the list below was compiled based on lexical item. There is a limitation to this method, namely, it is not possible to distinguish between different functions of the same lexeme (without examining every occurrence). For instance, the occurrence of, say, JUST when it functions as an adjective (e.g., a just cause) becomes conflated with its adverbial meanings (e.g., I just arrived). However, I applied the same criteria to both corpora, and,

\(^2\) In addition to education, I also examined profession in each of the studies, but in cases where one or both of the variables was selected as statistically significant, education was the better predictor.
\(^3\) The level of mandatory education changed in both locations over the time span examined here.
when in doubt, I referred to the OED, including items such as SO and THOUGH which are categorized there as “conjunction or (conjunctive) adverb.” On the other hand, I excluded items where I suspected that most of the occurrences were not adverbial, such as IN, which I believed would be more commonly used as a preposition. As this list is only intended as a general overview, rather than the basis of a detailed analysis, the simplified methodology was justified.

The most remarkable result seen in Table 3.1 is that the items in the two lists are identical. Some of the rankings are different (e.g., QUITE and TOO), though not all of them. In addition, many of the adverbs in this list could also be categorized as discourse markers, a topic I discuss further in section 4. It is also interesting that only four of these adverbs have the –LY suffix commonly associated with adverb morphology (namely, REALLY, ACTUALLY, PROBABLY and ONLY). There are a number of types of adverb (see Chapter 2, Section 2) in this list: intensifiers, such as VERY, frequency/aspect markers, such as NEVER, and adverbs expressing temporal relations, such as AGAIN and AGO. Many of the adverbs above serve more than one function, a challenge to adverb analysis in general, which I discuss in section 4 below. Overall, the general population of adverbs in the two corpora seems very consistent. However, with adverbs, surface similarities often belie differences in detail, as the case studies in Chapters 4 and 5 reveal, and which I will turn to shortly.

To sum up, in this section, I have provided an overview of the composition of the corpora, as well as outlining the data extraction methodology and the social variables considered in this work, and a brief overview of the similarity in frequent adverbs in the two corpora. In the next section, I describe some specific elements of the methodology used in this study.
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Table 3.1: Most frequent adverbs in the corpora
2 Sociolinguistic variables

There are thorough descriptions elsewhere of both the ideological foundations of variationist sociolinguistics (e.g., Labov 1966; Weinreich et al. 1968; Chambers 2002) and its quantitative methodology (e.g., Labov 1966; Bayley 2002; Labov 2005; Tagliamonte 2006). However, the extension of quantitative methodology from phonology to other levels of the grammar has not been without its critics. In this section, therefore, I describe how the linguistic variable has been implemented for studies of lexical, morphosyntactic and pragmatic variation.

Central to quantitative sociolinguistic studies is the dependent linguistic variable, which “begins with the simple act of noticing a variation – that there are two alternative ways of saying the same thing” (Labov 2005:7). Although used initially for phonetic or phonological phenomena (e.g., Labov 1966), the linguistic variable was extended to other areas of linguistic study, such as syntax (e.g., Sankoff 1972; Rickford 1975) and lexical choice/semantics (e.g., Sankoff et al. 1978), although there were critics of this expansion beyond phonology (e.g., Lavandera 1978; Romaine 1984; Cheshire 1987). Some criticism centered on the problematic nature of categorizing the locus of variability. For instance, Romaine (1984:421) notes that examining some kinds of grammatical variation “involves us squarely in a long-standing controversy over the borderline between syntax and semantics on one hand, and between semantics and pragmatics on the other.” However, Cheshire (1987:277-8) argues that issues at interface points such as syntax-semantics may be elucidated by a study of variation, though not necessarily using the type of linguistic variable used for phonology. Other criticism of the extension of the linguistic variable beyond phonology focused on the problematic nature of determining what constitutes “the same thing” outside of phonetic/phonological variation and how to capture the variation in constructing an analysis. As Tottie (1991:90) states, “A fundamental question in the study of linguistic variation is the requirement of some degree of semantic equivalence.” For instance, Lavandera (1978:79) raises the question of how to study lexical variation when a single word
might have multiple meanings, such as the lexical item, WIPED OUT which can be synonymous with both EXHAUSTED and DEMOLISHED, though the latter two items are not used synonymously with each other. However, Sankoff (1988:153-5) argues that it is possible to infer which meaning is intended from the context and thus “distinctions in referential value or grammatical function among different surface forms can be neutralized in discourse.” That is, to use Lavandera’s example, there are cases of WIPED OUT which can be identified as varying with EXHAUSTED and the subset of cases where that overlap exists (i.e., where WIPED OUT means EXHAUSTED) forms the data for analysis. In other words, this type of problem can be managed in morphosyntactic variation by a careful definition of the variable context.\(^4\)

Discourse-pragmatic features, on the other hand, may not be amenable by any means to the semantic equivalence requirement and thus the appropriateness of investigating discourse features using linguistic variables continues to be “contentious” (Pichler 2009:583), despite the increasing interest by sociolinguists in discourse-pragmatic phenomena in recent years (Tagliamonte 2011:276). Sankoff & Thibault (1981:207-8) propose relaxing the stringent requirement of semantic equivalence, invoking the criterion of “weak complementarity,” i.e., functional equivalence, saying, “In many cases, including some of the most interesting ones, the most we can say is that the proposed variants can serve one or more generally similar discourse functions.” Managing the possibility of more than one function is crucial to examining discourse phenomena; describing a single function is often not practical or appropriate, because it is “counter to the nature” of discourse-pragmatic phenomena, which may serve multiple functions simultaneously (Cheshire 2007:158). This issue of how to manage a multiplicity of functions in variationist work has received new consideration in the past few years (e.g., Cheshire 2007; Pichler 2010). Pichler (2010:590-1) advocates using either a functional or a structural approach, depending on the variable. For example, intensification (use of an adverbial to express degree) lends itself to a functional approach (Pichler 2010:591), presumably because the function can be reasonably well-defined.\(^5\) However, discourse markers such as I THINK and I KNOW or general extenders (phrases such

\(^4\) See also Aaron 2010 for discussion of how to include the non-overlapping cases as an explanatory mechanism.

\(^5\) See also D’Arcy 2005 for an analysis of LIKE based on function in discourse.
as AND STUFF/THINGS LIKE THAT) may serve a variety of functions simultaneously and thus they may be better captured by identifying underlying structural similarities (Pichler 2010:589-591), such as the subject-pronoun + verb form which describes I THINK and I KNOW.

This consideration of a multiplicity of functions is particularly relevant for items which are in flux, because pragmatic overlap and change may occur together (Hopper & Traugott 2003:126). Sankoff & Thibault (1981:207) also note the importance of the relationship between a linguistic unit’s function and the path of its change. Schwenter & Torres-Cacoullos (2008:12) demonstrate that grammaticalization can simultaneously result in variability of form (i.e., two or more forms performing the same function) and variation in function (i.e., two or more functions performed by the same form). This state of affairs, in which multiple forms and functions are inextricably intertwined, “makes the semantic equivalence issue moot for grammaticalizing variants” (Schwenter & Torres-Cacoullos 2008:11) because the system is evolving as a whole, and an examination of only one part of it obscures the broader course of development. Thus, there has been a trend in recent discourse-pragmatic sociolinguistic research (e.g., Cheshire 2007; Schwenter & Torres-Cacoullos 2008; Pichler 2010; Tagliamonte & Denis 2010) to examine systems as a whole, rather than subsets which perform a putative single function.

The studies undertaken here comprise part of this developing body of sociolinguistic work. In the case study of adverb placement, I use syntactic position as well as semantic equivalence in those positions to determine the variable context. In the case study of adverbs of realness, I use the broader discourse-pragmatic notion of examining a system as a whole. The specifics of how the approaches are implemented are discussed in detail in the respective chapters discussing the two case studies. To the data on these sociolinguistic variables circumscribed in this manner, I apply the methodology of comparative sociolinguistics, which I describe in the next section.
3 Comparative sociolinguistics

Using a variety of quantitative approaches, studies of cross-dialect morphosyntactic and/or pragmatic variation have been undertaken with varieties of English (Tagliamonte 2002b; Buchstaller & D’Arcy 2009; Rohdenburg & Schlüter 2009b; inter alia) and other languages (e.g., D’Alessandro et al. 2010 for dialects in Italy; Schwenter & Torres-Cacoullos 2008 for Mexican and Peninsular Spanish; Mougeon & Beniak 1988 for varieties of Canadian French; to name but a few). In addition, Hopper & Traugott (2002:201) observe that “discourse-oriented statistical analysis can suggest how to recognize possible ongoing grammaticalization.”

I make use of a variety of quantitative methods, such as distributional analyses (recommended, at least as a starting point, in Sankoff & Thibault 1981:206-7; Labov 2005:7; Tagliamonte 2006a: 191-216; inter alia) and relative frequencies, such as instances per million words (see Sankoff & Thibault 1981:210; Rohdenburg & Schlüter 2009b:passim). However, the primary focus of the studies of adverb variability undertaken here follow the methodology of comparative (quantitative) sociolinguistics, which Hellinger (2005:1117ff) considers a subset of the broader area of “contrastive sociolinguistics” (which may also refer to comparisons in qualitative studies, such as politeness strategies). Comparative sociolinguistics “concerns the connection (relationship) of linguistic variation in one body of materials to another” (Tagliamonte 2002b:729). In this work, the materials are the two corpora of vernacular data from sociolinguistic interviews described in the first section of this chapter. The comparative approach, which has also been used to analyze the origins of dialects such as African American Vernacular English (Tagliamonte 2002b:730), parallels the comparative method in historical linguistics (see Trask 1991:202-241).

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6 As an example, Hopper & Traugott 2002:202) cite a study by Thompson & Mulac (1991), looking at the rates over different time periods at which THINK, GUESS and other such verbs occurred with and without complementizer THAT.
More specifically, identical statistical (here, multivariate) analyses are conducted on the relevant linguistic feature in each data set, and the results are compared in terms of which factor groups (i.e., independent variables) are statistically significant, the relative strength of the factors groups and the hierarchy of features within a factor group, each of which I describe in more detail below. Similarities in these measurements are evidence of similar underlying grammars in varieties (Tagliamonte 2002b:732).

The first point of comparison is an examination of which factor groups (i.e., a linguistic environment, such as verb tense, or a social variable, such as speaker age) are selected in the analysis as statistically significant (Tagliamonte 2002b:731). As in statistical testing generally, a conclusion of statistical significance indicates that observed differences would be expected to occur by chance only at the rate determined ahead of time (see Butler 1985:68-72), which, for this study, is one in twenty (i.e., significance level of 0.05). However, a selection of the same factor groups as significant in two varieties is not sufficient proof of comparable underlying grammars in the two dialects. It is also necessary to examine more detailed relationships, as I describe in a moment. Central to these comparisons is the use of factor weights, i.e., values expressing the relative likelihood that the form of interest (e.g., the occurrence of an adverb in a specific position) will be present in a particular environment (e.g., when the verb is a modal or when the speaker is female) (see Tagliamonte 2006a:145). Using factor weights, it is possible to examine the relative strength of the factor groups within each variety and compare those rankings across varieties (Tagliamonte 2002b:738-9). For example, the factor group with the largest range has the largest effect on the variation compared to the other factor groups under consideration within a variety. If the relative ranking in two varieties is the same (i.e., if the same factor group is strongest in two varieties), the similarity suggests commonalities in the underlying grammars (Tagliamonte 2002b: 731). Finally, an examination of factor weights within a factor group is relevant; similar ordering of the elements within a factor group (called the CONSTRAINT HIERARCHY)

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Footnote: More specifically, this is examined by calculating the RANGE for a factor group, which is the difference of the smallest factor weight subtracted from the largest factor weight within a group.
across two varieties is also indicative of similarities in the two grammars (Tagliamonte 2002b: 731).

One particular advantage of this method is that it allows an examination of the patterns in a grammar which frequency alone cannot elucidate. Frequency of an item may rise and fall based on the topic under discussion or other “features of the situation” (Poplack & Tagliamonte 1991:318). Cheshire (2007:161) warns that frequency differences with discourse features in particular may be a result of social features of the speaker and the interlocutor as well as the data in the corpus under study. Similarly, while changes in frequency may signal change over time, such as increased grammaticalization (Traugott & Heine 1991:9), an increase in frequency alone is not sufficient evidence of change (Mair 2004:123-5).

Using the methodology described in this section, and the methodology for implementation of linguistic variables described in Section 2, I conducted the two case studies which follow in the next two chapters. However, identification of a methodology is not equivalent to implementation of that methodology, particularly where adverbs are concerned. Thus, in the remainder of this chapter, I outline some of the specific considerations that are relevant for the study of adverbials under the framework just described.

4 Issues in quantitative studies of adverbials

As discussed in the previous chapter, the syntax of adverbs is complex. That complexity clearly impinges on the design of an empirical study of adverbs, particularly a quantitative empirical study. In this section, I describe some of the challenges that need to be overcome when considering adverb distributions, such as morphological diversity, low frequency of individual adverbs, polysemy, interaction with prosody, multiple functions of single adverbs and issues of functional equivalence.

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8 Vendler (1984:297) remarks, “Once upon a time, Prof. Zellig S. Harris gave me the charitable advice: “Don’t try adverbs, that way madness lies”. But, like Con Edison, dig we must, and hopefully at that.”
4.1 General issues

One of the first considerations when tackling adverbials is the wide variety of morphological forms adverbials can take. For instance, Ernst (2002:9) categorizes NOW, FOR A MINUTE and STILL as “time-related.” It is immediately apparent that the adverbials in his list include both single-word adverbs and a multi-word adverbial, namely, the prepositional phrase FOR A MINUTE. Therefore, a decision is necessary about whether a study should include only single-word adverbials or more complex adverbial structures. Furthermore, there is the well-studied (Biber et al. 1999; Opdahl 2000; Tagliamonte & Ito 2002; Aijmer 2009; Algeo 2009, inter alia) phenomenon of alternation of the –LY ending (e.g., really versus real) described in the review of empirical studies (see Chapter 2, Section 4), and thus it is important to consider the possibility that the item(s) under investigation might have multiple morphological forms. Moreover, what appears to be morphological variation may be something else. For example, Aijmer (2009:324-326) investigates the use of SURE in British and American English, examining the contexts in which SURE occurs and noting that, although SURE and SURELY have a related etymology, the variability between them also involves the adverb CERTAINLY. For example, in cases expressing epistemic meanings as in (3.1) (based on Aijmer 2009:326), SURELY may not be possible, particularly in British English.

(3.1) [A]: Delicious.

[B]: It SURE / CERTAINLY / ?SURELY looks good.

Therefore, a study of the variability with SURE and SURELY requires more than a morphological examination of form. It also entails an exploration of what other lexical items are involved in the variation, a topic I return to below.

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9 As described further in the case studies, I have considered only single-word adverbials in the adverb position study (Chapter 4), but longer adverbials (e.g., AS A MATTER OF FACT) in the study of adverbs marking realness (Chapter 5).

10 In this case, the adverb is involved in the expression of the belief that something is good based on the evidence of how it looks.
Adverb interpretation can also be entangled with prosodic features. For instance, the interpretation of the adverb REALLY depends on its intonation (question or declarative) in (3.2):

(3.2)       [A] It’s far too expensive  
             a. [B] REALLY?  
             b. [B] REALLY.

In (3.2a), the question intonation expresses incredulity, while in (3.2b) the declarative intonation signals agreement (see the discussion of NOW below for another example).

Other considerations that arise when working with adverbs are the related issues of the (in)frequency of many individual adverbs and the type of data (e.g., written or spoken) used as a corpus. As an example, I consider a case study of six evaluative adverbs (see (2.14a)) by Rohdenburg & Schlüter (2009b). Table 3.2 presents the frequency per million words for the adverbs considered by Rohdenburg & Schlüter (2009b:379), with corresponding values from the corpora studied here.

Using their data, Rohdenburg & Schlüter (2009:379-380) conclude, reasonably, that evaluative adverbs are more common in British than in North American English. However, the results from the Toronto and York corpora do not corroborate their claim, as the frequencies for two of the three adverbs that are present in the Toronto and York corpora are higher in the Toronto data.
Rohdenburg & Schlüter (2009b:379) and York and Toronto\textsuperscript{11}

<table>
<thead>
<tr>
<th></th>
<th>Rohdenburg &amp; Schlüter</th>
<th>York and Toronto\textsuperscript{11}</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>British</td>
<td>North American</td>
</tr>
<tr>
<td>astonishingly</td>
<td>1.53</td>
<td>0.28</td>
</tr>
<tr>
<td>curiously</td>
<td>3.93</td>
<td>2.76</td>
</tr>
<tr>
<td>interestingly</td>
<td>3.56</td>
<td>2.86</td>
</tr>
<tr>
<td>oddly</td>
<td>3.39</td>
<td>2.82</td>
</tr>
<tr>
<td>strangely</td>
<td>3.04</td>
<td>1.45</td>
</tr>
</tbody>
</table>

rates per million words in the corpus

\textbf{Table 3.2: Examples and rates of some infrequent adverbs}

This, in part, may be a result of differences between spoken and written registers; the Rohdenburg & Schlüter data come from newspaper corpora, whereas the corpora studied here consist of (spoken) vernacular. Rohdenburg & Schlüter (2009:380) remark that “sentence adverbs” of which these six evaluative adverbs are a subtype, “are generally foreign to spoken registers (but typical of journalese).” However, the data from the Toronto and York corpora indicate that at least some of these evaluative adverbs, e.g., STRANGELY, are not as infrequent in spoken data as Rohdenburg & Schlüter suggest. Furthermore, adverbial frequencies and positioning may not be consistent across written and spoken data (Jacobson 1975). Most importantly, though, the low frequencies attested above demonstrate that an analysis of grammatical or social correlates of these individual adverbs using quantitative tools such as statistical significance testing would be extremely problematic. The data are not plentiful enough to allow a quantitative analysis, without an extremely large corpus to allow sufficiently high token counts. Therefore, in order to examine infrequent items, it is necessary either to expend (impractically) extensive resources to implement the traditional vernacular-gathering method of sociolinguistic interviews (a necessity if social

\textsuperscript{11} The Ns are quite low, as would be expected from these rates; ODDLY: Y=2, T=4; INTERESTINGLY: Y= 1, T=3; STRANGELY: Y=8, T=4. Furthermore, for the sake of ease of comparison, I generalize here from English to British, though I acknowledge it may be an over-generalization.
variables are to be considered), or to use a corpus without social features of the speakers, as Rohdenburg & Schlüter have done with their newspaper data.\textsuperscript{12}

Rohdenburg & Schlüter’s method also demonstrates another viable strategy for dealing with infrequent adverbs, which is to consider adverbs grouped by type (i.e., by function), though this method requires a review of the results of each individual adverb for any exceptional behaviour or skewing effects. For instance, Tagliamonte & Ito’s (2002:149-151) examination of –LY ending variability found that the adverb \textsc{really} in their British data behaved differently than the rest of the adverbs they examined, which, combined with the relatively high frequency of \textsc{really}, would have obscured the overall picture if \textsc{really} had not been considered separately. Finally, it may be necessary to consider subgroups within a large function, based on behaviour. For instance, Opdahl (2000:67) notes that, when studying a group of adverbs, some aspects of adverb behaviour (e.g., what type of verb they can modify) are only relevant for a few adverbs in a group.

Frequent adverbs, on the other hand, while lending themselves more easily to quantitative analysis, often require careful consideration of possible polysemy. For instance, the spatial/directional indicator \textsc{in} can function as both a preposition and as an adverb (Barry 2002:129), as demonstrated with data from the Toronto and York corpora.

\begin{enumerate}
\item Prepositional uses of \textsc{in} \\
\hspace{1cm} a. I can’t find it anywhere \textsc{in} the staff manual (Toronto) \\
\hspace{1cm} b. There were always books \textsc{in} the house (York)
\item Adverbial uses of \textsc{in} \\
\hspace{1cm} a. I see this open door and I just walk \textsc{in} (Toronto) \\
\hspace{1cm} b. The neighbours used to come and crowd \textsc{in} (York)
\end{enumerate}

\textsuperscript{12} See Opdahl (2000) for another approach which involves elicitation for low frequency items, though this does not permit an analysis of social variables.
Using a part of speech tagged corpus may alleviate some of the complications for the analyst. For example, the Corpus of Contemporary American English (COCA) (Davies 2011) distinguishes adverbial uses of *in* from prepositional uses, though this is not necessarily the case for all instances of polysemy (as I describe in the discussion of *now* below). Furthermore, as discussed below (and in Chapter 5), some adverbs, such as *actually*, are also categorized as discourse particles (Aijmer 2002: *passim*), raising the question of whether they should be examined based on their semantic meaning, pragmatic function or both.

Even in cases where all occurrences of a particular item function as a single part of speech, the functions of those occurrences may be quite different (Opdahl 2002:56-58). For example, the data in (3.5) and (3.6) are from the Toronto and York corpora respectively for the adverb *really*.

(3.5)  
a. [A] They were from California. [B] *really*?  
b. We’re *really* good friends
   c. It could be anywhere, *really*.

(3.6)  
a. [A] There must have been nine cinemas. [B] *really*?  
b. That’s *really* good fun
   c. It’s a bit of an upheaval for him, *really*.

The function of *really* in the (a) examples is to express a degree of incredulity. In the (b) examples, *really* functions as an intensifier.\textsuperscript{13} In the (c) examples, *really* acts as adverb marking realness (a topic I address in a later chapter). These separate functions must be considered in any analysis to ensure a comparison of like with like (Sankoff & Thibault 1981; Traugott & Dasher 2002; Tagliamonte 2006a).

\textsuperscript{13} Intensification with *really* has been studied extensively in the literature (e.g., Ito & Tagliamonte 2003; Lorenz 2002; Tagliamonte 2006b, *inter alia*)
Moreover, as discussed in the previous chapter (Section 1), positional differences may be linked to meaning differences. For example, the use of an adverb in initial position often indicates a speaker’s (self-described) manner of speaking (as in (3.7a)), whereas the adverb describes the actions of the subject of the clause when it occurs after the verb (as in (3.7b)):

(3.7)  
\[\text{a. FRANKLY, John speaks all day.}\]
\[\text{b. John speaks FRANKLY all day.}\]

Related to the topics of adverb function and position is the issue of functional equivalence of different lexical items, a question which is perhaps the thorniest of all the issues discussed here. For instance, “there are plenty of examples of adverbials that express meanings belonging to more than one metafunction at the same time” (Hasselgård’s 2010:302). Conversely, a single form may have different functions in different contexts, such as the case (discussed above) of SURE (Aijmer 2009:324-326), which can vary with SURELY but also with CERTAINLY. Therefore, a study of the variability of SURE/SURELY would either need to be limited to the overlapping contexts, or be expanded to consider other variants.  

14 The issue of determining appropriate variants is even more complicated when looking at multiple means to express a similar discourse function, such as modal adverbs, as illustrated here from the Toronto corpus:

(3.8)  
\[\text{a. POSSIBLY it could spread}\]
\[\text{b. MAYBE it was a dream}\]
\[\text{c. PERHAPS everybody in the world has to}\]
\[\text{d. PROBABLY it was longer ago than that}\]

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14 For instance, see Simon-Vandenbergen & Aijmer’s (2007) examination of adverbs of “modal certainty” in British English which includes instances of CERTAINLY, OF COURSE, INDEED, OBVIOUSLY, CLEARLY, DEFINITELY, SURELY, NATURALLY, NO DOUBT, DEFINITELY, NECESSARILY, SURELY, UNDOUBTEDLY, INEVITABLY, PLAINLY, EVIDENTLY, ARGUABLY, FOR SURE, ADMITTEDLY, FOR CERTAIN, DECIDEDLY, UNDENIABLY and UNQUESTIONABLY.
Are the adverbs equivalent? While POSSIBLY, MAYBE and PERHAPS are arguably the same (all expressing a similar degree of likelihood), should PROBABLY be excluded because it expresses a greater likelihood than the other three, or should they all be considered together because they all function as modal adverbs? The answer to this question, of course, depends on the focus and the goals of the analysis, in the same manner that the goals of a schema to categorize adverbs influences how the adverbs are grouped (see Chapter 2, Section 2). A narrow analysis of lexical variation would require the exclusion of PROBABLY, whereas a broader analysis of modals (e.g., using the structural equivalence model in Section 2 of this chapter) would require the inclusion of all four, as well as other adverbs such as DEFINITELY.

To sum up, the issues in undertaking a quantitative, empirical study of adverbs are numerous and include morphological diversity, infrequency, polysemy, prosody, multiple functions and functional equivalence. The last of these, the question of interchangeability, both in terms of sentence position and the semantic equivalence of different adverbs, is the most problematic. Determining equivalence is generally essential in quantitative studies as the linguistic variable forms the basis of the variationist analysis (Tagliamonte 2006; Romaine 1984; Labov 1966, inter alia). Furthermore, I note that these issues often occur concurrently for an individual adverb. To further exemplify, I briefly outline, in the next section of this chapter, a treatment of NOW as a case in point for many of the above described issues.

4.2 A case study: NOW

While I was browsing through the data in the process of making the frequency list given in Table 3.1, I had the impression that the adverb NOW was not behaving identically in the Toronto and York data. In order to satisfy my curiosity, I intended to conduct a quick analysis. However, as I illustrate in this section, where adverbs are concerned, many complexities arise before an analysis can even begin, though I do provide a brief, though preliminary, set of results.
Encarta North America (2011) describes now as being used as a conjunction, a noun and an adjective, as well as an adverb. An example of the conjunction use (from Toronto) and of the noun use (from York) are given in (3.9):

(3.9)  a. Now (that) you’re married... (conjunction)
       b. Now is the time (noun)

The adjectival use of NOW given by Encarta has a meaning of fashionable; this meaning does not occur in the York or Toronto corpora. However, another adjectival function of NOW is demonstrated in the data from Toronto (but not York):

(3.10) I did move away again when I got married with my now ex-wife

This function of NOW is also attested in COCA:

(3.11) I went and asked my now father-in-law (ABC_GMA, C. Gibson, Nov. 2011)

The instance of NOW in (3.11) is classified in COCA as an adverb, even though it is clearly functioning as an adjective. While the impact on an analysis of a few miscategorized tokens may be negligible, it does underscore the need for the consideration of polysemous forms when dealing with adverbs.

Turning to the adverbial uses of NOW, Encarta gives several possible meanings, as in (3.12), with the Encarta definition given in parentheses after the example:

15 This adjectival use seems to be particularly common with kinship terms and appears to be a form which has arisen from the adverbial use of NOW to modify an adjective, as seen here, also from COCA: I started subscribing to Today's Parent when my now 10-year-old twins were just toddlers. (COCA: Today's Parent, Volume 26, Issue 3 (Mar 2009), p. 24)
(3.12) a. I’ve never done this before, and I’m not starting NOW (“at present time”)
   b. We’ll miss our train if we don’t go NOW (“immediately”)
   c. It doesn’t matter NOW (“given current situation”)
   d. for six months NOW (“up to present time”)

These definitions are in keeping with Ernst’s (2002:9), categorization of NOW as a “time-related” adverb, as mentioned above. In addition, Encarta (2011) lists two other adverbial entries for NOW which are described not with definitions, but rather as uses of NOW:

(3.13) a. NOW, what would you like to drink? (“used to preface or clarify a remark”)
   b. NOW, where was I? (“used in hesitation”)

Uses such as those in (3.13) are also attested in the Toronto and York data, as exemplified in (3.14). As has been noted in previous studies (e.g., Aijmer 2002:58-59), this type of use of NOW is compatible with past tense, despite the usual association with the present seen in the definitions in (3.12).

(3.14) a. NOW, what is this? (Toronto)
   b. NOW food was rationed (Toronto)
   c. NOW they were my mother's, but she gave them to G- (York)
   d. She likes her Crunchies as well, doesn't she NOW? (York)

This use of NOW is also attested in COCA, where is it categorized as an adverb; the preceding sentence is given to clarify that this is a discourse use, rather than a temporal one, despite the use of present tense:

(3.15) And what can you say of John Conyers, a former fellow Judiciary member with whom I served and personally like? NOW, here is a man who was given 50 turkeys over the holidays, so his office could distribute them to the poor and needy.
(COCA: MSNBC, Scarborough, July 2005)
Aijmer (2002:72) treats case of *now* such as those in (3.14) and (3.15) as discourse particles, noting they are similar in meaning to “conjunctions like AND, BUT, and SO” though remarking that “they do not seem to have identical functions.” Aijmer (2002:57-96) describes the function of this type of *now* as signalling topic change and/or connecting discourse units. Furthermore, Aijmer (2002:62) notes, “There is a close relationship between the temporal meaning of *now* and its function as a discourse particle.” This relationship of the temporal and the discourse uses gives rise to ambiguous cases (Schiffrin 1991:231; Aijmer 2002:60-61), such as this example from the York corpus where *now* both refers to present time but also serves a discourse function of connection:

(3.16) And it went up to, er, *now*, I can’t think

In cases such as (3.14), and in the use of *now* more generally, there are some prosodic cues for the interpretation (at least, in spoken data). However, these prosodic cues are not categorical, and thus they can aid interpretation, but are not, in and of themselves, sufficient for determining meaning. Aijmer (2002:59) relates findings from an earlier study (Hirschberg & Litman 1993) noting that “Discourse *now* was more often deaccentuated than sentential *now*” but they also noted some positional cues, such as a strong preference for discourse *now* to occur in clause-initial position.

Finally, there are genre-based differences in frequency of discourse *now*. Aijmer (2002:69) finds a greater frequency (per ten thousand words) of discourse *now* in more formal registers, such as public speeches, as compared to more private speech, such as telephone conversations.

Given these facts, undertaking an empirical study of this adverb would require careful consideration in choosing a corpus, determining what *now* varies with, and deciding what constitutes the envelope of variation. For instance, Aijmer (2002:65-67) compares *now* with *well*, though noting differences. I find that *so* is equally acceptable (or unacceptable) in the
cases in (3.17), which are based on the corpus examples of discourse *now* given above in (3.14):

(3.17) a. **Well/So**, what is this?  
b. **Well/So**, food was rationed  
c. **Well/So**, they were my mother's, but she gave them to Glenis  
d. She likes her Crunchies as well, doesn't she *well/*so?

Do these variants mean the same thing? If not, are they similar enough that they might form part of a single system? I return to this type of question in Chapter 5.

Finally, given that Brinton (1996:206) notes that *now* has been subject to the grammaticalization process which gives rise to discourse functions\textsuperscript{16} and the importance of including multiple functions in an analysis of grammaticalizing forms (Schwenter & Torres-Cacoullos 2008:11), it is also useful to consider the distribution of both functions. Thus, Table 3.3 shows the distribution of the forms in the corpora studied here in percent, raw count and rate per million words (pmw).

<table>
<thead>
<tr>
<th>Function of <em>now</em></th>
<th>Toronto</th>
<th></th>
<th>York</th>
<th></th>
</tr>
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<tbody>
<tr>
<td></td>
<td>%</td>
<td>N</td>
<td>pmw</td>
<td>%</td>
</tr>
<tr>
<td>temporal</td>
<td>90</td>
<td>1787</td>
<td>1215</td>
<td>86</td>
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<td>2</td>
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<tr>
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<td>1984</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table 3.3: Rates of *now* by function*

Compared to the extremely infrequent evaluative adverbs which averaged around two instances per million (presented in Table 3.2 above), the use of *now*, as indicated by the rates

\textsuperscript{16} See Chapter 2, Section 3 for discussion of the grammaticalization process.
per million words, is extremely robust. Rates for discourse *now* in Toronto are nearly one hundred per million, while the rate in York is twice that, with rates in both locations for temporal *now* exceeding one thousand per million. Based on the data in Table 3.3, there appears to be a difference in the frequency of discourse *now* in the two varieties, with a greater tendency by York speakers to use discourse *now*.\(^{17}\) However, frequency differences alone are not sufficient evidence (see Section 2 above) to understand differences (Poplack & Tagliamonte 1991:318; Cheshire 2007:161). A much more thorough analysis would be required even to confirm the difference, much less to fully describe it. Moreover, truly understanding all the components of the variation – social significance, possible interaction of *now* with other variants, such as *so*, etc. – would require a multivariate study to capture “the simultaneous effect of all the independent variables” (Labov 2005:7). However, the results here are suggestive of a locus of difference between the two varieties, a question which I leave for future research.

As the previous two sections have demonstrated, when adverbs are involved, it is a significant exercise to determine if two similar items or positions are truly two ways of saying the same thing; the complications are numerous and require careful consideration. However, as described in the case studies in the following chapters, a considered approach to adverbs allows the investigation of adverb variability and change over time with the methodology of quantitative sociolinguistics.

### 4.3 Complexities with discourse markers

Before moving on from issues with adverbials, I will briefly address one other point: the interrelatedness of some adverbs and a broader group of linguistic items, namely, discourse markers. If the syntax of adverbs is a swamp, then the overlap between adverbs and discourse markers is quicksand, replete with the unstable footing of ongoing grammaticalization, and the constant danger of being submerged under issues of multifunctionality and polysemy.

\(^{17}\) A chi-square test (using the N values) indicates a statistically significant difference between discourse and temporal uses for the two regions (at the .001 level), but this analysis is insufficient for reasons I describe.
Volumes can be, and have been, written about the phenomenon of discourse markers (Schiffrin 1987; Brinton 1996; Aijmer 2002; Fischer (ed.) 2006; inter alia). In this section, I focus on the questions which are relevant for the studies conducted here, namely, the treatment of adverbs which are also discourse markers.

As a result of the slippery nature of discourse markers, varying definitions abound (Brinton 1996:30-1). Hopper & Traugott (2002:129) define them as “a category of words that indicate how the listener is to relate the upcoming discourse to the previous discourse.” Aijmer (2002:2) finds it more practical to give a list of “pragmatic particles” (see below) and describes them as them “dispensable elements functioning as signposts in the communication facilitating the hearer’s interpretation of the utterance on the basis of various contextual clues.” Brinton (1996:30-1) catalogues a number of definitions from previous studies, attributing the diversity of explanations to which of the many functions is the focus of any particular analysis. Therefore, rather than giving a definition, Brinton (1996:32-5) discusses, in some detail, twelve “characteristics” of discourse markers, which I summarize here:

1. “Predominantly a feature of oral rather than written discourse” (33)
2. “Appear with a high frequency in oral discourse” (33)
3. “Deplored as a sign of disfluency and carelessness” (33)
4. “Often phonologically reduced... or unstressed” (33)
5. “Form a separate tone group” (33)
6. Tend to occur “sentence-initially” (33)
7. “Little or no propositional meaning” (33-4)
8. “Occur either outside the syntactic structure or loosely attached to it” (34)
9. “Optional rather than obligatory” (34)

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18 I focus on the work on English, but the 2006 volume edited by Fischer also considers other languages.
19 Also see Brinton (1996:30-31) for an extensive discussion of works earlier than those I focus on here and Fraser (2006:191) for a semantic/syntactic cross-linguistic description.
20 I will return to some of these points in the second case study, where discourse marker functions are relevant.
21 This is also true for the corpora here, as demonstrated above in Table 3.1 which shows the twenty-five most frequent adverbs in the corpora.
22 By this, Brinton seems to mean that discourse markers are not part of the truth conditions of a proposition.
10. “Heterogeneous set of forms which are difficult to place within a traditional word class” (35)

11. “Multifunctional” (35)

12. “More characteristic of women’s speech than men’s speech” (35)

Briefly put, discourse markers tend to be peripheral, both in position in an utterance and meaning, and used for stylistic reasons.

Further complicating the picture is a diversity of terminology to describe this type of phenomenon (Brinton 1996:29). Traugott & Dasher (2002:154) make a distinction between different sets of items with different terms, describing discourse markers as “the subset of pragmatic markers that create a bridge pointing both backwards and forwards.” D’Arcy (2005:65) makes a distinction based on position, with discourse markers occurring “on the left periphery of the sentence” (such as the use of LIKE in Like she’s a space cadet) and discourse particles occurring in all other positions (It was like fake). Brinton (1996:29-30) adopts the term “pragmatic marker”, though she also uses “discourse marker” and “pragmatic particle” as synonyms. I will use the term DISCOURSE MARKER.

As noted in Brinton’s tenth characteristic above, items categorized as discourse markers may be described in other grammatical classification systems (e.g., in the OED) as belonging to a diversity of grammatical categories (see also Lewis (2006:44)). Not all adverbs have discourse uses, and not all discourse markers are adverbs. Some discourse markers could be categorized as adverbs (e.g., ACTUALLY, WELL), but other discourse markers look more like phrases (e.g., YOU KNOW, AND STUFF LIKE THAT). This has raised the question of whether there should be a grammatical category for discourse markers separate from, say, adverbs, a position that Traugott & Dasher (2002:159) oppose; I follow them in treating adverbs which function as discourse markers as adverbs nonetheless.

Furthermore, the categorization of items as discourse markers also varies in different studies (Brinton 1996:32). Table 3.4, below, displays and contrasts the lists of discourse markers taken from two previous book-length studies. While both lists are long, and there is some
overlap (e.g., AH/OH, ANYWAY, I MEAN, YOU SEE), there is also considerable difference, with Brinton including connective elements such as THEREFORE and BUT, and Aijmer including exclamations such as GOODNESS and GOSH. This diversity underscores the multifunctional nature of discourse markers. For instance, Traugott & Dasher (2002:152) note that one function of THEN is “to signal an aspect of the speaker’s rhetorical stance...or the addressee’s role in the discourse situation” but that it can also signal “narrative structure” by connecting utterances (see discussion of WELL in Chapter 2, Section 2). In any given utterance, however, there may be only one, or more than one, function at work (Brinton 1996:36). Furthermore, as discourse markers not a closed set of items (Schiffrin 1987:71; Lewis 2006:44), the selection of a set of discourse markers for examination is at the discretion of the analyst. For instance, a different set, or a subset, of discourse markers may be considered relevant to the focus of a particular study. For instance, Cheshire (2007: 185-6) considers POSSIBLY and PROBABLY (which are not on the Brinton (1996) or Aijmer (2002) lists) in her examination of patterns of emerging pragmatic function with general extenders.
Table 3.4: Items identified as discourse markers in two studies

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>actually</td>
<td>x</td>
<td>x</td>
<td>mind you</td>
<td>x</td>
</tr>
<tr>
<td>ah/oh</td>
<td>x</td>
<td>x</td>
<td>moreover</td>
<td>x</td>
</tr>
<tr>
<td>anyway</td>
<td>x</td>
<td>x</td>
<td>now</td>
<td>x</td>
</tr>
<tr>
<td>after all</td>
<td>x</td>
<td></td>
<td>ok</td>
<td>x</td>
</tr>
<tr>
<td>all right</td>
<td>x</td>
<td>x</td>
<td>please</td>
<td>x</td>
</tr>
<tr>
<td>and</td>
<td></td>
<td>x</td>
<td>Q tag</td>
<td>x</td>
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<tr>
<td>and stuff/things like that</td>
<td>x</td>
<td></td>
<td>quite</td>
<td>x</td>
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<tr>
<td>basically</td>
<td>x</td>
<td></td>
<td>really</td>
<td>x</td>
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<tr>
<td>because</td>
<td>x</td>
<td></td>
<td>right&lt;sup&gt;23&lt;/sup&gt;</td>
<td>x</td>
</tr>
<tr>
<td>but</td>
<td>x</td>
<td></td>
<td>say</td>
<td>x</td>
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<tr>
<td>go (=say)</td>
<td>x</td>
<td></td>
<td>so</td>
<td>x</td>
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<td>God</td>
<td>x</td>
<td></td>
<td>sort of</td>
<td>x</td>
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<tr>
<td>goodness</td>
<td>x</td>
<td></td>
<td>sure</td>
<td>x</td>
</tr>
<tr>
<td>gosh</td>
<td>x</td>
<td></td>
<td>that’s right</td>
<td>x</td>
</tr>
<tr>
<td>I mean</td>
<td>x</td>
<td>x</td>
<td>then</td>
<td>x</td>
</tr>
<tr>
<td>I see</td>
<td></td>
<td></td>
<td>therefore</td>
<td>x</td>
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<tr>
<td>I think</td>
<td>x</td>
<td>x</td>
<td>uh huh</td>
<td>x</td>
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<tr>
<td>if</td>
<td>x</td>
<td></td>
<td>well</td>
<td>x</td>
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<tr>
<td>just</td>
<td>x</td>
<td>x</td>
<td>yeah</td>
<td>x</td>
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<tr>
<td>kind of</td>
<td>x</td>
<td></td>
<td>yes/no</td>
<td>x</td>
</tr>
<tr>
<td>like</td>
<td></td>
<td>x</td>
<td>you know</td>
<td>x</td>
</tr>
<tr>
<td>mhm</td>
<td>x</td>
<td></td>
<td>you see</td>
<td>x</td>
</tr>
</tbody>
</table>

5 Summary

In this chapter, I described the Toronto and York corpora which are the sources of data I use in the case studies that follow. I also outlined the social variables included in those case studies, namely, speaker region, speaker age, speaker sex and speaker education. I then presented the twenty-five most common adverbs in the corpora, which differ in relative

<sup>23</sup> Brinton (1996:32) also includes THAT’S RIGHT.
ordering, rather than being different populations. Next, I provided a description of strategies used to implement the framework of linguistic variables beyond phonology, including recent work using structural similarities to define variants for discourse markers. I then detailed the many issues that need to be considered and overcome when working specifically with adverbs in variation studies, giving NOW as a case study. Finally, I discussed discourse markers, a group of linguistic elements which overlap with adverbs. The preliminaries completed, I now move on to the first case study, variation in adverb placement with respect to an auxiliary.
Chapter 4
Variability in adverb placement with respect to an auxiliary

1 Introduction

This case study examines the adjacent placement of adverbs with respect to finite auxiliary verbs as shown in (4.1) and (4.2) below. In British English, as in (4.1), the position of the adverb is said to be fixed unless there is stress on the auxiliary verb, while in North American English, the placement is said to be variable, regardless of stress, as in (4.2), (e.g., Swan 2001:26-27):

(4.1) British English (adverb only possible after the auxiliary, with normal stress)
    Mary will PROBABLY go

(4.2) North American English (variability, equivalent meaning):
    a. Mary will PROBABLY go (same as (4.1))
    b. Mary PROBABLY will go

Despite the claims of categorical behaviour, the variability in (4.2) is attested in both corpora studied here. (4.3) contains data from a single speaker from Toronto; (4.4) is from a single speaker from York.¹ Note that each speaker is demonstrating the variability with the same subject, the same adverb and the same finite auxiliary.

(4.3) Toronto (T/é)
    a. It POTENTIALLY might get into the ground water
    b. It might POTENTIALLY escape

¹ Recall that citations from the corpora are labeled in the form (Corpus/Speaker), T=Toronto, Y=York (speaker codes used to maintain anonymity).

63
(4.4) York (Y/$)

a. I PROBABLY would have felt a bit lonely
b. I would PROBABLY travel there

This variability (with preservation of meaning) is not possible in all circumstances (Quirk et al. 1985:494), even in North American English. In clauses with negation, the position of the adverb with respect to a negated auxiliary determines whether or not the adverb occurs within the scope of negation, and thus positional differences with negation result in meaning differences, as the following example illustrates (Quirk et al. 1985:494):

(4.5) a. She REALLY hadn’t delighted her audience.
b. She hadn’t REALLY delighted her audience.²

According to Quirk et al. (1985:494), the adverb in (4.5a) emphasizes the lack of delight, whereas in (4.5b), the adverb mitigates the lack of delight. Thus, the pre-auxiliary position with negation (as in (4.5a)) is not part of the putative prohibition on pre-auxiliary adverbs in British English.

Another environment that allows pre-auxiliary adverbs in both varieties is ellipsis. When a finite auxiliary occurs without a lexical verb because of ellipsis, the adverb occurs invariably³ before the auxiliary in both varieties (Granath 2002: 27; Hseih & Wagner 2008:2), with normal stress and intonation:

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² It is also possible for the adverb to intervene between the auxiliary and negation, but there is only one token of this with NOT across the two corpora. It is slightly more common with NEVER (N<10 across the two corpora), though arguably the positioning of the adverb before NEVER serves to emphasize the negation: I’ve OBVIOUSLY NEVER had kids (Y/3); these cases have been treated as negatives, and excluded from the analysis.
³ I have tested this claim as well, and it holds true when there is a single auxiliary (e.g., Mary will/can/etc.). See the section entitled “special cases” below for more than one auxiliary (e.g., Mary will have/can do/etc.).
(4.6)  [A] Is anyone likely to go?
   a. [B] Mary PROBABLY will
   b. [B] *Mary will PROBABLY

Note that the prohibition on post-auxiliary position applies only to the elided cases. (4.6a) is (4.2b) with the main verb go elided, and (4.6b) corresponds to (4.1) and (4.2a), which are both grammatical without ellipsis. An adverb can occur in what appears to be post-auxiliary position after ellipsis, but the stress and/or comma intonation required before the adverb indicates that the adverb is not part of the auxiliary/verb phrase. Rather, the adverb is in clause-final position. That is, the two cases in (4.7) are acceptable because the adverb is not part of the auxiliary/verb phrase, but rather are adjoined higher than within the verb phrase (see Chapter 2, Section 1):

(4.7)  a. Mary will PROBABLY
   b. Mary will, PROBABLY

However, when ellipsis results in an auxiliary phrase consisting of multiple auxiliaries with an elided main verb or with do, the adverb can, at least in principle, occur after the finite auxiliary, though these cases seem to require stress on the adverb, suggesting they are exceptional:

(4.8)  a. We would NEVER have gone
   b. I've NEVER done (Y/A)

Finally, in cases of auxiliary inversion, the adverb and the auxiliary are not adjacent, making them a different context from the variability demonstrated in (4.2) above:

(4.9)  Have they REALLY arrived?
Therefore, optionality in adverb placement with respect to an auxiliary only occurs when the adverb is adjacent to a non-negated finite auxiliary in a declarative sentence with canonical word order.

The rest of the chapter is organized as follows. Before examining the empirical data (both from previous studies and the corpora examined here), I present a more detailed discussion of the syntax of this phenomenon. I then present the methodology and the results, both distributional and from the multivariate analysis. I next examine a number of syntactic explanations for the results and show that only a post-syntactic process can explain the distribution. I take up the nature of that post-syntactic process, in particular, its relationship to the post-syntactic processes of contraction/reduction, before concluding.

2 Syntax

Building on the structure proposed in Chapter 2 (see (2.5)), the structure of the relevant part of TP with possible sites for adverb adjunction is given in (4.10). As I describe in more detail below, tokens where the only auxiliary was BE were not examined in this study (i.e., cases of the progressive Mary was working or passive John was given more time). In addition, cases where a progressive or a passive BE followed another auxiliary (e.g., John could be given) were infrequent, and almost categorical in their behaviour with respect to adverb placement (as I describe below) and thus they were excluded from analysis. Therefore, I have not included these heads in the structure in (4.10) and they are not part of the discussion of the results.
Following Ernst (2002:315), I assume that “finite auxiliaries move to Tense.” That is, the Modal head moves to Tense when Modal is present and the Perf head moves to Tense if no Modal is present. These assumptions yield the structure of (4.11a) for (4.2a) and (4.11b) for (4.2b). In (4.11a), I assume that the adverb adjoins above ModalP because adjunction to Pred would imply that it is too low to have the propositional reading required in Ernst’s account. One obvious difference between the two structures in (4.11) is that, in (4.11b), the adverb adjoins above Tense whereas in (4.11a), it adjoins above Modal. Under Ernst’s (2002: passim) analysis, this structural difference does not yield a meaning difference.

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4 Given that “an item can be both an X° and an XP” (Chomsky 1995:249), I will label all projections with the category label.

5 This head is referred to as “light v” elsewhere (e.g., Hornstein et al. 2005:98). Furthermore, I abstract away from the question of whether the Pred head moves to Perf or Agree applies.
(4.11) Adverb position with respect to auxiliary

a. Mary will probably go (adverb in post-auxiliary position)

```
      T
     /\  
    D   T
      /\  
    Mary T
      /\  
    T  Modal
       /\  
    Modal T
       /\  
    T    Adv
       /\  
    Modal will
       /\  
    T      Modal
       /\  
    will    Pred
       /\  
    go
```

b. Mary probably will go (adverb in pre-auxiliary position)

```
      T
     /\  
    D   T
      /\  
    Mary T
      /\  
    Adv  T
       /\  
    probably T
       /\  
    T    Modal
       /\  
    Modal T
       /\  
    T      Pred
       /\  
    will    go
```

The structures in (4.11) have a single auxiliary and thus there are only two positions at which the adverb can adjoin (for the environments studied here): above Modal/Perf (whichever head is present) or above Tense. However, in cases with more than one auxiliary, there are additional possibilities for adverb adjunction, as shown in (4.12) and (4.13).
(4.12) Mary could probably have gone (adverb in post-auxiliary position)

a. adverb adjoined above Modal head

b. adverb adjoined above Perf head

In the case of a modal auxiliary followed by the perfect auxiliary (e.g., *could have gone*), the adverb can adjoin at immediately above the Perf head (4.12a), immediately above the Modal head (4.12b) or above the Tense head (4.13). Again, the only structure that yields a pre-auxiliary adverb is adjunction above Tense. If the adverb adjoins above either the Modal
head or the Perf head, the adverb will still appear after the finite auxiliary in the surface form because the Modal head raises to Tense.

(4.13) Mary probably could have gone (adverb in pre-auxiliary position)

This fact, that the only structure allowing an adverb to appear before the auxiliary is the one in which an adverb occurs above T, is an important point; I will come back to it in the discussion section. I turn now to the previous studies of adverb placement in corpus data.

3 Empirical studies

This variable has been studied empirically in English in both British and North American data. In his 1975 work, Jacobson undertakes quantitative, empirical research with a view to both establishing the factors that govern adverb variability and explaining that variability through the mechanisms of generative grammar. He created his corpus by taking a stratified sample of mostly written sources by authors from the US, drawn from a variety of prose genres: newspapers, letters, novels, non-fiction books and journals. He also sampled some spoken data such as scripted news reporting, film, live news reporting and the surreptitious recording of a social gathering that he attended. Jacobson (1975) examines cases of modal,
perfect, emphatic/negative (i.e., DO) and passive auxiliaries in English, as well as cases of BE acting as a copula. Jacobson (1975: 86-87) treats negation as a form of adverbial modification, and thus he includes cases with NOT/N’T and treats them as adverbs, though he acknowledges issues related to the scope of negation and he also examines the interactions between negation and the placement of other adverbs. He includes in his study any case where an adverb occurs immediately before or after any auxiliary, finite or otherwise. Therefore, he includes contexts such as infinitive phrases, as well as adverbs that occur after what he calls a “compound auxiliary” (1975:22), as seen here (Jacobson 1975:18):

(4.14) John would have COMPLETELY failed

In reporting his results, however, Jacobson generally collapses the compound auxiliary cases, grouping those in (4.14) with the post-finite auxiliary cases (as in (4.1) above) and contrasting pre-finite-auxiliary position with the other positions. Using this set of data, Jacobson explores the association between adverb placement and numerous linguistic variables to discover patterns both by genre type and for linguistic features, such as individual auxiliaries and types of adverb.

In his analysis of spoken material, Jacobson (1975:137) finds significant differences between the various auxiliaries, with SHOULD, at 67 percent, having the highest rate of pre-auxiliary adverbs and HAVE and BE, both at approximately 24 percent, having the fewest. In addition, he finds significant differences between adverbs. For instance, the adverb NEVER occurs before the auxiliary only 4.5 percent of the time while the adverb CERTAINLY is placed before the auxiliary in 56.6 percent of its occurrences (Jacobson 1975:163). In addition, Jacobson (1975:109) notes a tendency for pre-auxiliary adverbs in general to occur more frequently in newspaper prose than in other genres.

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6 See Jacobson (1975:36) for a complete listing of his independent variables and the terms he uses to describe them. The full discussion is too extensive to cover here, though I discuss his treatment of the independent variables which are also relevant for this study in section 4.
Taking up the topic of newspaper style in British and North American English, Granath (2002) conducted a study of adverb placement in the two varieties using written data from 1961 and 1996. For the written data from 1961, Granath used the Brown Corpus and the Lancaster-Oslo-Bergen Corpus. For 1996, the written data came from the British National Corpus and from CD-ROM collections of *The New York Times*, *The Guardian* and *The Observer*. In addition, she examines spoken news data from 1996 using the British National Corpus and recordings of news programs from four US television channels. Granath (2002:27) extracted data for a subset of fourteen “temporal” adverbs (e.g., ALWAYS, FINALLY, USUALLY) and fourteen “modal” adverbs (e.g., ACTUALLY, CERTAINLY, PROBABLY). She examined over ten thousand tokens in total and found that post-auxiliary position was strongly preferred in both varieties, at rates of over 90 percent. Moreover, she observed that, in both varieties and at both time periods, modal adverbs were more likely than temporal adverbs to occur in pre-auxiliary position. Using chi-square tests, she found that the data from 1961 showed statistically significant differences in the rate of pre-auxiliary placement between the two varieties, whereas the data from 1996 showed no significant difference between varieties. Although Granath (2002:29) observed that the change over time suggests convergence, she noted that “the main variable that could be said to account for choice of position of adverb... was type of adverb rather than variety of English”.

To further explore genre-based variability in adverb placement, Hsieh & Wagner (2008) examine data from a variety of text types from COCA, including written fiction, academic texts, magazines, newspapers and unscripted spoken data from talk shows (both news and other). Following Granath (2002), they extracted tokens of seven temporal and seven modal adverbs that occurred in conjunction with four modal auxiliaries: COULD, SHOULD, WILL and WOULDN’T. They examined over fifty thousand tokens and found that, while post-auxiliary position was more common overall, rates of pre-auxiliary position were higher in newspapers, at 31 percent, than in any other genre. However, they found that the genre with the second highest frequency of pre-auxiliary adverbs was spoken data, at 27 percent, and
they conclude that “substantial amounts of data from non-news speech are needed” (Hsieh & Wagner 2008:2).

Another study tangentially relevant to this variable is Hoye (1997), which does not examine adverb placement but rather considers adverb and modal verb collocation patterns using data from the Survey of English Usage (SEU). Where possible, Hoye (1997: *passim*) describes patterns of association between modal auxiliaries and adverbs that frequently occur in the same clause with them, though he does not focus explicitly on position. Within each modal verb, Hoye (1997: 272-277) also calculates rates of occurrence for epistemic or non-epistemic meanings, and notes frequently co-occurring adverbs based on meaning. For example, in the SEU data, the adverb PROBABLY occurs frequently with the epistemic (i.e., prediction) meanings of WILL and WOULD (Hoye 1997: 277), as in (4.15).

(4.15)  He will PROBABLY still be there after the meeting (Hoye 1997:277)

In fact, Hoye (1997:287) claims that the epistemic/non-epistemic division is crucial in understanding adverb collocation patterns. However, as I demonstrate below, this distinction is not crucial for investigating adverb placement.

Previous work has indicated that there are linguistic correlates conditioning adverb position but it has not considered social categories of the speaker or examined vernacular speech. In this study, I address these lacunae by examining the phenomenon in relation to both linguistic and social factors, rather than in different genres or in different time periods. This work further complements the previous studies by exploring both the contexts in which variability is possible and those in which it is not possible in order to propose an analysis of the underlying mechanisms at work in the grammar of this phenomenon.

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7 So, for Hoye, collocation is defined as being in the same clause.
4 Methodology

4.1 Circumscribing the variable context

As discussed above, the earlier studies have compared rates of adverbs occurring immediately before a finite auxiliary with those occurring subsequent to the finite auxiliary. That is, they have included the cases in (4.16), and sometimes the cases as in (4.17).

(4.16) a. It *ALWAYS* will exist, you-know (T/a)
   b. I've *ALWAYS* liked sewing. (Y/b)
   c. It *PROBABLY* would have been knocked down (T/á)

(4.17) a. That would have been *STILL* smouldering (T/p)
   b. I can't *PARTICULARLY* put my finger on anything (Y/k)

The previous studies have not explored an entirely identical set of contexts, with data coming from different media. In addition, some analyses considered only a subset of adverbs or auxiliaries. While Jacobson (1975) examined adverbs occurring after any auxiliary, finite or subsequent, Granath (2002) and Hseih & Wagner (2008) only considered adverbs following the first (i.e., finite) auxiliary (as in (4.16)). For this study, which follows sociolinguistic methodology, it is important to examine what adverb positions, and what types of adverbs, would ensure adherence to the Principle of Accountability (Labov 1982: 30; Tagliamonte 2006:12-13). For instance, the set of adverbs that perform a focusing\(^8\) function are excluded from this study because of their inherently position-specific properties. For the remaining adverbs, it is necessary to determine which surface positions should be included. In keeping

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\(^8\) This type of adverb, such as ONLY and JUST, is problematic as interpretation is generally considered to be related to the relative position of the focus marker (Huddleston and Pullam 2002:586-595). It is certainly possible (at least for some speakers) for a focus marker to occur either before or after an auxiliary and the difference in position may not result in a meaning change (*We just had returned from the store* vs. *We had just returned from the store*). However, the inherent relationship between the focus marker and what follows it differentiates this subgroup of adverbs, and thus it is prudent to exclude them here, though it may be interesting to examine their behaviour in a future work.
with previous work, adverbs that occur after the subject and before a finite auxiliary, as in (4.16a) and (4.16c), and those occurring after the first (or the only) finite auxiliary, as in (4.16b), are included.

As discussed previously (in this chapter and in the overview of the literature on adverbs), cases with NOT/N’T (such as (4.17b)) and cases where the adverb is subsequent to a second auxiliary or main verb (such as (4.17a)) are not considered to be part of the variable context because of meaning differences. However, in order to facilitate comparison of the results of this study to Jacobson, cases of negation with NOT/N’T and cases in which an adverb follows a non-finite auxiliary have also been extracted from the corpora, but are examined separately. Similarly, adverbs that occurred with ellipsis were also extracted, but kept separate from the main analysis. The results for the environments that were excluded from the main analysis are described in Table 4.10 below. Finally, adverbs that occur before the subject are generally considered to be topicalized and thus they are distinct\(^9\) from adverbs in the immediate vicinity of the finite auxiliary, as are adverbs that occur at the end\(^{10}\) of a clause, after comma intonation. Therefore, adverbs occurring before the subject or at the end of a clause are also excluded from this study.

To sum up, after careful consideration, only the cases where the adverb occurs immediately before or after a finite auxiliary in an affirmative declarative sentence, such as those in (4.16) (which are also the cases in (4.1) and (4.2) above), will be included in the variable context for the multivariate portions of this study. The dependent variable is thus the position of the adverb relative to the finite auxiliary; it has two values: pre-auxiliary and post-auxiliary.

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\(^9\) A full discussion of this topic is included in Chapter 2, Section 1. This is also consistent with the approach in Jacobson (1975:22).

\(^{10}\) Either because they are afterthoughts as Ernst (2002) claims or possibly through dislocation as Belletti (1990) claims.
4.2 Extracting the data

Given the large number of adverbs in English, an inventory of all adverbs adjacent to all auxiliaries in these corpora was impractical.\footnote{Jacobson, for instance, needed numerous years and several assistants to complete his work. Future work with part of speech tagged corpora might allow an inventory.} Therefore, it was necessary to devise a comprehensive yet practical approach to sample the phenomenon of adverb placement. My first goal in undertaking this research was to determine a list of adverbs that were variable in the relevant environment. As noted above, three previous studies have been conducted on adverb placement with respect to an auxiliary in British and North American English. Each followed its own slightly different methodology in terms of data extraction from the particular corpus used. The table below illustrates the different choices about which adverbs and auxiliaries were included. The approach that had not been taken by previous researchers is the one I used for the initial investigation, namely, looking at data for a subset of auxiliaries and recording all adverbs that occurred in the appropriate context (before or after an auxiliary in a canonical declarative sentence), though ultimately, I modified my approach to allow for a greater scope, as described below.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>adverbs</td>
<td>all</td>
<td>subset</td>
<td>subset</td>
</tr>
<tr>
<td>auxiliaries</td>
<td>all</td>
<td>all (except DO)</td>
<td>subset</td>
</tr>
</tbody>
</table>

Table 4.1: Approach by author, adverb placement

Based on the manageable number of instances of modal auxiliaries in the corpora, an inventory of all adverbs appearing with those auxiliaries was possible. Using AntConc (Antony 2003) and the text files of the two corpora, I extracted all instances of what Quirk et al. (1985:151) call the “central” modals: CAN, COULD, MAY, MIGHT, MUST, SHOULD, WILL and WOULD.\footnote{I also extracted SHALL, but there were no instances of adverbs occurring in proximity to it.} I then reviewed all these extracted occurrences and identified cases where an
appropriate adverb occurred either before or after an auxiliary. At this stage, I did not set any restrictions on extraction based on adverb type. That is, I included manner adverbs, despite their expected restriction to post-auxiliary position (Ernst 2002:325). More than one hundred different adverbs occurred across the two corpora. However, most of the adverbs occurred infrequently, and the majority of them appeared only once. Manner adverbs, as expected, did not occur in pre-auxiliary position, and thus they were excluded from the analysis presented below. Seven adverbs were relatively frequent and variable in at least one of the corpora; these adverbs were actually, always, maybe, never, probably, really and still. Given that this list was shorter than expected, and in an effort to compensate for any collocation effects, I then expanded this list of adverbs by using word frequency lists to identify additional adverbs that were both appropriate and reasonably frequent (over 100 occurrences per corpus). This led to the addition of the following five adverbs: certainly, eventually, often, obviously, and sometimes. Once this list of adverbs had been identified, I extracted collocations of the verb have with those adverbs. Given that have also functions as a lexical verb, a manual process of excluding the non-auxiliary functions was then necessary. This set of data, the modals and have, with adjacent adverbs, became the basis for the analysis.

4.3 Independent variables and speaker information

Following Jacobson (1975), I investigate the role of several linguistic variables. First, I considered the finite lexical auxiliary itself. To reiterate, the auxiliaries studied here are can,

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13 For instance, the adverb very, while common in the two corpora, would not be expected to occur in immediate proximity to an auxiliary (Mary *very has called), and thus was not appropriate for inclusion. As with the most common adverbs (see Table 3.1), the less frequent adverbs were also similar in the two corpora.

14 I considered expanding the list of auxiliaries to include auxiliary be. However, Jacobson (1975:137) found that have and be were similar in occurring very infrequently with pre-auxiliary adverbs, and thus I did not expand my data set to include auxiliary be.

15 As I show below, the choice to expand the data to include have ultimately revealed more about the auxiliary have than about adverb placement. I also coded the verb have by individual form: have, has, had. In addition, given a greater association of forms of the perfect with the adverb already in British English (Elsness 1997), I looked at the 18 cases of have + already in York, but I did not find any variation.
COULD, HAVE, MAY, MIGHT, MUST, SHOULD, WILL and WOULD. Based on Jacobson’s findings, it was expected that SHOULD would occur most frequently with pre-auxiliary adverbs and HAVE least frequently. I compare my results to his in a later section of this chapter.

In addition, I also examined a related variable: the form of the auxiliary phrases as a whole. In other words, I also looked at whether the auxiliary occurred alone, or was followed by another auxiliary, such as the Perfect, Passive, Progressive, or some combination of the three, as shown in (4.18).

(4.18) Multiple auxiliaries
   a. I really could have died. (Y/^)
   b. And they had obviously been out celebrating. (Y/K)
   c. I have always been interested in sport. (T/P)
   d. It would never be planned. (T/ä)

There are some restrictions on combinations, however. For instance, it is not possible for HAVE, which already marks perfect tenses, to be followed by another perfect auxiliary. As these two variables (individual finite auxiliary and the form of the auxiliary phrase) are not independent, I did not include them both in any single run of the multivariate analysis (to avoid non-orthogonal independent variables).

Additionally, I examined the role of the adverbs. The low frequency of most of the individual adverbs required the use of categories of adverbs, rather than lexical adverb, as factors. The adverbs were grouped into two types: functional (including adverbs of frequency and duration, such as OFTEN and NEVER) and predicational (e.g., MAYBE, PROBABLY, ACTUALLY). It has been claimed (Potter 1969:159; cited in Jacobson 1975:10) that temporal adverbs (a

---

16 I also find it problematic to use the perfect auxiliary after CAN in affirmative cases: *She can have gone*, though negated cases are fine: *She can’t have gone.*
subset of functional adverbs) occur in pre-auxiliary position in North American English only (i.e., not in British English), a claim for which Jacobson (1975:11) provides counterevidence in his data.

Hoye (1997:284) argues that modal auxiliaries and adverbs act as a unit to express modality. This raises the question of whether the adverb type and lexical verb variables are independent of each other. In a cross-tabulation (not shown here) I reviewed the data for interaction between auxiliary and adverb. Almost all the auxiliaries in both locations showed the same pattern: a higher frequency of occurrence of predicational adverbs than functional adverbs generally.\(^{17}\) Therefore, while I do not claim that individual adverbs (e.g., PROBABLY, REALLY, etc.) are entirely independent of auxiliary, I believe that the relationship between adverb type and auxiliary is sufficiently limited to allow them to be considered together in a multivariate analysis.

Following Hoye (1997:passim), I also considered whether the modal auxiliaries expressed an epistemic or a non-epistemic meaning. For CAN and COULD, meanings of possibility were coded as epistemic, as in (4.19a), whereas ability and/or permission were coded as non-epistemic, as in (4.19b) (see Hoye 1997:273):

\begin{equation}
(4.19) \text{Epistemic/non-epistemic CAN/COULD (Hoye 1997:85-94)}^{18} \\
\hspace{1cm}a. \text{Could Madeleine really have retired in her prime...?} \\
\hspace{1cm}b. \text{Oxygen can readily be detected}
\end{equation}

For WILL and WOULD, prediction and past habitual meanings were coded as epistemic, as in (4.20a), while volition was coded as non-epistemic, as in (4.20b) (see Hoye 1997:277):

\begin{equation}
(4.20) \text{Epistemic/non-epistemic WILL/WOULD (Hoye 1997:273)}^{18} \\
\hspace{1cm}a. \text{Will she be able to make the trip?} \\
\hspace{1cm}b. \text{Wanted to read the book...}
\end{equation}

\(^{17}\) The one exception was CAN in Toronto which occurred slightly more frequently with functional than predicational adverbs. This analysis also excluded the obscuring effects of ALWAYS and NEVER (which I describe below), making the conclusion of non-interaction more robust.

\(^{18}\) I use examples from Hoye because, as I describe in a moment, there is some categorical behaviour in the data studied here.
(4.20) Epistemic/non-epistemic *WILL/WOULD* (Hoye 1997:113-120)

a. Maybe you’ll have heard next week

b. I will of course find a moment if necessary

The cases of *SHOULD* suggesting inference were coded as epistemic, as in (4.21a) and a meaning of obligation was coded as non-epistemic, as in (4.21b) (see Hoye 1997: 276):


a. He lost four pints of blood and he bloody well shouldn’t have pulled through

b. They should leave this evening, but they won’t.

However, on examination of the data here, it became apparent that there was an extremely strong correlation between modal auxiliary and epistemic categorization in the data. The (infrequent) cases of *MAY*, *MIGHT* and *MUST* were categorically epistemic (cf. Hoye 1997: 274-5). The auxiliary *CAN* was categorically non-epistemic in these data, though this was unsurprising as it has been noted about English more generally, such as, Hoye’s (1997:85-87) observation that epistemic readings of *CAN* are extremely infrequent to the point of being practically non-existent.\(^1^9\) Moreover, the remaining modals (which did have both epistemic and non-epistemic cases) were near-categorical and thus some categories had extremely small Ns. For example, there were only three clear cases of epistemic *SHOULD* (i.e., expressing inference, as in (4.22)).

(4.22) I apparently *should* have been born in August (Y/L)

This distribution (or lack thereof) thus made it impossible to conduct any meaningful analysis of the role of epistemic versus non-epistemic meaning that was not already captured

\(^{19}\) They may be said to occur in collocations with *ONLY*, such as “You can only be about fifty (years old)” (Hoye 1997:86).
in the analysis of the effects of the modal auxiliaries themselves.\(^{20}\) Furthermore, lexical auxiliary had been found to be significant in Jacobson’s work, and the inclusion of lexical auxiliary as a variable (but not epistemic meaning) also permits the simultaneous investigation of \textit{have} on the same footing as the modals (that is, \textit{have} does not fit into the epistemic/non-epistemic divide so it is unclear how to incorporate \textit{have} into an analysis of epistemic meaning). Therefore, no further analysis was conducted with the variable of epistemic/non-epistemic meaning.

Finally, Jacobson (1975: 47) also considered the role of the subject. Therefore, I also examined subject, coding for person and number of personal pronouns (e.g., first singular, third plural), as well as other types of pronouns (e.g., indefinite, relative, etc) and noun phrases. Jacobson (1975: 47) included cases of conjunction such in (23a), but excluded those in (4.23b), with a zero subject (data from the corpora):

(4.23) a. C. may know that her husband is sleeping around but \textbf{still} will [cook] (T/3)
        b. \textbf{probably} would have done a hell-of-a-lot better (T/w)

However, I find that both of these cases are ambiguous, as the elided subject could occur either before or after the adverb when the adverb occurs before the auxiliary, as shown here:

(4.24) a. C. may know that her husband is sleeping around but \textbf{she still} \textbf{she} will [cook]
        b. I \textbf{probably} I \textbf{would have done a hell-of-a-lot better

\(^{20}\) For both locations combined, the rate of pre-auxiliary adverb placement in epistemic contexts is 12.3\% whereas in non-epistemic contexts it is 7.4\%. I also examined contexts where \textit{could} and \textit{would} expressed present versus past tense. That is, I separated contexts such as in \textit{I could probably live without all the garden} (T/Q) from \textit{The rest of the time, I could basically do what I wanted} (Y/!). Similarly, I separated contexts such as \textit{I would never dream of going on it now} (Y/k) from \textit{We were both bench-warmers. So we would always be like, “Oh, how’s that bench-warming going?”} (T/a). No clear pattern emerged, though some of the contexts were quite infrequent (e.g., there were only 13 cases of present \textit{could} in York).
Therefore, while it is possible these cases are part of the variable context, they may also be adverbs in topicalized position, and thus outside it. Therefore, these contexts have been excluded from the analysis.\textsuperscript{21}

The social variables considered in this study are those described in Chapter 3, Section 1: sex, age, education and region. Based on the previous work on adverb placement, the only social variable that was expected to be correlated with this variable is region (Toronto or York).\textsuperscript{22}

\section{Results}

\subsection{Distributional analysis}

This section presents the distributional analysis of the data, both for the social and the linguistic variables. As region was noted above as the source of the variability (e.g., Swan 2001), I begin with a discussion of the results by region generally, followed by a discussion of the other social variables. Finally, I present the correlations of adverb placement and the internal variables.

The overall rate of pre-auxiliary adverbs is low in both locations: 6.1 percent in Toronto (total N= 1067) and 4.4 percent in York (total N=709). As it has been claimed (e.g., Swan 2001) that adverbs appear before stressed auxiliaries in British English, I listened to all the pre-auxiliary adverb tokens from York for auxiliary stress, which I coded impressionistically based on loudness and length. In only one case was the auxiliary stressed. Therefore, something more than stress is at work, and I will outline what correlations the data indicate are present in the rest of the section.

\textsuperscript{21} Token counts of excluded contexts are: York = 11, Toronto = 23.
\textsuperscript{22} Although I examined data from all the adult speakers in the two corpora, not all speakers produced utterances containing the variable context. In the Toronto data, interviews with 127 speakers contained the variable context. In York, interviews with 89 speakers contained the variable context.
Turning now to the other social variables, I give the rates of pre-auxiliary adverb use by each social variable in Tables 4.2-4.4.

<table>
<thead>
<tr>
<th>Age group</th>
<th>Toronto %</th>
<th>Toronto N</th>
<th>York %</th>
<th>York N</th>
</tr>
</thead>
<tbody>
<tr>
<td>17-39</td>
<td>5.0</td>
<td>496</td>
<td>6.7</td>
<td>224</td>
</tr>
<tr>
<td>40-69</td>
<td>7.3</td>
<td>446</td>
<td>2.5</td>
<td>322</td>
</tr>
<tr>
<td>70 and older</td>
<td>5.7</td>
<td>122</td>
<td>4.9</td>
<td>163</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>1067</td>
<td></td>
<td>709</td>
</tr>
</tbody>
</table>

**Table 4.2: Rates of pre-auxiliary adverbs by age**

The rate differences between age groups within each corpus are not substantially different, nor are the rates for one location or the other consistently higher, though the rates in the 40-69 year old group diverge in the two regions, with Toronto speakers 40-69 having a higher rate (7.3 percent) than the Toronto average (6.1 percent), and York speakers 40-69 having a lower rate (2.5 percent) than the York average (4.4 percent). Similarly, the rates by speaker sex, shown in Table 4.3 are fairly consistent within each location, though women in York show a slightly higher rate than their male counterparts.

<table>
<thead>
<tr>
<th></th>
<th>Toronto %</th>
<th>Toronto N</th>
<th>York %</th>
<th>York N</th>
</tr>
</thead>
<tbody>
<tr>
<td>male</td>
<td>6.2</td>
<td>412</td>
<td>3.6</td>
<td>276</td>
</tr>
<tr>
<td>female</td>
<td>6.0</td>
<td>655</td>
<td>4.8</td>
<td>433</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>1067</td>
<td></td>
<td>709</td>
</tr>
</tbody>
</table>

**Table 4.3: Rates of pre-auxiliary adverbs by speaker sex**
Finally, looking at education level, in Table 4.4, there is a slightly higher rate of pre-auxiliary adverb use by speakers with more than compulsory education, though the difference is minimal in Toronto.

<table>
<thead>
<tr>
<th></th>
<th>Toronto</th>
<th></th>
<th>York</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>up to compulsory</td>
<td>5.0</td>
<td>241</td>
<td>3.9</td>
<td>511</td>
</tr>
<tr>
<td>more than compulsory</td>
<td>6.5</td>
<td>798</td>
<td>6.1</td>
<td>180</td>
</tr>
<tr>
<td>Total</td>
<td>6.5</td>
<td>1039</td>
<td>6.1</td>
<td>691</td>
</tr>
</tbody>
</table>

Table 4.4: Rates of pre-auxiliary adverbs by speaker education

Having considered the social variables, I turn now to the independent linguistic variables. Table 4.5 shows the rate of pre-auxiliary adverbs by lexical auxiliary (ordered alphabetically).

<table>
<thead>
<tr>
<th></th>
<th>Toronto</th>
<th></th>
<th>York</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>CAN</td>
<td>2.1</td>
<td>94</td>
<td>3.2</td>
<td>62</td>
</tr>
<tr>
<td>COULD</td>
<td>7.2</td>
<td>97</td>
<td>7.5</td>
<td>67</td>
</tr>
<tr>
<td>HAVE</td>
<td>2.5</td>
<td>441</td>
<td>0.8</td>
<td>374</td>
</tr>
<tr>
<td>MAY</td>
<td>20</td>
<td>5</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>MIGHT</td>
<td>40</td>
<td>5</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>MUST</td>
<td>-</td>
<td>0</td>
<td>50</td>
<td>2</td>
</tr>
<tr>
<td>SHOULD</td>
<td>15.8</td>
<td>19</td>
<td>22.2</td>
<td>9</td>
</tr>
<tr>
<td>WILL</td>
<td>11.6</td>
<td>112</td>
<td>3.8</td>
<td>78</td>
</tr>
<tr>
<td>WOULD</td>
<td>8.8</td>
<td>294</td>
<td>13.3</td>
<td>113</td>
</tr>
<tr>
<td>Total</td>
<td>8.8</td>
<td>1067</td>
<td>13.3</td>
<td>709</td>
</tr>
</tbody>
</table>

Table 4.5: Rates of pre-auxiliary adverbs by auxiliary

23 Education details not available for all speakers.
It is immediately apparent that SHOULD, MUST, MIGHT and MAY are very infrequent in the corpora in general. This low frequency makes generalizations about these auxiliaries problematic, and therefore they have been treated differently from the other auxiliaries in the multivariate analyses (see next section).

Excluding the extremely infrequent MIGHT, MUST and MAY, (occurring less than five times in either corpus), the results above are similar to Jacobson (1975:137); the verb with the highest rate of pre-auxiliary adverb placement (in the North American data) is SHOULD, though as noted above, the very low number of cases urges caution in interpretation. Also in keeping with the North American results from Jacobson (1975:137), HAVE has the lowest rate of pre-auxiliary adverbs, though I explore the details of this result below. The rates found here are notably lower than those found in Jacobson (1975:137), but the results of his study are not directly comparable, given the more narrow definition of the variable context that I have used, including the separation that I have maintained between affirmative and negative contexts. In the data from Toronto and York, the combined rate of adverbs occurring before the finite auxiliary in negative contexts is over 20 percent (see Table 4.10), which is higher than most of the rates seen above for affirmative contexts.

Figure 4.1 shows the rates of pre-auxiliary adverbs by the more frequent lexical auxiliaries. There is a distinct pattern by auxiliary in both locations, with HAVE occurring least frequently with pre-auxiliary adverbs. The rates are generally very similar between the two locations, though the differences for WILL and WOULD are notable. For WILL, pre-auxiliary adverbs occur at a higher rate in Toronto (11.6 percent) than in York (3.8 percent). For WOULD, pre-auxiliary adverbs occur at a higher rate in York (13.3 percent) than in Toronto (8.8 percent).

24 Values reported from Jacobson (1975:137) are HAVE = 24.2%, CAN/COULD = 40.5%, WILL/WOULD = 33.3%, SHOULD = 66.7%
Turning to the structure of the auxiliary phrase, over 90 percent of the tokens in each corpus consist of a single (i.e., lone) auxiliary, as in (4.25). However, more than one auxiliary is possible, as seen in (4.26).

(4.25) Single auxiliary
a. I would ALWAYS say it to anybody (Y/L)
   b. a woman could STILL teach after she married (T/5)

(4.26) Multiple auxiliaries
a. I really could have died. (Y/^)
   b. And they had OBVIOUSLY been out celebrating. (Y/K)
   c. I have ALWAYS been interested in sport. (T/P)
   d. It would NEVER be planned. (T/ä)
The results in the cases such as those in (4.26) are striking. When the finite auxiliary was followed by BE (to form both progressive (4.26b) and passive (4.26c) and (4.26d)), the adverb never occurred before the auxiliary in York (N=29), and there was only one case of pre-auxiliary adverb placement in Toronto (N=19). However, in cases where a modal auxiliary was followed by the perfect auxiliary (i.e., modal + HAVE, as in (4.26a)), adverbs occurred before the finite auxiliary at much higher rates in both corpora. Figure 4.2 shows the rates of pre-auxiliary adverbs by adverb structure; the lexical auxiliaries listed below are the cases in which there is only a single auxiliary (as in (4.25)).

![Figure 4.2: Rates of pre-auxiliary adverb by auxiliary phrase structure in percentages](image)

Table 4.6 displays the rate of pre-auxiliary adverbs by adverb type. In both locations, and as expected from the theoretical descriptions, manner adverbs were not variable. Furthermore, functional adverbs (e.g., SOMETIME and OFTEN) are less likely than predicational adverbs (e.g., MAYBE, PROBABLY, ACTUALLY) to appear before the finite auxiliary. The results in

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25 The total token counts are 35 in York and 29 in Toronto. It is interesting that the count for both this construction and the forms with BE are higher in York.
Table 4.6 are in keeping with the findings of Granath (2002:29) who found a similar

correlation between adverb type and position with respect to auxiliary.

<table>
<thead>
<tr>
<th></th>
<th>Toronto</th>
<th>York</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>predicational</td>
<td>12.4</td>
<td>355</td>
</tr>
<tr>
<td>functional</td>
<td>3.0</td>
<td>693</td>
</tr>
</tbody>
</table>

|                | 1067 | 709 |

Table 4.6: Rate of pre-auxiliary adverb by adverb type

Two of the functional adverbs, ALWAYS and NEVER, are frequent enough\(^{26}\) (i.e., over 100
tokens per corpus) to examine individually, and they are displayed in Figure 4.3 with the
remaining functional adverbs (e.g. STILL, SOMETIMES, OFTEN) grouped together.

<table>
<thead>
<tr>
<th></th>
<th>Toronto</th>
<th>York</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2.8</td>
<td>2.3</td>
</tr>
<tr>
<td></td>
<td>1.3</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Figure 4.3: Rate of pre-auxiliary occurrence by adverb/adverb type in percent

Separating these two adverbs from the rest reveals some interesting patterns. First, in the
York data, the adverb ALWAYS occurs only after auxiliaries, never before them. In Toronto,
ALWAYS occurs very infrequently in pre-auxiliary position, but, unlike in York, it does occur

\(^{26}\) Token counts are as follows: ALWAYS: T = 237, Y=149; NEVER T = 359, Y= 263.
occasionally before the auxiliary. The rates for NEVER are similar in both locations: less than 3 percent. However, the rates in Toronto are higher for the other functional adverbs, suggesting this adverb type is a locus of difference between the varieties.

An examination of collocation patterns for the individual auxiliaries is also illuminating. Tables 4.7 and 4.8 (which are in descending order of the “other” column) show what proportion of the tokens for each auxiliary consist of ALWAYS, NEVER and the remaining adverbs (both functional and predicational).

<table>
<thead>
<tr>
<th></th>
<th>ALWAYS</th>
<th>NEVER</th>
<th>All other</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAN</td>
<td>7</td>
<td>11</td>
<td>81</td>
<td>87</td>
</tr>
<tr>
<td>COULD</td>
<td>6</td>
<td>20</td>
<td>74</td>
<td>86</td>
</tr>
<tr>
<td>WOULD</td>
<td>27</td>
<td>22</td>
<td>51</td>
<td>255</td>
</tr>
<tr>
<td>WILL</td>
<td>11</td>
<td>40</td>
<td>50</td>
<td>108</td>
</tr>
<tr>
<td>HAVE</td>
<td>30</td>
<td>50</td>
<td>19</td>
<td>433</td>
</tr>
</tbody>
</table>

Table 4.7: Collocation rates for auxiliaries and adverbs in TORONTO in percent

<table>
<thead>
<tr>
<th></th>
<th>ALWAYS</th>
<th>NEVER</th>
<th>All other</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAN</td>
<td>12</td>
<td>7</td>
<td>81</td>
<td>57</td>
</tr>
<tr>
<td>COULD</td>
<td>14</td>
<td>29</td>
<td>57</td>
<td>58</td>
</tr>
<tr>
<td>WOULD</td>
<td>13</td>
<td>31</td>
<td>57</td>
<td>88</td>
</tr>
<tr>
<td>WILL</td>
<td>13</td>
<td>32</td>
<td>54</td>
<td>77</td>
</tr>
<tr>
<td>HAVE</td>
<td>30</td>
<td>46</td>
<td>23</td>
<td>351</td>
</tr>
</tbody>
</table>

Table 4.8: Collocation rates for auxiliaries and adverbs in YORK in percent

27 The values in Table 4.7 and Table 4.8 are percentages based on the N value for the row. For instance, in 7 percent of the 87 instances in which adverbs occur with CAN in Toronto, that adverb is the lexical item ALWAYS.
It is clear that, in these data, in both locations, HAVE occurs very infrequently (less than 25 percent of the time, see shaded cells) with adverbs other than ALWAYS and NEVER. On the other hand, the auxiliaries other than HAVE, in both corpora, occur with adverbs other than ALWAYS and NEVER at rates of 50 percent or higher. The high rate of collocation between HAVE and ALWAYS/NEVER raises the question of whether the low rates for HAVE are a result of the collocations or due to HAVE itself. Fortunately, the multivariate analysis process allows these relationships to be disentangled to determine the respective roles of auxiliary and adverb.

Figure 4.4: Rate of pre-auxiliary placement for selected adverbs (in %), by location

---

28 At first glance, this might seem to be (at least in part) an effect of the data gathering method. As I only extracted a subset of adverbs for HAVE, there could have been a better chance of getting higher rates of other adverbs with the other auxiliaries (because I performed an inventory of all co-occurring adverbs with those auxiliaries). However, this predominance of ALWAYS and NEVER with HAVE persists when the data are limited to a subset of adverbs which were extracted for all auxiliaries. Therefore, I believe this is a real result and not an artifact of data collection.
Before moving on from adverbs, I note an interesting pattern for three of the adverbs, each of which occurs between 40 and 100 times in each corpus. Figure 4.4 shows the rates of pre-auxiliary use of PROBABLY, REALLY and ACTUALLY by location. The contrast between REALLY and PROBABLY is notable, with PROBABLY occurring before the auxiliary more commonly in Toronto than in York, and REALLY occurring before the auxiliary more commonly in York than in Toronto.29

Table 4.9 displays the rates for subject type, which has previously been found to correlate with adverb position (Jacobson 1975:47). Although I considered personal pronouns and other pronouns (e.g., relative pronouns) separately when coding, the low occurrence of other pronouns in the data in York (N= 24), required that they be collapsed into the pronoun category. Therefore, I use two categories for subject: pronoun and noun phrase. In Toronto, the use of pre-auxiliary adverbs is higher with noun phrases than with pronouns, whereas in York the rates are very similar. However, as demonstrated by the multivariate analyses in the next section, the difference in the Toronto distribution is not statistically significant.

<table>
<thead>
<tr>
<th></th>
<th>Toronto</th>
<th>York</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>pronoun</td>
<td>5.6</td>
<td>967</td>
</tr>
<tr>
<td>noun phrase</td>
<td>11.0</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>1067</td>
<td>709</td>
</tr>
</tbody>
</table>

Table 4.9: Rate of pre-auxiliary adverb by subject type

29 Thus, there may be some effect of the individual adverb, as well as the adverb type. Testing the effect of individual adverb versus adverb type would require a corpus in which many more adverbs were frequent enough to be tested individually, so I do not pursue this any further here. There may be some kind of nascent distinction between the position of modals (e.g., PROBABLY and MAYBE) and other adverbs such as REALLY, that would ultimately lead to something resembling a complementary distribution, but again a larger corpus is needed.
The results of the distributional analysis indicate that the main correlates of adverb placement are linguistic, rather than social. In particular, the type of adverb, the individual auxiliary and the structure of the auxiliary phrase all appear to play a role. In a moment, I conduct a series of multivariate analyses to further elucidate the role of each one, but first I return to the exceptional environments that were not part of the variable context.

As explained in the introduction section, variability is not possible in all contexts. Negative contexts create issues with scope, and ellipsis is said to require pre-auxiliary position, though cases of compound auxiliaries are possible exceptions. However, as Aaron (2010:30) has noted, considering cases outside the variable context may shed light on the data that do form part of the variability. Table 4.10 shows the rates at which pre-auxiliary adverbs occur in these special cases.

<table>
<thead>
<tr>
<th></th>
<th>Toronto</th>
<th>York</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>negation</td>
<td>27</td>
<td>216</td>
</tr>
<tr>
<td>ellipsis (multiple aux)</td>
<td>73</td>
<td>11</td>
</tr>
</tbody>
</table>

Table 4.10: Rate of pre-auxiliary adverbs beyond the variable context

The rates of pre-auxiliary adverbs are higher in negated contexts than the rates for the affirmative contexts in both locations. In addition, the rates of pre-auxiliary adverbs are very high in cases of ellipsis. In fact, all cases of post-auxiliary adverb placement, in both varieties, have the form auxiliary + DO (e.g., I’ve never done). These results (for the two types of case where a meaning change results from variable adverb placement) are further evidence that the two varieties are behaving in a similar fashion.
5.2 Multivariate analyses

The results of the distributional analysis have revealed some extremely infrequent contexts which have been removed\(^\text{30}\) from the multivariate analyses (MVA): finite auxiliaries followed by progressive or passive auxiliaries and the infrequent auxiliaries\(^\text{31}\) have been excluded. To establish whether or not the two regions are statistically significantly different for this variable, the first MVA included only the linguistic variables and region. Auxiliary structure, adverb type and region were selected as statistically significant from this analysis, with the linguistic variables demonstrating a stronger effect than region, a finding in keeping with Granath (2002) and with studies of the relationship between social and linguistic variables in general (e.g., Preston 1991). However, as there is region-based difference, I subsequently conducted a second round of multivariate analyses, examining the two regions separately. In the analysis of York, I excluded \textsc{always} because it occurs categorically in pre-auxiliary position. The results of these two analyses are presented side by side in Table 4.11 for comparison purposes.

The overall input value in both locations is extremely small, as expected from the low overall rates of use noted above. The subject of the auxiliary was not statistically significant, nor were any of the social factors. The lack of social correlates indicates that this variable is a linguistic phenomenon, rather than a socially meaningful choice, as previously suggested by the distributional analyses.

In both locations, the auxiliary structure has the strongest effect, with modal + \textsc{have} strongly favouring pre-auxiliary position, while \textsc{have} and \textsc{can} generally disfavour it, though more discussion (see the next section) is warranted. In Toronto, \textsc{will} also strongly favours the pre-auxiliary position, followed by \textsc{would}. In York, \textsc{will} and \textsc{would} both favour pre-auxiliary

\(^{30}\) Therefore, the N and percent values in the MVA table are different from those in the previous (distributional analysis) tables.

\(^{31}\) The auxiliaries \textsc{must, might, may} and \textsc{should} were excluded from the auxiliary structure factor group when they occurred alone (i.e., not in the form Modal + \textsc{have}).
position, though their ordering is the reverse of the ordering in Toronto. The auxiliaries CAN and COULD appear to be operating similarly to each other in York. In Toronto, in contrast, CAN and COULD behave differently from each other, with COULD being more similar to WOULD than CAN.

<table>
<thead>
<tr>
<th>Auxiliary structure</th>
<th>Toronto</th>
<th>York</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FW</td>
<td>%</td>
</tr>
<tr>
<td>Modal + HAVE</td>
<td>.96</td>
<td>48.4</td>
</tr>
<tr>
<td>WILL</td>
<td>.73</td>
<td>12.0</td>
</tr>
<tr>
<td>WOULD</td>
<td>.52</td>
<td>5.5</td>
</tr>
<tr>
<td>COULD</td>
<td>.51</td>
<td>6.9</td>
</tr>
<tr>
<td>HAVE</td>
<td>.43</td>
<td>2.3</td>
</tr>
<tr>
<td>CAN</td>
<td>.23</td>
<td>2.3</td>
</tr>
<tr>
<td></td>
<td>73</td>
<td></td>
</tr>
<tr>
<td>Adverb type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predicational</td>
<td>.71</td>
<td>11.7</td>
</tr>
<tr>
<td>Functional</td>
<td>.48</td>
<td>8.9</td>
</tr>
<tr>
<td>NEVER</td>
<td>.31</td>
<td>2.8</td>
</tr>
<tr>
<td>ALWAYS</td>
<td>.29</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td>42</td>
<td></td>
</tr>
</tbody>
</table>

Factor groups not selected as statistically significant in either location: subject type\(^{33}\), speaker age, speaker sex, speaker education

Table 4.11: Multivariate analysis results for pre-auxiliary position

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\(^{32}\) This total does not include the 149 tokens of ALWAYS.

\(^{33}\) I also examined a more detailed breakdown of subject type in Toronto (separating the personal and other pronouns), but the factor group was not selected as statistically significant using either grouping.
Adverb type is statistically significant in both locations. The relative strength of this factor group and the hierarchy within the factor group is consistent in the two locations. Predicational adverbs (e.g., MAYBE, PROBABLY, ACTUALLY) favour pre-auxiliary position and all other adverb types disfavour it, though functional adverbs (e.g., SOMETIMES, OFTEN) are a more disfavouring environment in York than in Toronto. Finally, ALWAYS and NEVER are particularly disfavouring environments in both locations, as suggested previously in the distributional analysis.

It is apparent from the results of the various analyses that speakers avoid placing adverbs before the auxiliary HAVE, both when it occurs alone and when it occurs after a modal. The distributional and factor weight results for modal + HAVE suggest that the mechanisms at work in those cases are similar in both locations. However, when HAVE occurs alone, the rate of pre-auxiliary adverb use in Toronto is higher than in York. On closer examination, it is apparent that the rate of pre-auxiliary adverbs is not the same for all forms of HAVE in Toronto. Figure 4.5 shows the rates\textsuperscript{34} for pre-auxiliary adverbs by form of HAVE in the two corpora (excluding cases of ALWAYS in York, where it is invariant). These results suggest that one of the differences between the varieties may lie in the treatment of HAD across the two regions, as the rates with HAD differ, whereas the rates of HAVE and HAS are nearly identical.

\textsuperscript{34} N values: Toronto: HAVE = 112, HAS = 244, HAD = 78; York: HAVE = 139, HAS = 34, HAD = 73. The difference shown above for the forms in Toronto is not statistically significant but the lack of significance may partly be a result of low token counts.
The results demonstrate that adverb placement with respect to an auxiliary in spoken data is very similar between the two regions. There are few categorical differences and placement in English English is not determined solely by stress as has been previously claimed. The results can be summarized as follows:

(i) In the case of a single auxiliary, the adverb generally occurs after the finite auxiliary rather than before it;
(ii) Speakers generally avoid adverbs immediately before the auxiliary HAVE regardless of whether it occurs alone or after a modal;
(iii) Regional differences are confined to differences in the rates of pre-auxiliary adverbs with HAVE and CAN;
(iv) Aside from the categorical (post-auxiliary) placement of ALWAYS in York, adverb type operates the same way in the two communities.
6 Discussion

In this section, I present an account of this behaviour. First, I consider lexicon/semantics and then several syntactic approaches, and I show that none of them (alone) can explain the variability seen above. I then discuss contraction and other post-syntactic processes that may explain the variability.

6.1 Properties of the auxiliaries

The MVA has revealed that, although adverb type is important, the strongest factor (group) influencing adverb position is the form of the auxiliary. I take up modal + HAVE in a moment, but first I examine the results with only one auxiliary (i.e., the cases other than modal + HAVE) to consider some potential lexical/semantic differences. In both corpora, an adverb is least likely to come before the auxiliary when that auxiliary is the (non-lexical) marker of perfect aspect, HAVE. In other words, the least likely environment for a pre-auxiliary adverb is the environment in which the auxiliary does not have a lexical meaning. Is there a relationship to auxiliary meaning and adverb placement with the modals?

In York, WILL and WOULD show a greater tendency than the other auxiliaries to occur with pre-auxiliary adverbs; CAN and COULD in York also behave in a similar manner to each other. Therefore, it appears that auxiliary meaning may be at work in York, with volition/prediction being the most favourable semantic environment for pre-auxiliary positioning, followed by ability. However, the factor weights and percentage values for these four auxiliaries (WILL, WOULD, CAN, COULD) are very similar to each other, and thus the system in York may not be as fine-grained as it appears.

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35 Rates of SHOULD, an auxiliary which was too infrequent to consider in the MVA, are also fairly high in both regions, suggesting a meaning of obligation would be even higher in the ordering than volition/prediction.
In Toronto, something different seems to be at work. The rate of pre-auxiliary adverbs with CAN is not only lower than COULD, but it is lower even than the non-lexical auxiliary HAVE. Unlike the WILL/WOULD pairing in York, in Toronto, the auxiliary WILL has a slightly higher rate of pre-auxiliary adverbs than the other modals, whereas WOULD behaves more like COULD. These results suggest that, in Toronto, adverb placement is subject to lexical, rather than semantic effects. That is, in Toronto, the individual auxiliary, rather than the auxiliary meaning, influences whether the adverb occurs before it or not. However, this pattern may be partly an artefact of the quirk in the data which I noted earlier: CAN occurred in the Toronto data with much higher rates of the (disfavouring) functional adverbs than the other auxiliaries in Toronto, and this higher rate of functional adverbs in Toronto was not seen in the results for CAN in York. This appears to be a fluke, rather than a genuine finding as it is not reported in any of the previous studies. Hoye (1997:273-4) does not describe any differences in collocation patterns for CAN compared with COULD, though he did not contrast varieties. Jacobson (1975: passim) groups CAN and COULD in his studies, suggesting he did not see a marked difference between them. It is possible that the high use of the functional adverbs with CAN is a true feature of North American English and is evidence that auxiliaries are treated as individual lexical items, but as this is not reported in any of the literature, I will consider it a question for future research in another corpus.

Even if there are lexical or semantic effects, there is evidence that the role of the individual modal and/or its meaning are not the most important factors. We see a three-way distinction in both varieties: [modal + HAVE] – modal – HAVE. If only modal meaning or lexical effects were at work, we would expect the modal + HAVE forms to occur with pre-auxiliary adverbs at rates similar to the single modal forms (e.g., COULD HAVE would occur with pre-auxiliary adverbs at the same rate as COULD alone), but this is not the case. Furthermore, as noted above, in constructions in which the finite auxiliary is followed by something other than HAVE (i.e., modal + Progressive, as in should be going) pre-auxiliary adverbs are extremely rare, suggesting that the mechanism at work is related to HAVE, rather than related to the
complexity of auxiliary phrase. In the next two sections, I examine possibilities for this state of affairs.

6.2 Syntactic explanations

In a review of Jacobson’s (1964) analysis of adverb position in British English, Keyser (1968: 359) asks (critically), “What is the nature of the grammar which would account for the linguistic behavior of adverbials?” Keyser’s (1968:368) proposal was the notion of “transportability,” though as described in Chapter 2, Section 1, subsequent proposals have superseded Keyser’s. However, the question remains as to how the syntax yields the distributional patterns seen above. In this section, therefore, I consider several syntactic proposals as a means to explain the variability. First, I consider Ernst’s (2002) approach to adverb adjunction and apply his analysis of modal + have as a special case. I then consider a modification to Ernst’s proposal using an observation of Kaisse (1983). As these approaches cannot explain the variability, I turn to a recent proposal about the nature of have (Cowper 2010) and a general approach to variability in syntax (Adger & Smith 2005) as alternatives. However, as I show, none of the accounts can explain the distribution of data, suggesting that the results seen above are not a result of syntactic mechanisms, but rather post-syntactic processes.

Under Ernst’s (2002) account, adverb adjunction can take place at whatever stage of a derivation the adjunction will allow the adverb to combine with an appropriate element (e.g., event, proposition, etc). Ernst does not address the issue of how the choice of adjunction location operates (i.e., how a speaker decides it is the right moment in a derivation to adjoin). We can, as a starting point, assume that the adverb can be adjoined randomly, as long as it is in the correct range. However, this predicts that, for cases where there is only one auxiliary (e.g., could go or may arrive), the rate of pre-auxiliary adverbs should be roughly the same as the rate of post-auxiliary adverbs, as a speaker can adjoin the adverb either before or after the auxiliary. However, the rates of pre-auxiliary adverb placement are far lower than 50 percent
in the data studied here, a rate consistent with Quirk et al. (1985:126) who note a preference for post-auxiliary placement. Therefore, a more reasonable conclusion is that the post-auxiliary position is a default position, and thus the structures in which an adverb adjoins above Modal or Perf (rather than above Tense) are the default structures (see (4.11a) and (4.12)). This is reasonable, if we assume that the adverb is adjoined above either the Modal or the Perf head but appears after the auxiliary in the surface order because the Modal or Perf head moved around the adverb to Tense. Thus, in order to explain the results, it is necessary to explain the mechanism behind a choice to adjoin above Tense, and further, why it should be more common to adjoin an adverb above Tense with modal + HAVE than when there is only a single auxiliary. However, the derivation cannot “look ahead” to anticipate that the form will ultimately be modal + HAVE, and thus there is not a mechanism in the syntax that would allow the derivation to delay adjunction.

Perhaps, therefore, there is something inherently different about the modal + HAVE forms. Ernst (2002:333) treats modal + HAVE as non-compositional semantically, stating that modal + HAVE “does not represent the perfective but instead indicates past time”. Syntactically, however, he still posits two heads: Modal and Perf. In addition to the structures given in (4.12) and (4.13), Ernst (2002:380-1) posits an optional movement of Perf to Modal to form a single head (but there is still an obligatory raising of Modal to Tense, meaning they are ultimately separated again). Thus, under his analysis, there is another possible position for adverbs with the same meaning: adverbs occurring after HAVE in modal + HAVE may be a result of the movement of Perf around the adverb. Although the placement of an adverb after a non-finite auxiliary is usually associated with a meaning difference, when Perf movement has taken place, the meaning is preserved. Therefore, adverbs occurring after HAVE, such as the case of (4.27) would be part of the variable context.

(4.27) They’d have PROBABLY jumped over top (Y/9)

---

36 For instance, see “local determinability” in Chomsky (1998:12).
However, the inclusion of tokens in which the adverb occurs after modal + HAVE does not bring the rate of pre-auxiliary adverbs into line with the rates of pre-auxiliary adverbs when the modal occurs alone. The rate of pre-auxiliary adverb placement for the modal + HAVE with the cases like those in (4.27) lowers the rate somewhat, but rates for pre-auxiliary use under this new calculation are still over 30 percent, well above the rates for single modals, which are generally under 10 percent.

Could a modified version of Ernst’s approach explain the variability? If the Perf head did not move and adjoin to the Modal head, but instead was incorporated/cliticized (Baker 1985: passim) onto the Modal head, it could be argued that the whole unit (e.g., modal + HAVE) could move to Tense. Kaisse (1983:120) suggests something similar when she states that SHOULD, WOULD, COULD and MUST form a single unit with HAVE, rather than two heads. A blanket application of her approach is immediately problematic because it implies that any case of modal + HAVE would function as a single (probably Modal) head, and if the two components are part of a single head, it should never be possible for an adverb to occur between the modal and HAVE, contrary to the data (here and elsewhere). However, if incorporation of the modal and HAVE were optional, it would be possible to explain the possibility of variable placement. The adverb cannot occur between the modal and HAVE if there is incorporation; when the forms are separate heads, adverbs can occur between the modal and HAVE. An adoption of this analysis provides an explanation of why the environment between modal and HAVE would be less favourable to adverbs that modals alone (i.e., in cases of incorporation, it is not possible to have an adverb between the modal and HAVE), but it still does not explain the higher rates of pre-auxiliary adverb placement. If the modal and HAVE are both raised to Tense, then we would still expect the same low rates of pre-auxiliary adverbs, since the two heads would still be raised around the adverb, resulting in a post-auxiliary position. Therefore, neither the analysis in Kaisse (1983) nor Ernst (2002) alone can explain higher rates of pre-auxiliary adverb placement.
As neither of the approaches to modal + HAVE yielded an explanation of the results, I now try another tack. As noted above, adverbs are infrequent before HAVE, both when it occurs alone (e.g., I have gone) and when it occurs after a modal (e.g., I would have gone). This observation raises the question of whether there is something inherent in the behaviour of HAVE which explains adverb placement. Therefore, I now consider another unified syntactic treatment of HAVE.

An account of the distribution of adverb placement needs to explain the following results with HAVE: when the Perfect occurs alone (e.g., I have gone), rates of pre-auxiliary adverbs are low; when the Perfect occurs in conjunction with a modal (e.g., I could have gone), the rate of pre-auxiliary adverb use is remarkably high. Cowper (2010:6) has proposed an alternative analysis to that which has been used in other studies (e.g., Ernst 2002, Cinque 1999). Under Cowper’s (2010) analysis of auxiliary HAVE, it is not a Perf head. Instead, it is the form inserted by the grammar when a Tense head is “Merge-stranded” in a derivation with a TP complement (Cowper 2010:6). Merge-stranding occurs when an element Merges but has “an uninterpretable category feature that cannot be immediately checked” (Cowper 2010:6). Instead of a Perf head, the derivation contains two instances of Tense. The higher T(ense) in the structures in (4.28) have a uV feature which cannot be checked when it Merges with the lower TP and thus HAVE is inserted (indicated by the box). In the lower T(ense), the verb in the EP (i.e., the verb in V) is raised and marked as a participle. Therefore, under Cowper’s analysis, modal + HAVE cases have the structure shown in (4.28b), where the question mark indicates the insertion of HAVE when the Modal head is Merged (labelling of the heads as shown in Cowper 2010:16).

---

37 This also explains the use of HAVE in non-perfect environments such as with point adverbials, as in We believe the boys to have eaten lunch at noon. (Cowper 2010:13). Cases of non-auxiliary HAVE are demonstrated to behave like lexical verbs and do not fall under this model (Cowper 2010:18).
(4.28)

a. Mary will probably have gone (Cowper 2010:16)

```
(523x710)      (91x683)
(91x397) (151x101) (91x84) (130x-85) (91x-102) (169x-114) (253x-114) (91x-130) (169x-145) (232x-145) (281x-145) (91x-161) (91x-174) (91x-190) (322x-340) (313x-370) (301x-927) (481x128) (508x128) (442x442)
```

b. Mary probably will have gone (based on Cowper 2010:16)

While Cowper’s (2010) analysis succeeds at explaining the presence of auxiliary HAVE in contexts beyond the Perfect, it does not provide an immediate insight into why the modal +
HAVE forms are more likely to occur with pre-auxiliary adverbs than the simple HAVE forms. If the adverb in (4.28b) is adjoined to the lower T, the adverb will occur after the non-finite auxiliary (i.e., after HAVE) in the surface form. Therefore, as was the case in the structures outlined above in (4.12) and (4.13), in the HAVE-insertion model, the pre-auxiliary position is only achieved by the adjunction of an adverb above (the higher) Tense head (see (4.13) and (4.28b)).

None of the approaches considered so far in this section were specifically focused on explaining variability in syntax. Adger & Smith (2005), however, examined that specific issue and I turn now to their proposals. Adger & Smith argue that different rates of variants can be a result of different syntactic structures/processes creating similar surface forms; there are multiple paths to a similar end. For instance, if there are two syntactic structures that give rise to surface variant A, and only one structural form that gives rise to surface variant B, we would expect a ratio of A to B of 2:1. I examine this approach for single auxiliaries and for modal + HAVE separately as they have different structures (as demonstrated in (4.11) - (4.13)). The rates of pre-auxiliary adverb placement with a single modal auxiliary (e.g., can go, would like) are generally below 10 percent, yielding a ratio of pre-auxiliary to post-auxiliary of about 1:9. The possible syntactic structures when there is only one auxiliary are illustrated in (4.11), and there is only one means to achieve post-auxiliary position (namely, adjunction above Modal or Perf, whichever is present, but below Tense). It is clear, therefore, that there are not 9 different structures that would give rise to a post-auxiliary adverb. Thus, the difference in rates for single auxiliaries cannot be as straightforward as multiple paths to the post-auxiliary surface position.

Turning to the case of modal + HAVE, the structure, as shown in (4.12) and (4.13), is more complex, as the adverb can adjoin above Perf or above Modal, as well as above Tense. Unfortunately, the Adger & Smith model predicts the opposite of what the data show. There are two possible adjunction locations in a structure where a modal is followed by a Perfect form (above Modal and above Perf) but both these locations result in a post-auxiliary adverb
after Modal raises to Tense. Therefore, we would expect that we would see lower rates of pre-auxiliary adverbs with modal + HAVE. Therefore, the Adger & Smith (2005) approach does not explain the data here for either the single auxiliary cases or the modal + HAVE cases.

The discussion in this section has examined different approaches in an effort to find a syntactic mechanism to explain the patterning of pre-auxiliary adverbs seen above. However, none of the accounts described here explain the placement of an adverb above Tense more frequently in certain contexts than others. Biberauer & Richards (2006:39) refer to some syntactic variation as “true optionality” and describe these cases as “when the grammar doesn’t mind”. They argue (Biberauer & Richards 2006:62) that, as long as all the syntactic requirements are met, it is possible to achieve the same end by different structural means and appeal to what they call “the conceptually dubious notion of competing grammars,” a position with which I concur. However, Biberauer and Richards did not attempt to explain various rates of the occurrence of any phenomena, only the presence of the variation.

Although the case in question here seems to be a case of “true optionality,” speakers are demonstrating the orderly heterogeneity seen in variation phenomena. This is not random variation, it is patterned variation, in need of an explanation. In the absence of a mechanism that allows adverbs to move within the syntactic derivation, it is reasonable to assume that there is a post-syntactic operation that moves the adverb from its canonical position below Tense to one above it. The process does not require the syntax to look ahead, but rather allows an adjustment by a speaker after the derivation is complete. I turn now to what factors might be at work in this post-syntactic process.

6.3 Reduction and contraction of HAVE

Ernst (2002:31-33, 226-234, *inter alia*) describes effects of prosodic Weight (e.g., stress or more syllables makes something heavier) and Directionality principles which allow adverbials to occur in a different surface position than they would normally be expected to appear in. In English, these effects explain variability in adverbials such as the permissibility
of both *They worked for my brother on Sunday* and *They worked on Sunday for my brother* (Ernst 2002:232). However, these mechanisms cannot explain the variability seen above. First, Ernst (2002:441) states that single-word adverbs are less likely than phrases to be moved and the adverbs studied here are all of the single-word variety.\(^{38}\) Furthermore, Ernst (2002: 226-234) posits movement to the right as a result of Weight and Directionality, rather than allowing a movement to the left.\(^{39}\) As demonstrated above, however, the occurrence of an adverb to the right of the auxiliary appears to be the default case; what is needed is to explain the rates of occurrence of adverbs to the left of the auxiliary, thus leftward movement would seem to be necessary to describe the phenomena observed here. Moreover, even if leftward movement of the adverb were possible, assuming (as Ernst does) that the adverb (i.e., not the auxiliary) is what moves, Weight alone cannot explain the distribution seen above. If the explanation for the higher pre-auxiliary adverb position with modal + \textsc{have} (e.g., *She probably would have gone*) is a relative lack of weight of an adverb compared to modal + \textsc{have}, then we would expect adverbs to occur more commonly before the auxiliary anytime more than one auxiliary was present, including Perfect + Progressive (e.g., *they had been celebrating*) or Perfect + Passive (e.g., *I have been given gifts*). However, the data show that only the modal + \textsc{have} cases occur with higher rates of pre-auxiliary adverbs. Therefore, some other mechanism must be involved in the process.

Positing that the auxiliary rather than the adverb moves is also problematic. As the default position for the auxiliary is before the adverb (i.e., post-auxiliary adverb position is the default, as in *She has probably left*), the auxiliary would have been moved rightward to get the exceptional pre-auxiliary position. While it might be possible to explain that stressed auxiliaries move rightward because they are heavy (which would be consistent with the claim about stressed auxiliaries in Swan (2001)), most of the cases examined here do not have stressed auxiliaries. Furthermore, the issue of the difference in treatment of modal + \textsc{have}

\(^{38}\) However, Ernst (2002:441) notes different tendencies in Weight for functional (versus other) adverbials which are in keeping with the distinctions of adverb type noted here.

\(^{39}\) Ernst allows rightward movement, despite prohibitions on it by other approaches. (Ernst 2002:226-227).
versus the other cases of multiple auxiliaries (described in the previous paragraph) cannot be overcome by a movement of the auxiliary any more than by the movement of the adverb.

In order to explain the correlation of adverb position with lexical auxiliary and the higher frequency of pre-auxiliary adverbs with modal + have, I return to some previous observations about have. As noted above, speakers use adverbs immediately before have at lower rates than before modals, both when have occurs alone (e.g., *We have gone*) and when it occurs after a modal (e.g., *We would have gone*). There is a well-known propensity for forms of have (including has/had) to be reduced/contracted (Quirk et al. 1985:131), and reduction/contraction of English auxiliaries is generally considered to be a post-syntactic process (Kaisse 1983:95). Therefore, I explore contraction/reduction as an explanation of the behaviour seen above.

Although full contraction of have (in any form) is only possible following a vowel, reduced forms with schwa (e.g., [əv]) are possible after consonants (MacKenzie 2010:1), and therefore, it is possible to have a reduction after a modal. In examining data, Frank & Jaeger (2008:5) found that highly frequent elements, including pronouns and modal auxiliaries, favoured contraction of have, when have immediately follows the frequent item. There is a similarity in the pattern of contraction/reduction that is also seen for adverb placement. That is, the pattern of preference in adverb placement with have seems to be highly compatible with contraction/reduction. In a situation where have is the only (and thus finite) auxiliary (e.g., *I have thought about it*), there is a strong preference for placement of the adverb in post-auxiliary position (i.e., after have). This choice also allows a speaker to exploit contraction of have with a subject pronoun by creating the required subject-auxiliary adjacency. An example is given here, where the post-auxiliary placement of probably creates adjacency between the subject pronoun we and the auxiliary have:

40 Contraction or reduction after an adverb is also possible, at least in terms of the phonotactics of English, though Kaisse (1983:120) claims that true contraction is only possible between an auxiliary and a noun phrase which precedes and c-commands it.

41 Thanks to Amy Schafer (p.c. 30 November 2010) for suggesting this line of research as an explanation.
(4.29) We've probably closed a dozen Scout groups (Y/a)

The post-auxiliary adverb position does not require contraction, merely permits it. Thus, post-auxiliary adverb position with have allows, but does not force, contraction. However, a pre-auxiliary position in (4.29) does prevent subject-auxiliary adjacency, and thus contraction is not possible.

In contrast to have as a finite auxiliary (as in (4.29), where post-auxiliary position is strongly preferred), in the cases of modal + have, adverb placement before the auxiliary, as illustrated in (4.30), occurs about 40 percent of the time:

(4.30) They probably could have afforded a bigger home (T/é)

Note that the adverb placement in (4.30) permits two things. First, it allows the required interpretation of the adverb, i.e., if the adverb occurred after have, it occupies a position after a non-finite auxiliary, a situation which has been demonstrated to imply a different reading in some cases (e.g., Ernst 2002: 325), as described above. Second, the pre-modal placement allows have to occur in position in which reduction (to a form generally transcribed as could’ve or coul’d) is common (Frank & Jaeger 2008:5).

It is also possible to have reduction after an adverb (e.g., They could probably’ve afforded a bigger house), which would allow contraction to occur with a post-auxiliary adverb in modal + have forms. However, Frank and Jaeger (2008:4) find that “Speakers are less likely to use full forms [of have] in the context of more frequent words.” That is, more frequent form are more likely to be followed by reduced have. The word count lists for these two corpora indicate that subject pronouns and some of the modals that can occur in modal + have constructions (e.g., could and would) are more frequent than adverbs such as probably and (non-intensifier) really. This suggests that reduction/contraction would be facilitated by the movement of the adverb into a position which allows adjacency with a more frequent form (i.e., it would be preferable to move the adverb to allow have to follow a pronoun or a modal), even though reduction would not be prohibited by an intervening adverb.

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42 It is also possible to have reduction after an adverb (e.g., They could probably’ve afforded a bigger house), which would allow contraction to occur with a post-auxiliary adverb in modal + have forms. However, Frank and Jaeger (2008:4) find that “Speakers are less likely to use full forms [of have] in the context of more frequent words.” That is, more frequent form are more likely to be followed by reduced have. The word count lists for these two corpora indicate that subject pronouns and some of the modals that can occur in modal + have constructions (e.g., could and would) are more frequent than adverbs such as probably and (non-intensifier) really. This suggests that reduction/contraction would be facilitated by the movement of the adverb into a position which allows adjacency with a more frequent form (i.e., it would be preferable to move the adverb to allow have to follow a pronoun or a modal), even though reduction would not be prohibited by an intervening adverb.
Kaisse (1983: 108fn) claims that the reduced forms of modal + HAVE are not the same phenomenon as subject + HAVE because true contraction can only take place with noun phrases, and a modal auxiliary clearly is not an NP. However, other analyses of reduction (e.g., Barss 1995) consider auxiliary contraction alongside the reduction of complementizer to (as in WANT + TO = WANNA) and thus I will not assume different treatments of the reduction of HAVE (based on what precedes it) are required.

There is an additional similarity between contraction/reduction and adverb placement in the Toronto data. As described above, the rates of pre-auxiliary adverbs with HAVE for Toronto speakers vary by form, with HAD having higher rates of pre-auxiliary adverbs than HAVE/HAS, though the difference was not statistically significant. This divide is an interesting parallel to contraction rates for forms of HAVE in North American English. McElhinny (1993:387) found lower rates of contraction for HAD than the other forms when the auxiliary was followed by a verb in US English, but the token counts were extremely low (N<20) and thus the results were not statistically significant. However, a more recent study by MacKenzie (2010:2), also of English speakers from the US, and which considered both contracted and reduced forms, found (statistically) significantly higher rates of contraction/reduction for HAVE/HAS than for HAD. Thus, we see both lower contraction rates with HAD as well as higher rates of pre-auxiliary adverb placement.

Based on the parallels between contraction/reduction and adverb placement, it is possible to sketch a picture of the post-syntactic mechanism that creates pre-auxiliary adverb position. The default position for adverb placement with respect to auxiliary is after the finite auxiliary (e.g., I will never go or She could probably finish it). As part of a post-syntactic process, the adverb is moved leftward to pre-auxiliary position when it facilitates contraction (e.g., when it allows could’ve), but not when it impedes contraction (e.g., a pronoun before HAVE). The possibility of a post-syntactic process raises the question of whether the adjunction position

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43 This may also apply with auxiliary BE which is not part of this study.
above Tense is still necessary, as the adverb could be moved into that position after the syntax.\textsuperscript{44} Ernst (2002:246) argues that the position above Tense must be there to allow adjunction in cases of ellipsis (e.g., \textit{He clearly can}), though ellipsis could be a case of categorical movement under the analysis here. Similarly, post-syntactic movement would allow the occurrence of adverbs both inside and outside the scope of negation (see the contrast in (4.5)). The possibility of post-syntactic movement does, unfortunately, create a situation where there are two derivations (i.e., the adverb is inserted in the higher position in the syntax or moved in a post-syntactic operation). Therefore, it would be convenient to be able to dispense with the higher position. However, it is not clear that such an approach would be reasonable cross-linguistically, and therefore I leave it for future syntactic research.

Moreover, contraction cannot be the whole story. We would expect that any mechanism that results in contraction would operate similarly on all auxiliaries that can contract, and thus the prediction is that there would be lower rates of pre-auxiliary adverb use with \textit{all} auxiliaries that can contract. That is, we would expect \texttt{WILL} and \texttt{WOULD},\textsuperscript{45} in addition to \texttt{HAVE}, to have lower rates of pre-auxiliary adverb placement than auxiliaries that do not contract (e.g., \texttt{CAN}). However, the opposite is true; \texttt{WILL} and \texttt{WOULD} occur with pre-auxiliary adverbs more commonly than \texttt{CAN}. Furthermore, we might expect to see a statistically significant effect of subject, as pronouns should permit higher rates of contraction (Kaisse 1983:120; MacKenzie 2010:2), yet this is also not the case. Therefore, the process must be more complex than merely whether contraction is possible or not. The decision to move the adverb must also take into consideration the auxiliary itself and the type of adverb (functional or predicational). Frank & Jaeger (2008:2) assert that the use of contractions in speech is one way in which speakers manage the efficiency of communication, and thus other factors of efficiency may also be at work.

\textsuperscript{44} Thanks to Diane Massam (p.c. 24 March 2011) for drawing my attention to this point.
\textsuperscript{45} See Quirk et al. (1985:122) for a discussion.
7 Conclusion

The results of the study conducted here are generally in keeping with previous work (Jacobson 1975; Granath 2002). As in Jacobson (1975), there is a relationship between the auxiliary (e.g. COULD versus HAVE) and the rate of pre-auxiliary adverbs. Although the behaviour of individual auxiliaries is not identical between the two regions, the general patterns hold in both English and Canadian varieties of English. Furthermore, as Jacobson (1975) and Granath (2002) found, the type of adverb is correlated with adverb position with respect to auxiliary. Specifically, functional adverbs, such as OFTEN, occur less frequently before the auxiliary than predicational adverbs, such as PROBABLY. Adverb position does not have social correlates, aside from a difference in rates between the two varieties. While there is a statistically significant relationship between variety (North American or English) and use of pre-auxiliary adverbs, with the Canadian speakers using pre-auxiliary adverbs more commonly than their counterparts in York, the distinction is not categorical, as has been claimed. Instead, the two regions show remarkable similarity.

In the case of a single auxiliary, the adverb generally occurs after the finite auxiliary rather than before it. Speakers generally avoid adverbs immediately before the auxiliary HAVE regardless of whether it occurs alone or after a modal. Aside from the categorical (post-auxiliary) placement of ALWAYS in York, adverb type operates the same way in the two communities. Based on an analysis of several syntactic proposals, I concluded that the mechanism for pre-auxiliary adverb placement is part of a post-syntactic process, which considers the factors of adverb type and auxiliary type and operates in conjunction with contraction/reduction to explain the patterns seen here.
Chapter 5  
Adverbs marking realness

1 Introduction

In an examination of future directions for quantitative study, Tottie (2009:342) notes, “One enormous field of research where there are still many unknown differences between British and American English is lexico-grammar, the grammar of individual words.” An excellent candidate for study is ACTUALLY, which can appear in a variety of positions, as illustrated from the corpora:

(5.1) ACTUALLY, I still to this day don't understand (Y/1)
(5.2) Um, well ACTUALLY I've had two. (T/~)
(5.3) But ACTUALLY I have to give her credit. (T/!)
(5.4) One of the teachers ACTUALLY used to live two doors away from me (Y/V)
(5.5) I don't know if he's ACTUALLY writing them down. (T/Σ)

Perhaps it is this flexibility of position which has inspired the authors of Fowler’s Modern English Usage (1996:355-356) to complain that ACTUALLY has become a “meaningless” word, describing it as “often used in conversation, especially by the young”. This negative evaluation\(^1\) of ACTUALLY highlights its membership in the diverse group of English discourse markers, sometimes called discourse particles (e.g., Watts 1988, Clift 2001), which “are often stigmatized and deplored” (Brinton 1996:6).\(^2\) The evolution of discourse markers, including ACTUALLY, has been the subject of diachronic studies of grammaticalization (e.g., Brinton 1996, Traugott & Dasher 2002, Eckardt 2006), and ACTUALLY has been the focus of a considerable number of pragmatic studies (discussed below).

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\(^1\) This observation has also been made beyond formal linguistic study. A post on an online discussion board asks, “Is the word actually actually necessary?” and goes on to exhort readers to join the campaign against the “overused” word (askville.com 2007). Similarly, one speaker from the corpora studied here commented that, “[One word] they're throwing around a lot is the word actually.... I'm starting to hear that a lot” (T/A).

\(^2\) Recall the discussion of discourse markers from Chapter 3, Section 4.
Although diachronic studies have posited change, ACTUALLY has not been the subject of an apparent time, quantitative study to determine the role of social factors in change; I now undertake a study that will begin to remedy the gap. However, variationist methodology requires an examination of the entirety of variability. As Labov (2005:7) states “reports of the occurrences of a variant must be accompanied by reports of all non-occurrences.” Therefore, this study also examines the relationship of ACTUALLY to several other adverbs, most commonly REALLY, with which ACTUALLY is said to vary in the literature. By analyzing over 5,000 tokens across English and North American data, I examine the correlations of social and linguistic variables with the choice of ACTUALLY or one of its variants.

The organization of this chapter is as follows. First, I review the syntactic/semantic and pragmatic literature on ACTUALLY and its variants. Much of the work on ACTUALLY has explored its variety of uses, and different uses are explored by different authors. While the uses of ACTUALLY overall are numerous, and the details of those uses in any particular situation are open to discussion, there is general agreement in the literature that the adverb has a core lexical meaning of realness, that there it varies with REALLY and that distinctions in use involve adverb position. I also discuss some relevant findings on grammaticalization that have a bearing on the interpretation of the results. Next, I describe the complexities of determining the envelope of variation and enumerate the independent linguistic variables under investigation in this study. I then present the results of the statistical analyses, which show that the choice of ACTUALLY or a variant is related to pragmatics, but it is also governed by the polarity of the sentence, a new finding. Furthermore, I demonstrate that the use of ACTUALLY is on the rise among younger speakers in both Toronto and York, at the expense of the other variants in the system. However, the system is not identical in the two locations. The trajectory of ACTUALLY in Toronto is in line with the phenomenon of specialization, a further step to what has been previously observed in its grammaticalization process. In York, there are social correlates of adverb choice, and the leaders of change in ACTUALLY use are moving in the direction of the more grammaticalized system seen in Toronto. Thus, in York,
the system is at a point of flux, poised to pass equilibrium, but the specialization seen in Toronto is not happening in York, and thus the two regions may ultimately diverge.

2 Previous research

2.1 ACTUALLY and its variants: semantics, syntax and uses

Some typological work on English adverbs which has included ACTUALLY (e.g., Greenbaum 1969; Jacobson 1978; Biber & Finegan 1988) has focused on defining adverb classes by semantic and syntactic behaviour and assigning adverbs to those categories (see Chapter 2, Section 2). Work specifically on ACTUALLY (Aijmer 1986; Lenk 1998; Oh 2000; Taglicht 2001; Clift 2001, 2003) has concentrated on eliciting the pragmatics of ACTUALLY in context and describing the relationship between position and use, mainly through analyses of corpus data. A discussion of ACTUALLY often involves commentary on its relationship to synonymous adverbials, primarily the adverb REALLY (Greenbaum 1969; Jacobson 1978; Quirk et al. 1985; Aijmer 1986; Watts 1988; Biber & Finegan 1988; Lenk 1998; Andersen 2001), but also in fact (Aijmer 1986; Lenk 1998; Oh 2000; Traugott & Dasher 2002; Clift 2003), as a matter of fact (Aijmer 1986) and indeed (Quirk et al. 1985; Traugott & Dasher 2002). The identification of these particular variants is in keeping with the general consensus that ACTUALLY has a core lexical meaning of indicating reality (Greenbaum 1969; Jacobson 1978; Biber & Finegan 1988), and that it has an associated implication that the reality is in some way unexpected\(^3\) (Greenbaum 1969; Jacobson 1978; Biber & Finegan 1988; Hickey 1991; Tognini-Bonelli 1993; Clift 2001; Oh 2000). In the interest of completeness, and in keeping with the Principle of Accountability (Labov 1972:72; Tagliamonte 2006:12-13, *inter alia*), any and all adverbs suggested in the literature to be synonymous with ACTUALLY were considered for inclusion in this study, though not all cases were included in the final analysis, as I discuss in the methodology section below. In short,

\(^3\) That the unexpectedness is always present seems to be widely accepted, though not universal; see Lenk (1998:157) for a dissenting opinion.
the five adverbs which make up what I will refer to as “the system as a whole” are ACTUALLY, REALLY, IN FACT, AS A MATTER OF FACT and INDEED, though as demonstrated in the results section, only ACTUALLY and REALLY are robust; the other variants occur infrequently in the data. Finally, as these adverbs are used to overtly indicate realness and mark unexpected information, there is no zero variant in the system.

In contrast to the consistency of opinion on the lexical meaning of ACTUALLY, there is nothing resembling concord on the discourse uses of ACTUALLY. As Aijmer states, “Some hearers/readers may feel that there is a variation of meaning due to different positions [of the adverb] while others perceive no difference” (1986: 121). ACTUALLY has been convincingly described as having a number of functions, including linking utterances (Oh 2000: 254; Traugott & Dasher 2002:171), marking self-correction (Tognini-Bonelli 1993: 209; Lenk 1998: 156), reopening a previously closed topic (Clift 2001:267), emphasizing (Quirk et al. 1985: 1415) and signalling disagreement (Oh 2000: 256; Taglicht 2001:2), among many others. Regardless of what particular set of uses are argued for, most of the studies mentioned above distinguish categories of use based on where the adverb occurs in a sentence. In other words, there is a fundamental distinction in what ACTUALLY does in one set of positions versus another, as I describe below, and which must be captured in any analysis. Traugott & Dasher (2002:13) argue that collapsing functions together “obscures patterned meaning relationships between adverbs.” Therefore, what is necessary is to identify which positions should be grouped together, and which should be separated.

The usage contrasts are often expressed as a binary division with respect to syntactic position (Greenbaum 1969; Aijmer 1986; Lenk 1998; Taglicht 2001; inter alia). Greenbaum (1969: 142) makes the distinction clearly by contrasting (5.6) with (5.7):

(5.6) ACTUALLY, he volunteered.
(5.7) He ACTUALLY volunteered.
In (5.6), the adverb asserts that some element of what follows is in some way “incompatible with some other proposition which has been expressed or implied” (Taglicht 2001:2). The implication of incompatibility with previous discourse is also present in (5.7), but the positioning before the verb serves to emphasize or intensify the verb (Greenbaum 1969:142), in a way that the initial position (in (5.6) does not). Thus, there is a split between peripheral/parenthetical positions and other positions in an utterance such as pre-verbal or other clause-internal positions. In addition, Greenbaum analyzes actually in (5.8), as equivalent to initial actually, which he describes as parenthetical, despite the absence of comma notation.  

(5.8) I’m very surprised actually at this quotation of Russell’s. (Greenbaum 1969:143)

Aijmer (1986:121) also groups sentence-final and parenthetical position with initial position and argues they all behave in the same manner; the same grouping is provided by Watts (1988:251). Aijmer (1986:121) contrasts the peripheral positions with the uniform behaviour of actually in a variety of other positions, which she groups as “medial position.” Furthermore, Aijmer (1986:121) classifies the position in (5.9) as a clause-internal position, suggesting that an adverb appearing between the verb and its complement is distinct from its occurrence after the complement (as in (5.8) above).

(5.9) She is actually not as pretty as she might be (based on Aijmer 1986:121)

Oh (2000:246) further refines initial position as including utterance-initial, utterance-second, clause-initial and restarts. Similarly, Taglicht (2001:2) describes a two-way division, through a more syntactic distinction, namely, adjunction at sentence level versus adjunction at phrase level. Taken together, the groupings made by Greenbaum, Aijmer, Watts, Oh and Taglicht

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4 Taglicht also gives this reading as possible. I find it acceptable as a native speaker.

5 These are my terms; Aijmer defines positions with reference to a sample sentence, rather than with generalized positions.
can all be summarized as distinguishing between ACTUALLY when it occurs at a clause-boundary position (e.g., (5.6) above) versus when it occurs internal to a clause (e.g., (5.7)).

Different authors use different terms to describe the positions, and the terms are not always transparent. In order to maintain a neutral stance on the nature (i.e., the associated functions) of these position-based differences, I will henceforth refer to CLAUSAL or PHRASAL positions, rather than describing the positional groupings with functional terms such as DISJUNCT or PROPOSITIONAL MARKER.

The primary focus of the previous position-based discussions has been on ACTUALLY, though similar positional distinctions have been made for REALLY. Greenbaum (1969: 143-144) notes a usage distinction for REALLY in Clausal (“disjunct”) versus Phrasal (“intensifying”) position. Quirk et al. (1985: passim) describe meaning/position relationships similar to Greenbaum, as does Capone (2001: passim) who distinguishes REALLY at the propositional level from when it occurs within a proposition. Therefore, the positional distinctions observed for ACTUALLY appear to hold to a large degree for REALLY as well. Traugott & Dasher (2002: 174-175) note that ACTUALLY, IN FACT and INDEED perform multiple discourse jobs simultaneously.

In short, studies on the syntax, semantics and pragmatics of ACTUALLY indicate that it has a lexical meaning of realness and, as such, it varies with REALLY, IN FACT, AS A MATTER OF FACT and INDEED. Furthermore, while the detailed discourse uses of ACTUALLY are open to debate, there is a consensus that a distinction in function exists with respect to adverb position, which I have categorized as a division between Clausal or Phrasal position.

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6 In terms of the syntactic positions described in chapter 1, clausal ACTUALLY occurs above TP, and phrasal actually occurs lower in the structure, such as within a TP or VP. See Section 3.2 below for more details on individual positions.

7 However, he seems to treat all cases of REALLY occurring at Phrasal level as intensifiers, including cases such as Mary REALLY went to the cinema. (Capone 2001:38), rather than as expressing realness.
2.2 The path of grammaticalization

Several of the adverbs in this study have been demonstrated to be undergoing grammaticalization. Partington (1993: 181) discusses the evolution of really from its modal use in asserting truthfulness to its intensifier use. He notes (Partington 1993: 180), though, that the modal functions continue to be used alongside the intensifier functions. Traugott & Dasher (2002:170) examine diachronic change in actually and show that its fifteenth century lexical content, namely, the meaning equivalent to effectively from the French actuel, has eroded over time and actually now is used as an “additive” discourse marker. In the 1700s, they argue (Traugott & Dasher 2002:170), actually began to be used as an “epistemic adversative” implying “inference of epistemic certainty despite expectations otherwise.” Presumably, this stage explains how actually gained its current association with unexpectedness (discussed above). Traugott & Dasher (2002:153) claim that this pattern, namely, lexical content evolving to epistemic adversative use and then to discourse marker uses, has also taken place with indeed and in fact, with commonality in meanings/uses for all three. Furthermore, they state (2002:153) that there is a “tendency” for adverbs to evolve this way, “from clause-internal...to sentential adverbs, and ultimately to discourse markers.” This is important for three reasons. First, their observations provide insight into why various positions and different variants are possible. Furthermore, they explain the clausal/phrasal divide noted earlier. Finally, they imply that the clausal position is more grammaticalized than the phrasal, giving a path of grammaticalization.

In addition, it has been noted that, as the process of grammaticalization progresses, meaning shifts may take place (e.g., Hopper & Traugott 2003:118), though these changes are often constrained by earlier meanings (Hopper & Traugott 2003:16). Based on the findings of the many pragmatic studies, it appears that large-scale meaning change has not taken place between the different positions of actually, as they continue to have the core meaning noted above, with the uses of actually, diverse as they may be, constrained by the core meaning. The different uses for which actually is employed, and the disagreement about
what those uses are, suggest that meaning change may be in its nascent form. As I discuss in
the next section, both unambiguously determining intended meaning and determining variant
interchangeability are often problematic. Clearly, however, ACTUALLY and the other adverbs
studied here are all involved in processes of grammaticalization. Moreover, as I will
demonstrate in the discussion section, when the interactions between these adverbs are
examined, it is possible to see further grammaticalization effects that are not visible when
each adverb is viewed in isolation.

3 Methodology

My goal in this study is to bridge the work on the historical development by Traugott &
Dasher (2002) and the synchronic accounts examining each function in isolation (e.g.,
Aijmer 2002; Clift 2003). In order to achieve this goal, I apply the variationist methodology
described in Chapter 3, while considering the specific features of the phenomenon under
study here. In this section, I discuss the issues of variant interchangeability and the
independent variables used in this study.

3.1 Variant interchangeability

Given the pragmatic multifunctionality of the adverbs under examination here, the question
arises of how to determine equivalence between variants. Some of the adverbs that vary with
ACTUALLY also have uses that are certainly not synonymous with ACTUALLY, such as
intensifier uses. That is, all cases of REALLY (or IN FACT, AS A MATTER OF FACT and INDEED)
are not synonymous with ACTUALLY, as I illustrate below. However, discussions of the uses
of these adverbs, including REALLY (e.g., Watts 1988; Stenström 1986; Quirk et al. 1985;
Greenbaum 1969) show that some uses do overlap with uses of ACTUALLY, though a reliable
rubric for objectively determining where there is overlap between the two adverbs does not
exist. Thus, excluding all cases of really (or the other adverbs) is as inappropriate as including all of them, as there is certainly some common ground in the uses of really, actually and the other adverbs that I described above. As the adverbs studied here are involved in a change in progress, capturing context-based ambiguity of equivalence is part of what needs to be examined as part of the process of grammaticalization. As Hopper & Traugott (2003:126) note, “During any phase of coexistence there are some contexts in which the two (or more) types in question involve a clear pragmatic difference. There are other contexts in which the choice between them is less clear with respect to pragmatic difference.” Therefore, I began with the assumption that I would consider for inclusion all cases of all the adverbs, and then I excluded those cases where there was clear evidence that the use of one variant or another resulted in a meaning change. The details of how this policy was implemented are described in the rest of this subsection.

Traugott & Dasher (2002:162) describe post-adjectival indeed as functioning as an “emphatic degree adverb.” Therefore, I removed these cases of indeed, as seen here:

(5.10) a. … she was very good indeed. (Y/p)
   b. …they were very friendly indeed yes. (Y/7)

Similarly, really can be used as an intensifier (Partington 1993, Lorenz 2002, inter alia), and it is a commonly occurring one in Canadian English (Tagliamonte 2008). Therefore, any case where really could be replaced with very was excluded from the study. This included cases of really where it occurred before a predicate adjective:

(5.11) It was really good (T/r)

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8 Judgements by native speakers also resulted in conflicting opinions on equivalence. As an aside, I note that a judgment of semantic equivalence is usually conducted by the analyst, but it is not out of the ordinary to consult native speakers. Opdahl (2000: 53-55) discusses the problematic nature of semantic equivalence and using native speaker input.

9 This development in really is apparently separate from its role studied here, a phenomenon described by Craig (1991) as polygrammaticalization.
In addition, the use of *really* immediately preceding a verb can have a degree reading, as has been noted in the literature (e.g., Greenbaum 1969). However, this reading is stronger with some verbs, as illustrated from the corpora:

(5.12) a. 'cause I *really* love that band (T/r)  
        b. It *really* went from my backyard to um Finch (T/N)

Replacing *really* with *actually* yields a meaning shift\(^{10}\) in (5.12a), but not in (5.12b), as seen here:

(5.13) a. 'cause I *actually* love that band (versus (5.11a))  
        b. It *actually* went from my backyard to um Finch (versus (5.11b))

When the adverb is immediately preceded by negation, judgments about equivalence become murky, as shown here in the negation of (5.12a) with the two adverbs:

(5.14) a. 'cause I don’t *really* love that band  
        b. 'cause I don’t *actually* love that band

It is possible to get a reading in (5.14a) where *really* is a degree adverb, and thus (a) and (b) are not identical, but it is also possible to get a reading where (a) and (b) are equivalent. Even taken in a fuller context, it was not possible to determine with any certainty which meaning the speaker intended. Given this ambiguity in negative contexts, all cases where the adverb appeared after negation were included in the analysis.

\(^{10}\) Judgments in this section were confirmed by native speakers of Canadian English.
I excluded affirmative contexts where the semantics of the verb appeared to require a degree reading. In practice, this meant excluding all cases where *really* appeared before the following verbs in affirmative sentences: *like, love, enjoy, appreciate, change, want* and *need*. In addition, I excluded affirmative cases of the adverb *really* with the verbs *pick up, take over, catch on* and *go down* when they were used to indicate increase or decrease rather than physical activity, as seen here:

(5.15) the populations have *really* gone down (T/>)

Another environment for exclusion was the case where *really* or *oh really* were used to express incredulity, as they do not allow paraphrases with *actually, in fact*, etc:

(5.16) Consultant: He was horrible too supposedly. (T/¶)

    Interviewer: (Oh) really? / #(Oh) actually? / #(Oh) in fact?

Furthermore, cases where *not really* functioned as *no* were also excluded, as seen here:

(5.17) Interviewer: Would you like to talk more about that?

    Consultant: Not really / #Not actually / #Not in fact

To sum up, in this subsection, I identified the contexts in which adverbs similar to *actually* cannot be accurately paraphrased by *actually* itself, thereby justifying the exclusion of those adverbs in the indicated contexts. I will again return to the topic of interchangeability again in the next section, in the discussion of the independent variables considered in this study.

---

11 This paraphrase may be acceptable to some speakers, but it does not occur in the corpora, and I find it unacceptable as a native speaker.
3.2 Independent variables

The social variables of age, sex and education (as described in Chapter 3) are included in the analysis. Two (independent) linguistic variables are also considered, and I discuss each in turn now.

The first linguistic variable I examine is the discourse role, as it has been the primary concern of most studies on actually. As described above, a number of different functions have been proposed, many of which may be operating simultaneously. Excluding a subset of the uses of actually, or examining the uses separate from one another, would not be appropriate to the goals of this study, which include an examination the interaction between the various stages of grammaticalization. As Hopper & Traugott (2002:201) note, “discourse-oriented statistical analysis can suggest how to recognize possible ongoing grammaticalization processes.” Schiffrin (1991:69-71) also emphasizes the benefits of considering all the contexts in which a discourse marker can occur. In addition, it is necessary to examine all the adverbs in a single analysis, as the discourse marker use of “actually, indeed and in fact, are to various degrees polysemous with other, earlier uses of the same lexeme/construction” (Traugott & Dasher 2002:157). Therefore, aside from the cases I exclude on the grounds of their clearly distinct meaning (see the previous subsection), all occurrences of the adverbs must be examined together. As discussed in Chapter 3, the issue of how to manage a multiplicity of forms and functions in variationist work has received new consideration in the past few years (e.g., Pichler 2010, Cheshire 2007). In examining general extenders\textsuperscript{12} in English, Cheshire (2007: \textit{passim}) argues that the common practice of categorizing pragmatic discourse elements into individual functions runs counter to the nature of the phenomena. Cheshire (2007:158) states, “although in certain situations the forms may have a single principal function… it does not help us to understand the nature of the general extenders (nor of pragmatic particles in general) to prioritise one function over another.” Thus, it was

\textsuperscript{12} General extenders, such as \textsc{and stuff} or \textsc{and everything}, are discourse features which extend reference from one item to a set of related items, but also can have interpersonal meanings (see Cheshire 2007).
necessary to find a strategy for representing discourse function that neither imposes a single function on any particular instance of the adverb, nor conflates the distinctions described in previous work. Therefore, I took advantage of the generally agreed upon distinction between the uses in Clausal versus Phrasal positions discussed above. That is, I coded for a detailed level of syntactic position (which I discuss further below), rather than coding for a specific use such as “linking.” I then grouped the individual positions into Clausal or Phrasal for the subsequent analysis. This approach also makes the method more rigorous, as it allows for reliable replication. That is, the judgment of which syntactic position the adverb occupies is a far less subjective process than determining which pragmatic use(s) a speaker is engaging in, and thus coding for the syntactic position is less open to bias. Moreover, this approach is in keeping with appropriate treatment of grammaticalizing phenomena. As Schwenter & Torres-Cacoullos (2008:11) state, “in the case of variants undergoing grammaticalization, the variable context needs to be circumscribed broadly, to include the stages, or array of meanings, traversed along the grammaticalization path.”

Tables 5.1 and 5.2 present the individual positions that I coded; some examples are given for each position. All variants (i.e., all adverbs) were coded using the same criteria. Actually and really are attested (and thus exemplified) in all positions, but speakers avoid in fact, as a matter of fact and indeed in Phrasal positions, though as I describe further in the results section, these adverbs are infrequent generally.
<table>
<thead>
<tr>
<th>Position</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial</td>
<td>ACTUALLY, I was playing for free (T/E) [ REALLY, I mean, it's made it harder for him (Y/f) [ MATTER OF FACT, we had a canteen up there. (Y/≠)</td>
</tr>
<tr>
<td>At a junction of clauses</td>
<td>She was a film star, ACTUALLY, but I suppose she wouldn't be in your day (Y/g) [ We were quite well fixed, REALLY, we had just about everything (T/d) [ We're going to this wedding this summer, IN FACT, we're going home just for it (T/∂)</td>
</tr>
<tr>
<td>After a conjunction</td>
<td>But ACTUALLY I have to give her credit. (T/!) [ But REALLY you like to spend a bit of time (Y/O) [ And IN FACT I still do play (T/7)</td>
</tr>
<tr>
<td>With a false start or other self-interruption</td>
<td>Well I 'm- I 'm just- ACTUALLY I don't think... (Y/Σ) [ I 'm saying- REALLY I'm talking about myself (T/R) [ We stayed in the area, er- IN FACT- er- the house that we were brought up in (Y/7)</td>
</tr>
<tr>
<td>After a discourse element</td>
<td>Well ACTUALLY my father told me (T/€) [ Well REALLY we would rather be back here (T/P) [ Uh no, INDEED it started off… (Y/†)</td>
</tr>
<tr>
<td>Parenthetically</td>
<td>[The] subway was a good thing ACTUALLY for Toronto (T/L) [ There isn't much REALLY for the kids for this building (Y/J) [ It was down at the U-of-T AS A MATTER OF FACT, in some great big gymnasium (T/∞)</td>
</tr>
<tr>
<td>At the end of a clause (clause-finally)</td>
<td>There's one good thing, ACTUALLY. (Y/Z) [ There's not many people that are still in York, REALLY. (Y/Z) [ It is INDEED (Y/†)</td>
</tr>
</tbody>
</table>

Table 5.1: Individual Clausal positions attested in the data, with examples

The first of the Clausal positions in Table 5.1, i.e., initial position, corresponds to (5.6) above. This position has been equated with parenthetical positions (see (5.8)) and clause-final position (e.g., Taglicht 2001:5). When an adverb occurs at the junction of two clauses, it is ambiguous between initial and final positions (i.e., does it occur at the end of the preceding clause or the beginning of the following?), and thus I coded it as a separate category. Oh (2000:246) groups utterance-initial position with clause-initial as well as the positions
following a discourse marker and restarts. The occurrence of the adverb after a conjunction is also sentential, and thus has been categorized as such.

<table>
<thead>
<tr>
<th>Position</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between subject and auxiliary</td>
<td>I ACTUALLY hadn't thought about it (T/F)</td>
</tr>
<tr>
<td></td>
<td>It REALLY didn't touch her (Y/W)</td>
</tr>
<tr>
<td>Between subject and verb</td>
<td>He ACTUALLY wasn't from the town (T/S)</td>
</tr>
<tr>
<td></td>
<td>There REALLY wasn't a lot of difference (Y/p)</td>
</tr>
<tr>
<td>Between auxiliary and verb or between two auxiliaries</td>
<td>She's ACTUALLY built like a rugby-player (Y/D)</td>
</tr>
<tr>
<td></td>
<td>I'm REALLY doing a good sell job (T/*)</td>
</tr>
<tr>
<td>With an infinitive</td>
<td>You're not supposed to ACTUALLY do that (Y/H)</td>
</tr>
<tr>
<td></td>
<td>You have to REALLY be there (T/8)</td>
</tr>
<tr>
<td>Before a gerund</td>
<td>..no progress whatsoever in terms of ACTUALLY getting stuff done (T/p)</td>
</tr>
<tr>
<td></td>
<td>It ’s just a matter of REALLY getting through (T/i)</td>
</tr>
<tr>
<td>Between a copula and complement</td>
<td>There was ACTUALLY a house further down (Y/W)</td>
</tr>
<tr>
<td></td>
<td>There was REALLY nothing to sell at that time. (T/√)</td>
</tr>
</tbody>
</table>

Table 5.2: Individual Phrasal positions attested in the data, with examples

The Phrasal positions are listed in Table 5.2. All but the last category in Table 5.2 are cases in which an adverb occurs before a verb or auxiliary, in keeping with the positional definition given by Greenbaum (1969:142) and exemplified in (5.7), including the non-finite verb types of infinitive and gerund. Phrasal position also encompasses the cases where the verb intervenes between the verb and its complement (see (5.9)).

Turning again to interchangeability, and looking at REALLY and ACTUALLY in the various individual positions in Tables 5.1 and 5.2, I judged that it was at least possible that ACTUALLY and REALLY could yield the same meaning in each position. Thus, in the interests of fully

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13 Although false starts, and other forms of self-interruption (e.g., I think- ACTUALLY my lyrics are very introverted (T/A)), are often excluded from quantitative studies, one of the environments where these pragmatic markers are said to be used intentionally is with a self-interruption. Therefore, false starts have been included in the analysis.
exploring the relationship between ACTUALLY and REALLY, I included all these cases, as the equivalence of ACTUALLY and REALLY was at least possible.

In discussions of ACTUALLY and its variants in the literature, the overriding (though often unarticulated) hypothesis has been that ACTUALLY is conditioned solely by pragmatic role in the utterance. However, Stenström (1986) observed that REALLY collocates with negation. Therefore, I also coded for polarity in each clause. Affirmative cases were coded as such. For negation, I used a more fine-grained approach, shown in Table 5.3.

<table>
<thead>
<tr>
<th>Description of negation</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adverb immediately following NOT/N’T</td>
<td>we weren’t ACTUALLY on the A-66 (Y/Q)</td>
</tr>
<tr>
<td>Adverb immediately preceding a negated auxiliary</td>
<td>it ACTUALLY hasn’t dawned on them (T/∼)</td>
</tr>
<tr>
<td>Adverb immediately preceding a negative word (see below)</td>
<td>He’s ACTUALLY never done that (T/r)</td>
</tr>
<tr>
<td>Adverb immediately following a negative word other than NOT</td>
<td>they never ACTUALLY got it going (Y/p)</td>
</tr>
<tr>
<td>Negative occurring somewhere in the clause, not immediately before or after the adverb</td>
<td>I ACTUALLY have no idea how to be subtle (T/!?)</td>
</tr>
</tbody>
</table>

Table 5.3: Coding negation

The definition of “negative word” used in this study includes the usual means of forming negation in English (NOT and its contraction), as well as negative pronouns and other indicators of negation. Thus the list of negative words used here is NOT, NEVER, NO ONE, NOBODY, NEITHER, NOTHING, NONE, NOWHERE, NO + noun (e.g., NO CLUE), ONLY and WITHOUT.¹⁴

¹⁴The last two items in the list were included as negative markers by Stenström, so I also included them. Cases where a NO was used to answer a question and then followed by an affirmative statement were coded as affirmative (e.g., Q: Did you go to the doctor? A: No, she was actually out sick today herself).
However, the negative cases patterned very similarly, and some of the categories were infrequent (e.g., immediately preceding a negated auxiliary) and thus the negatives were ultimately collapsed into a single category in all multivariate analyses, yielding a contrast between affirmative and negative. Given the previous observation of a relationship between negation and really, we would expect really to be favoured by negative contexts. In and of itself, this observation does not predict anything definitive for any of the other variants, including actually.

To sum up, this study considered the social variables of age, sex and education, and the linguistic variables of polarity and discourse use, with discourse use being determined by syntactic positions, rather than categorization into a single function.

Having established the set of tokens to be included in the analysis, the next step was to examine the behaviour of the adverbs in relation to each other. To do this, I conducted a series of multivariate analyses, as embodied in the variable rule program GoldVarb X (Sankoff, Tagliamonte & Smith 2005) and used the methods of comparative sociolinguistics (Tagliamonte 2002) outlined in Chapter 3. The dependent variable was choice of adverb in the system of adverbs marking realness; the independent variables are those discussed above. The next section presents the results of this analysis.

4 Results

Looking first at a distributional analysis of the variants, the first thing that is apparent is that actually and really are robust in both locations, with the other variants being infrequent. Furthermore, we see that really is the most common adverb in both locations (55 percent in Toronto and 64 percent in York), with actually a close second at 42 percent in Toronto, and less frequent in York at 33 percent.
By including region in an initial multivariate analysis, it was possible to confirm that the two regions show a statistically significant difference in use of actually. Therefore, the remaining analyses were conducted with the regions separated. That is, each region was analysed individually and the results are presented separately below. However, the methodology used to examine the two regions was identical, meaning that it is possible to conduct a comparative analysis, as I have done below.

Turing now to these multivariate analyses, we see the results for the two internal factors, position and polarity, and the three social variables, age, sex and education. The strongest factor in both locations is polarity, with affirmative contexts strongly favouring actually, and negative contexts disfavouring it. In Toronto, the range for polarity is 55; in York, it is 29. I discuss what might be contributing to the difference in range values in the discussion section. Although the collocation of really with negation had been observed previously, this observation did not necessarily imply anything about the behaviour of the other variants. In other words, it was entirely possible that actually could occur with negation at the same

---

15 Recall that the variant as a matter of fact also occurred as Ø matter of fact, and these two were treated as the same variant.

16 Polarity has also been shown to be a factor in other phenomena in both varieties, such as the use of tag questions (Tottie 2009:355).
rate as REALLY. However, the multivariate analysis clearly shows that this is not the case. For the first time, there is quantitative evidence that ACTUALLY and affirmative polarity are linked.  

<table>
<thead>
<tr>
<th>Polarity</th>
<th>Toronto</th>
<th>York</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FW</td>
<td>%</td>
</tr>
<tr>
<td>Affirmative</td>
<td>.71</td>
<td>57</td>
</tr>
<tr>
<td>Negative</td>
<td>.16</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>55</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Position</th>
<th>Toronto</th>
<th>York</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FW</td>
<td>%</td>
</tr>
<tr>
<td>Clausal</td>
<td>.64</td>
<td>62</td>
</tr>
<tr>
<td>Phrasal</td>
<td>.40</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>24</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Speaker age</th>
<th>Toronto</th>
<th>York</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FW</td>
<td>%</td>
</tr>
<tr>
<td>18-39</td>
<td>.56</td>
<td>44</td>
</tr>
<tr>
<td>40-69</td>
<td>.45</td>
<td>41</td>
</tr>
<tr>
<td>70-92</td>
<td>.34</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>22</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Speaker sex</th>
<th>Toronto</th>
<th>York</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FW</td>
<td>%</td>
</tr>
<tr>
<td>Male</td>
<td>[.50]</td>
<td>44</td>
</tr>
<tr>
<td>Female</td>
<td>[.50]</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Speaker education</th>
<th>Toronto</th>
<th>York</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beyond compulsory</td>
<td>[.50]</td>
<td>43</td>
</tr>
<tr>
<td>Up to compulsory</td>
<td>[.48]</td>
<td>41</td>
</tr>
</tbody>
</table>

Table 5.5: Multivariate analysis results for use of ACTUALLY

17 It is not clear how this association with polarity comes about. The syntax cannot “look ahead” to see a Neg head, and the selection of ACTUALLY and REALLY seems to be a lexical choice (thus pre-syntactic). Therefore, it is not clear how the adverb can be selected based on polarity unless the lexical item is inserted after syntax (see Embick & Noyer 2001).
Syntactic position (and by extension, pragmatic function) is also significant, with a range of 24 in Toronto, and 17 in York. However, the effect is not the same in both locations. In Toronto, Clausal positions favour the use of actually, and Phrasal positions disfavour it, suggesting a more advanced stage of grammaticalization (see Section 2.2 above for discussion of the path of grammaticalization). However, the reverse is true in York, with Clausal positions disfavouring the use of actually, suggesting that the process of grammaticalization is less advanced. I return later to the significance of, and offer an explanation for, this observation.

Looking at the social factors, neither sex nor education was selected as significant in Toronto, though they both were selected in the York analysis. In York, speaker sex is the strongest of the social variables, with a range of 20; male speakers favour the use of actually. Speaker education is the least strong of the social factor groups in York, with a range of 12; speakers with more the compulsory education use actually at higher rates. Age is significant in both locations, with younger speakers favouring use of actually and older speakers disfavouring it. However, in the discussion below, I demonstrate that the similarity is superficial.

To sum up, the distributional and statistical analyses demonstrate several facts. First, some of the variants in the system are very infrequent: indeed, as a matter of fact, in fact. Second, affirmative contexts favour actually; negative contexts disfavour it. Third, the process of grammaticalization has not advanced the same distance in both locations. Finally, age is the only social factor related to use of actually in both locations, with younger speakers favouring it. In York, but not in Toronto, there an additional relationship of the use

---

18 As I demonstrate in the next section, in addition to the difference in the path of grammaticalization that can be seen from the Clausal/Phrasal distinction, there is also evidence of change over apparent time, which I discuss in the next section.

19 Discussions of these findings have prompted questions from several colleagues on whether there are any trends in what is socially salient in the two communities. However, as established in a separate work in progress (Tagliamonte & Waters 2009), social meaning is determined on a local basis, variable-by-variable.
of **ACTUALLY** to the social variables sex and education. In the next section, I will further examine each of these results in turn to provide a more comprehensive picture of what is taking place.

## 5 Discussion

The results above demonstrate that there is variation in adverb choice in both locations. However, the age-related differences raise the possibility, though not the certainty, that there is also change taking place. An increase in the frequency of **ACTUALLY** would be in line with a continuing grammaticalization process because, as Traugott & Heine (1991:9) observe, “The more grammaticalized a form, the more frequent it is”. However, increase in frequency alone is not proof of grammaticalization (Mair 2004:125). Moreover, with discourse features in particular, Cheshire (2007:161) urges caution in interpreting frequency differences by age as change because the rates of use of discourse features vary based on social features of not only the speaker, but also the interlocutor. Therefore, an increase in frequency might be the result of movement along the path of grammaticalization, a side-effect a system undergoing a reorganization (in which the role of the one or more of the internal factor groups is changing), or the effect of the interviewer. However, as I demonstrate in this section, the variability under study here is not simply a difference in frequency of occurrence; the frequency increase over time reflects, and is the result of, subtle changes in the grammar. Furthermore, the nature of these changes, such as specialization, is consistent with previously observed patterns of grammaticalization, indicating that the variability is also a change in progress.

---

20 Conversely, some types of grammaticalized behaviour do not appear with concurrent increases in frequency (Mair 2004:123).

21 She also raises concerns about comparisons across different corpora because of different collection methods. However, as described in chapter 1, the corpora here were collected with the same methodology and thus are comparable.
5.1 Toronto: Grammaticalization and specialization

The only social variable that is statistically significant in Toronto is age, with a higher use by younger speakers. In order to determine the nature of the age-related phenomenon, I conducted a series of multivariate analyses of only the Toronto data, examining each age group in turn.

| Multivariate analysis of internal factors chosen as statistically significant for the selection of actually in Toronto English, by age |
|---|---|---|
| **18-39** | **40-69** | **70-92** |
| Corrected mean | .36 | .31 | .32 |
| Total N | 1910 | 1201 | 333 |
| Polarity | | | |
| Affirmative | .71 | .66 | .61 |
| Negative | .17 | .14 | .20 |
| 54 | 52 | 41 |
| Position | | | |
| Clausal | .66 | .65 | .60 |
| Phrasal | .42 | .41 | .39 |
| 24 | 24 | 21 |

Table 5.6: Multivariate analysis results within age group for Toronto

As seen in Table 5.6, the results for both polarity and position over apparent time are fairly consistent in terms of their relative strength and the hierarchy of factors within each factor group. Polarity is the strongest factor group across all ages, with a range of 41 for the oldest group of speakers (70-92) and ranges over 50 for the other age groups. Affirmative contexts favour the use of actually for all age groups. Similarly, the range for position is in the low twenties for all age groups, with Clausal contexts favouring actually. Based on this evidence, nothing suggests a macro-level change in the system. Nonetheless, as I demonstrate below, younger speakers are advancing a more subtle change related to polarity.
Specifically, I will show that actually and the other variants are engaged in interrelated processes of change, related to the previously observed grammaticalization. The process is slow, but it can be observed in the apparent time data.

As seen above, the range values for position are almost identical across the three age groups. If grammaticalization to the Clausal positions were advancing rapidly, we would expect that the range values for the position factor group would be increasing in size over time, reflecting the preference for the more grammaticalized Clausal positions. As this increase is not manifested in the data, it appears that the grammaticalization proposed by Traugott & Dasher is not progressing at a rate that can be observed in apparent time. So how do we explain the increase in use over time? Looking at the polarity factor group, we see that the range values are gradually increasing over apparent time. This suggests that polarity is the locus of change.

Therefore, I separated the data into negative and affirmative contexts. Figure 1 shows the proportional use of actually in only negative and only affirmative contexts, respectively.

![Figure 5.1: Use of actually by age group and polarity in Toronto, in percent](image)
The general trend in the tables is as expected based on the factor weights: the use of *really* is greater in negative contexts and the use of *actually* is higher in affirmative cases. However, the two contexts are not mirror images as seen in Tables 5.7 and 5.8. In the negative contexts, the situation is very stable; the differences between the age groups are not statistically significant. The use of *really* hovers around 90 percent for all speakers, with *actually* at about 9 percent, and an almost negligible use of the other variants. In the affirmative cases, however, the rates of use are not stable and age group is statistically significant. In the oldest speakers, the use of both *really* and *actually* is below 50 percent each, with the other variants making up nearly 10 percent of the cases. In the youngest speakers, not only is the use of variants other than *really* and *actually* nearing zero, but moreover *really* is losing ground to *actually*.

<table>
<thead>
<tr>
<th>Age</th>
<th>ACTUALLY</th>
<th>REALLY</th>
<th>others 24</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-39</td>
<td>10.1</td>
<td>89.6</td>
<td>0.3</td>
<td>694</td>
</tr>
<tr>
<td>40-69</td>
<td>7.1</td>
<td>92.6</td>
<td>0.3</td>
<td>311</td>
</tr>
<tr>
<td>70-92</td>
<td>8.9</td>
<td>89.9</td>
<td>1.3</td>
<td>79</td>
</tr>
</tbody>
</table>

**Table 5.7: Variants in only negative contexts in Toronto, in percentages**

<table>
<thead>
<tr>
<th>Age</th>
<th>ACTUALLY</th>
<th>REALLY</th>
<th>others</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-39</td>
<td>63.0</td>
<td>36.1</td>
<td>1.0</td>
<td>1226</td>
</tr>
<tr>
<td>40-69</td>
<td>53.2</td>
<td>42.3</td>
<td>4.4</td>
<td>891</td>
</tr>
<tr>
<td>70-92</td>
<td>45.3</td>
<td>44.9</td>
<td>9.8</td>
<td>256</td>
</tr>
</tbody>
</table>

**Table 5.8: Variants in only affirmative contexts in Toronto, in percentages**

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22 Statistical significance was determined by a multivariate analysis (using GoldVarb X) of only negative contexts. Age was NOT selected as significant.
23 Statistical significance was determined by a multivariate analysis of only affirmative contexts. Age was selected as significant in affirmative contexts, with younger speakers favouring *actually*.
24 The “others” column consists of *in fact*, (as a) *matter of fact* and *indeed*.
This polarity-based distinction is in keeping with the observed effects of specialization, “the process of reducing the variety of formal choices available” either overall or in a given context (Hopper & Traugott 2003:116). While a specialization process is on-going, the variants that are not eliminated may display context-related frequency differences (Hopper & Traugott 2003:116). In the case under study here, REALLY is becoming the marker in negative contexts, and ACTUALLY is becoming the marker in affirmative contexts. The ultimate result of specialization is that the “choice of forms in a particular construction narrows, with one or more forms becoming obligatory” (Brinton 1996:51). Thus, we would expect that, in the future, the division between ACTUALLY and REALLY based on polarity would become categorical.

A resolution of how this process began requires a historical study; even the oldest speakers show the contextual divide. Thus the change must have started well before even the oldest speakers were born. However, it is possible to sketch out a reasonable hypothesis of the path of change. Given that the negative contexts are much closer to categorical than the affirmative contexts, the implication is that the division of labour began in negative contexts. As noted in the discussion above, the collocation of REALLY with negation has been observed as an independent phenomenon in previous studies. Therefore, the association of REALLY with negative contexts was most likely unrelated to any interaction with ACTUALLY. However, as REALLY takes over the negative context, ACTUALLY and the other

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25 Also called *obligatorification* (e.g., Heine, Claudi and Hünnemeyer 1991).
26 Notice, for instance, the oddness of NOT ACTUALLY as a unit, while NOT REALLY is fine. This is one piece of evidence suggesting that NOT REALLY is undergoing lexicalization, similar to what Hopper and Traugott describe for TRY AND (2003:50). Other evidence for lexicalization is that /t/ deletion (in NOT) and laxing of the first vowel (/i/) in the adverbs both seem easier in a than in b, in what are reasonably similar contexts, but this is impressionistic and needs formal study:

Q: Have you seen any good movies lately?
A: (a) No, not really.
   (b) No, not recently.

Furthermore, this close association with NOT also raises the question of whether REALLY is on the road to becoming the next element to be co-opted as a negative re-enforcer in a Jespersen negative cycle, a question I leave to semanticists.
variants are being reanalyzed as associated with the affirmative cases. The result, then, is several redundant variants in the affirmative, which now appear to be narrowing towards a sole preferred variant: \textit{actually}.

This narrowing of the variants is also visible in the low frequency of some of the variants. As noted earlier, some variants in the system show very low use overall: \textit{indeed}, \textit{as a matter of fact} and \textit{in fact}. Furthermore, these low frequency variants are even less common in younger speakers in Toronto, as seen in Table 5.9, given as token counts rather than proportions due to the extremely low number of occurrences of some variants.

<table>
<thead>
<tr>
<th>Variant</th>
<th>18-39</th>
<th>40-69</th>
<th>70-92</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>\textit{really}</td>
<td>1061</td>
<td>664</td>
<td>186</td>
<td>1911</td>
</tr>
<tr>
<td>\textit{actually}</td>
<td>842</td>
<td>496</td>
<td>123</td>
<td>1461</td>
</tr>
<tr>
<td>\textit{in fact}</td>
<td>14</td>
<td>27</td>
<td>5</td>
<td>46</td>
</tr>
<tr>
<td>(\textit{as a}) \textit{matter of fact}</td>
<td>0</td>
<td>10</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>\textit{indeed}</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 5.9: Variant count by age group in Toronto

Not only are \textit{as a matter of fact} and \textit{indeed} infrequent in general, they are not used at all by the youngest speakers, while their use of \textit{actually} and \textit{really} is robust. However, in this move towards \textit{actually}, one variant appears to be hanging on, albeit tenuously: \textit{in fact}.

The survival of \textit{in fact} is most likely related to prescriptive pressures. Previous studies have reported that \textit{in fact} is more common in writing than in speech (Oh 2000, Traugott & Dasher 2002). This suggests that there is an association between \textit{in fact} and a more formal
style, explaining both why IN FACT is infrequent in the corpus (avoiding formal style is a goal of sociolinguistic interviews), and why it is escaping obsolescence (it has a stylistic function (i.e., more formal) that is absent from ACTUALLY and REALLY). Furthermore, the use of IN FACT appears to follow a U-shape (inverted, in this case) with regard to age which has been hypothesized to be associated with features that are positively valued in the linguistic marketplace (e.g., Eckert 1997:160) and which are associated with age-related variation (Cheshire 2005:1555). While the low rates of occurrence make statistical significance testing problematic, the highest users of IN FACT are those between 40 and 69, suggesting “age-preferential” behaviour, in that IN FACT is a variant that is “used by speakers of all ages in the community, but more frequently by some age groups than by others” (Cheshire 2005:1553). The presence of the U-shaped pattern, with prestige variants used at the highest rates by middle-aged speakers, also suggests that IN FACT, in contrast to the other variants, is a stable element in the system (Cheshire 2005:1555).

Is the elimination of INDEED and AS A MATTER OF FACT a case of lexical replacement (e.g., Bynon 1977:183-190; Chambers 2000:193)? While there is some evidence that suggests lexical replacement, there is other evidence against it. The fact that some variants are restricted to older people (e.g., INDEED, AS A MATTER OF FACT) and that the surviving variants are synonymous with the declining variants is evidence for lexical replacement. However, the rate of change in lexical replacement is rapid (D’Arcy 2006:346, Chambers 2000:193), and the changes observed in ACTUALLY are slow, as demonstrated by the fairly consistent ranking of factors by age group. A historical study would be needed to determine definitively if the low frequency of the declining variants is the end of a steady, slow decline, or, if the low frequency variants have been always been low in frequency and are only now being replaced in a fairly sudden change. In any case, two very robust variants remain: REALLY and ACTUALLY. The continuation of a system of two variants suggests that there is a context-based distinction developing, rather than a wholesale replacement of one variant with another. In addition, it has been previously observed (as discussed above) that grammaticalization is taking place for both ACTUALLY and REALLY, so it is clear that other
forces are already at work on these two adverbs. Therefore, while lexical replacement might be involved in the implementation of the process of specialization, it is not the only process at work in the change here.

Assuming the S-curve model of language change (Holmes 2001:203, Bailey 1973:77), the differing rates at which the two environments are developing is to be expected. The change to exclusively REALLY in negative contexts is nearing completion (i.e., it is now at 90 percent); in affirmative contexts, the increasing variant (ACTUALLY, at 63 percent) has not taken over completely. Thus, as predicted by the S-curve model, we see change at a more rapid rate in the affirmative contexts than the negative contexts. Furthermore, the continued use of ACTUALLY in negative contexts is consistent with the processes of language change. Even as a change is taking place, variation may be observed, while old forms “remain to coexist and interact with” new forms, a process described by Hopper (1991:22) as “layering.” Furthermore, as there are more affirmative than negative contexts (in the corpus, and presumably this is true of speech in most other, more natural contexts), this change is also contributing to the overall increase in frequency of ACTUALLY.

As I have demonstrated, the use of ACTUALLY and its variants in Toronto is undergoing change over time. In and of itself, change is not equivalent to grammaticalization. However, this particular case, change in the system of marking realness, is clearly a case of grammaticalization. First, the process of delexicalization has already been demonstrated to be taking place in previous studies for all the variants in the system (e.g., Traugott & Dasher 2002; Lorenz 2002; Tagliamonte 2008). Second, the chief force behind the change seen in the system is specialization, a linguistic phenomenon directly associated with grammaticalization (Hopper 1991). Third, the increase in frequency is indicative of “dynamic [grammaticalization]…which involves diachronic change and will result in… shifts in

27 In fact, change is so slow in negative contexts, that we cannot see it in over 70 years of apparent time.
discourse frequencies” (Mair 2004:123). Furthermore, Mair (2004:138) argues, “Changes in relative or proportional frequencies…will usually be part of the central phase of the process of grammaticalization itself”. In short, although the rate of change can only be seen over the course of more than one generation, *actually* and its variants are actively involved in an on-going and dynamic process of grammaticalization.

5.2 York: Social meaning and interaction with intensification

In York, as in Toronto, the strongest factor group is polarity. Tables 5.10 and 5.11 show the distribution of *actually*, *really* and the other variants in negative and affirmative contexts, respectively. The use of variants other than *actually* and *really* is declining in both contexts, with the value in the “others” column decreasing from oldest to youngest speakers.

<table>
<thead>
<tr>
<th>Age</th>
<th>actually</th>
<th>really</th>
<th>others</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-39</td>
<td>22.2</td>
<td>77.0</td>
<td>0.8</td>
<td>229</td>
</tr>
<tr>
<td>40-69</td>
<td>13.9</td>
<td>82.6</td>
<td>3.5(^{29})</td>
<td>190</td>
</tr>
<tr>
<td>70-92</td>
<td>15.0</td>
<td>83.2</td>
<td>2.0</td>
<td>107</td>
</tr>
</tbody>
</table>

Table 5.10: Variants in only negative contexts in York, in percent

\(^{28}\) Mair contrasts this dynamic type with a static type of grammaticalization which “is not associated with language change but manifests itself in a diachronically stable ‘corona’ of marginal and experimental uses around some highly frequent lexical items” (2004:136).

\(^{29}\) The move to *actually* for this age group appears to be accompanied by a small increase in the use of other adverbs as well.
In addition, the use of **really** is also declining in both environments, from 83 to 77 percent in negative contexts and 67 to 51 percent in the affirmative cases. At the same time, the use of **actually** is increasing in both contexts over apparent time, from 27 percent to 48 percent in affirmative contexts and 15 percent to 22 percent in negative contexts. This difference by age is statistically significant. The results of multivariate analyses of only negative and only affirmative contexts (i.e., looking at the two contexts separately from one another) show that age is statistically significant in both contexts, with younger speakers favouring **actually** in both affirmative and negative cases. This finding contrasts with the Toronto results where it is only the affirmative contexts in which age is statistically significant (indicating that only affirmative contexts are where change is taking place in Toronto). Therefore, the specialization by polarity that is taking place in Toronto does not appear to be taking place in York. Instead, **actually** is on the rise in both contexts in York.

In further contrast to Toronto, the choice of **actually** or one of its variants in York is related to more social factors that just speaker age; the variables sex and education are also significant. To see how this may be developing over apparent time, I conducted a series of multivariate analyses by age with the results given in Table 5.12.
The role of education also appears to be fairly consistent across the age groups; speakers with more than compulsory education use more *actually*, suggesting a change from above (Labov 1994: 272). We would therefore expect that women would use more *actually* because Labov’s Principle 3 states that women adopt prestige forms at a higher rate than men (1994: 274). However, the opposite is true in this data: men use more *actually* in York, some interesting counterevidence to the perception of a female association with discourse features noted in Brinton (1996:35). Therefore, the use of *actually* in York appears to be

<table>
<thead>
<tr>
<th>Polarity</th>
<th>Factor Weight</th>
<th>%</th>
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<th>Factor Weight</th>
<th>%</th>
<th>N</th>
<th>Factor Weight</th>
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<th>N</th>
<th>Factor Weight</th>
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<th>N</th>
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<td>.58</td>
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<td>1557</td>
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<td>34</td>
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<td>.56</td>
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<td>443</td>
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<td>21</td>
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<td>Phrasal</td>
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<td>Beyond</td>
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<td>Up to /completed</td>
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<td>850</td>
<td>.43</td>
<td>28</td>
<td>340</td>
<td>.42</td>
<td>21</td>
<td>268</td>
<td>[.46]</td>
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<td>13</td>
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<td>22</td>
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</tr>
</tbody>
</table>

Table 5.12: Multivariate analyses by age in York
one of the exceptional cases in which women are not the leaders of language change (Labov 1994: 284). However, the evolution of *actually*, unlike other cases in which men lead, such as Labov’s study on Martha’s Vineyard or Trudgill’s study in Norwich, is neither a change to a variant which marks local identity (as far as can be determined) nor is it a sound change. Thus, the use of *actually* appears to be quite different from the previously-studied male-led (sound) changes. From the data in Table 5.12, it also appears that the role of sex is increasing over apparent time, as the range for sex in the middle aged group of speakers is 9, while it is 28 in the youngest age group. However, this claim is speculative given that the trend is only visible for two age groups. More granularity (e.g., looking at the data at the decade-level) might shed light on the question, but a larger corpus of spoken data would be needed to allow that level of detail.

It is interesting to note that the strength of sex appears to be slightly stronger than position for youngest age group. At first glance, this might suggest that the role of sex is becoming more important than linguistic factors. However, the path of grammaticalization outlined by Traugott & Dasher is Phrasal to Clausal, and the evidence from both their study and the Toronto data suggests that the process is gradual. Therefore, as the switch from Phrasal-dominant to Clausal-dominant takes place, it is to be expected that the factor weights for Clausal and Phrasal will become more and more similar. In other words, a decrease in strength of the position factor group is likely as the two positions approach equilibrium. Furthermore, there is evidence that a shift to Clausal positions is taking place in York.

Looking at Figure 5.2, we see that the three highest frequency users of *actually* cluster at the younger end of the age scale. These three speakers are, as expected from the results of the multivariate analyses, three young (under 25) men with more than compulsory education. These three speakers are not outliers in the data or what Chambers calls “oddballs” (2009: 93); removing them from the analysis does not change the overall statistical results and there is nothing about these speakers that distinguishes them socially or linguistically from the rest of the sample. What does distinguish them is not only their frequency of use of *actually*,
but also the manner in which they use it: these three speakers use actually in Clausal positions more than in Phrasal positions. That is, they are using the more grammaticalized forms of actually.

Moreover, although the change might have taken place in isolation, there is another linguistic change which may be related to the shift. As noted earlier, the variant really has also been independently documented to have evolved as an intensifier in British English, including in York English. Ito & Tagliamonte (2003:276) note that “in the youngest generation… the educated males are implicated equally, if not more so” than women in the rise of intensifier really. Therefore, the changes seen in the adverb system marking realness

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30 I investigated the use of intensifier really by the three individuals circled in Figure 5.2. They are not all high users of the intensifier as individuals, but this is not surprising as there is a growing body of work showing that individuals are inconsistent across variables (Labov 2001:371-373; Guy 2010; Nevalainen et al. 2011; Tagliamonte & Waters 2011). As a matter of interest, I also note they are not high users of the general extender and stuff (Derek Denis, p.c. 9 May 2010, see Tagliamonte & Denis 2010).
may be interacting with the system of adverbial intensification, as the leaders of both these changes are coming from the same group of speakers.

6 Conclusion

In this chapter, I examined for the first time the use of actually from the perspective of socially stratified data. I examined not only actually in isolation, but also its involvement in a system of marking realness that also incorporates the adverbials with which it has been reported to vary: really, as a matter of fact, in fact and indeed. The study examined natural speech data of Toronto and York English, and drew on pragmatics research, using syntactic position to study differing groups of pragmatic roles.

It is clear that actually and really compete in both Toronto English and York English, with other variants in the system for marking realness disappearing in both locations, namely, indeed and as a matter of fact. Furthermore, a polarity-based distinction exists in the choice of actually and really, with affirmative contexts favouring actually, and really dominating in negative ones. However, in Toronto, the affirmative and negative contexts are diverging, with an increase in actually only taking place in affirmative contexts. Moreover, this specialization is occurring amid the stability of a distinction between clausal and phrasal positions (and their corresponding pragmatic roles) for these two adverbs, with actually being more common for clausal level pragmatic uses, and really being more common for phrasal level pragmatic uses. In York, in contrast, the use of actually is increasing in both affirmative and negative contexts, with really decreasing in both. In addition, the stage of grammaticalization in York is not as advanced as in Toronto, though the behaviour of young, high frequency actually users suggests the process may shift to look more like Toronto in the near future.

While some of the linguistic constraints on choice of actually or another variant are similar in the two locations, the social embedding is notably different in the two cities. In Toronto,
there is no evidence that use of actually is related to sex or education. In addition, the relationship between age and use of actually in Toronto is not a manifestation of social meaning, but rather reflects the on-going process of grammaticalization that has been previously observed in the literature. Thus, actually is not a marker of social group membership in Toronto. In York, the use of actually is associated with young, male speakers who have more than compulsory education. These younger speakers are on the forefront of change, using the more grammaticalized forms.

Actually and the other adverbs under study here have been examined individually as cases of grammaticalization by different authors, and there has been some discussion of their parallel evolution. The results above, however, show that examining the adverbs as a system, and in more than one location, sheds additional light on what is taking place for each one individually. The changes seen for Toronto English follow observed patterns of grammaticalization (e.g., specialization), rather than other possible types of variation or change, such as stable variation or lexical replacement. The variation seen in York is more sociolinguistic in nature, with (independent) social and grammatical variables both playing a role. In addition, the work here suggests avenues for future pragmatics research; in particular, the context-related findings in this study (e.g., Clausal/Phrasal, affirmative/negative) may be useful in teasing out answers in the on-going debate over exactly what pragmatic uses are at work in different contexts.
Chapter 6
Conclusion and consequences

1 Summary

This work examined two adverb phenomena using the methodology of comparative, quantitative sociolinguistics to compare and contrast Canadian English with Northern English English, and, by extension, Standard North American English and Standard English English. More specifically, I analysed natural speech data from socially stratified corpora of Toronto, Canada and York, England. The analysis also incorporated extensive work beyond the variationist framework, such as syntactic accounts of adverb behaviour (e.g., Ernst 2002), grammaticalization theory (e.g., Traugott & Dasher 2002) and previous findings from studies of adverb pragmatics (e.g., Aijmer 2002). I have also attempted to incorporate the case studies undertaken here with broader work in linguistics, particularly syntax, in keeping with recent work such as Biberauer & Richards (2006) and Green (2007), and the volume edited by Cornips & Corrigan (2005). In the first case study, I examined a putatively syntactic variable, namely, the position of an adverb with respect to an auxiliary. In the second case study, I investigated a lexical and discourse-pragmatic feature, variability in the adverbs ACTUALLY and REALLY.

In the first case study, I examined variability in the positioning of an adverb with respect to an auxiliary (e.g., Mary will probably go versus Mary probably will go). The post-auxiliary position (e.g., Mary will probably go) is far more frequent in both England and Canada, though variability occurs in both dialects. Thus, the post-auxiliary position is a default position, and the pre-auxiliary position is marked. The variability is not categorical and region-based, as has been claimed (e.g., Swan 2001). While there is a statistically significant difference in the rate at which pre-auxiliary position occurs in the two varieties, with Canadian English having a higher rate, the pattern of variability is remarkably similar in both varieties. Other than the regional difference in rate, adverb placement is not correlated with social factors such as age, sex or education in either variety. Instead, the variability is
dependent on the linguistic environment. The post-auxiliary position (e.g., *Mary will probably go*) is, by far, the more common of the two positions in both varieties. In addition, the placement of an adverb immediately before the auxiliary *HAVE* is extremely infrequent, regardless of whether *HAVE* occurs alone (e.g., *John has seen it*) or following a modal (e.g., *John could have seen it*). In keeping with earlier findings (e.g., Jacobson 1975), pre-auxiliary adverb placement is also related to the individual auxiliary; for instance, the auxiliary *WOULD* occurs more frequently with pre-auxiliary adverbs than does the auxiliary *CAN*. Furthermore, as Jacobson (1975) and Granath (2002) also found, the type of adverb is correlated with adverb position with respect to auxiliary. That is, predicational adverbs, such as *PROBABLY* are more common in pre-auxiliary position than functional adverbs, such as *OFTEN*, with *PROBABLY* being especially common in pre-auxiliary position in North American English. Using the syntactic framework of Ernst (2002), I demonstrated that there is not a mechanism in the syntax that can explain the pattern of variability, and thus I concluded that pre-auxiliary adverb placement must also be part of a post-syntactic process. Specifically, speakers consider the type of adverb, the structure of the auxiliary phrase and the lexical auxiliary in choosing post-syntactic movement, and this process operates in conjunction with contraction/reduction to explain the patterns seen here.

I then considered the social and linguistic correlations of the adverb *ACTUALLY* as part of a system of adverbs used in marking realness, i.e., variation in the use of *ACTUALLY*, *REALLY*, *AS A MATTER OF FACT*, *IN FACT* and *INDEED*, though, as I demonstrated, only *ACTUALLY* and *REALLY* are robust variants. Following pragmatic descriptions (Aijmer 1986; Lenk 1998; Oh 2000; Taglicht 2001; Clift 2003; *inter alia*) and grammaticalization findings (Traugott & Dasher 2002), I constructed an analysis which separated the more grammaticalized functions (those with clausal scope) from the less grammaticalized functions (those with phrasal scope). In both Toronto and York, polarity plays a role in the choice of *ACTUALLY* or *REALLY*, with affirmative contexts favouring *ACTUALLY*, and *REALLY* being more common when negation is present. Unlike the behaviour of adverbs with auxiliaries, however, the pattern of variability in the two regions appears to be diverging. In Toronto, the affirmative
and negative contexts are specializing, with an increase in actually taking place in affirmative contexts. Moreover, this specialization is occurring amid a stability in use between clausal and phrasal positions (and their corresponding pragmatic roles) in which actually is more frequent at clausal level, and really is more frequent for phrasal level. One the other hand, in York, use of actually is increasing in both affirmative and negative contexts, with the behaviour of young, high frequency actually users in York resembling Toronto users, that is, shifting to a higher rate of the more grammaticalized clausal uses. Moreover, the social significance of actually use is different in the two cities. In Toronto, there is no evidence that use of actually has social meaning. However, in York, the use of actually is associated with young, educated, male speakers and these speakers are on the forefront of change, using the more grammaticalized forms.

2 Consequences and future directions

In the individual case studies, I have already discussed the consequences of the specific results, (e.g., what the findings about adverb placement rates mean for syntactic accounts of adverbs). In this section, I outline some more general conclusions that can be drawn from looking at the two studies together by briefly returning to each of the research questions that guided the investigation.1

- Does the variation pattern in the same way in both locations?

The results of the two case studies reveal more similarity between the two varieties than difference. In general, the patterns of variability, that is, the factors conditioning the variation, are similar in the two varieties for both of the variables. Much of the variability can be described as differences in frequency of occurrence, in keeping with transatlantic variation

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1 I omit a discussion of the methodological considerations necessary for working with syntactic and pragmatic variation as they were extensively discussed in Chapter 3.
in general (see Tottie 2009:342), rather than as differences in grammar. The same factors condition the position of adverbs with respect to an auxiliary in both varieties, and the population of adverbs expressing realness is the same in both varieties.

- Are these variables stable phenomena or is there evidence of change over time?

The variability in adverb placement with respect to an auxiliary does not appear to be changing in either variety, at least in apparent time, suggesting that it is a case of stable variation. However, historical work on adverb change (e.g., Swan 1991, Nevalainen 1994) indicates that other adverb changes have taken place at a very slow rate, over the course of hundreds of years. Therefore, the most likely explanation is that the rate of pre-auxiliary adverb placement is creeping up extremely slowly, too slow to be captured in apparent time, at a pace that has resulted in only a few percentage points of difference in the two varieties. The locus of this change appears to be in specific lexical items, such as the difference seen in ALWAYS, which occurs categorically in post-auxiliary position in the York data but is variable in the Toronto data. In contrast, the variability with ACTUALLY and REALLY is clearly in flux and the changes are in keeping with previously observed linguistic mechanisms of change such as the grammaticalization of adverb semantics (Traugott & Dasher 2002) and specialization (Hopper 1991). The differences in social meaning are also notable, and I turn to them now.

- How, if at all, are these variables socially embedded in each locale?

The placement of adverbs with respect to an auxiliary does not correlate with any of the social factors examined here. However, this is not true of all adverb phenomena, as is evident from the difference in social embedding of the use of ACTUALLY. Use of ACTUALLY is not related to any of the social factors in the Canadian data; it is continuing a steady increase over time. In York, the choice of ACTUALLY has acquired social correlates, and is being used more often by young, educated men. The difference in social meaning for the two locales
reinforces the findings of Tagliamonte & Waters (2009) that social meaning is locally determined.

- To the extent it is possible to see in an apparent time study, how do social factors impact the trajectory of change?

The results with actually and really in York demonstrate that it is not always women leading linguistic change. Moreover, it is not only the rate of use of actually but the manner of use which distinguishes some of the young, educated men of York, suggesting that their adoption of the variant is also related to its progression along the path of grammaticalization. It would be interesting to see if a similar social correlation in earlier North American data shows any social association with the evolution of actually and really.

- How, if at all, are the behaviours of these variables interacting with other phenomena in these varieties?

The phenomena described here remind us that individual linguistic changes do not evolve in isolation. For instance, the interaction of actually and really appears to be related to the rise of the latter adverb as an intensifier, particularly in York, where really is being replaced by actually for marking realness among the young innovative users. Similarly, adverb position relative to an auxiliary is a result of factors beyond the adverb and the auxiliary, as speakers also place adverbs in such a way as to facilitate contraction.

- What can these two cases tell us more generally about parallel variation and change in dialects that are not in immediate (geographic) contact?
To begin, I return to two “generalizations about British-American differences in the domain of grammar” from Rohdenburg & Schlüter (2009a:5).² First, they (2009a:5) claim that North American English tends to be more regular in its patterns (i.e., there are fewer exceptions) that British English. The case studies here provide evidence both for and against this claim. The Toronto results for actually and really demonstrate a split between affirmative and negative contexts (with actually spreading in the affirmative) which is not observed in the York data. This division could be interpreted as a type of regularization in which each context is developing a more and more categorical rule about which variant is appropriate. From this perspective, the North American variety is more regular. However, the opposite trend can be argued from the adverb position data. The higher rates of pre-auxiliary position (i.e., the exceptional position) in the Toronto data create more variability, rather than less. Therefore, it is not clear from the data here that regularization is preferred in North American English. The second relevant claim from Rohdenburg & Schlüter (2009a:6) is that British English prefers (or at least, tolerates) a greater interpretive burden on the listener, such as the higher use of inflectional rather than analytic forms (e.g., a higher rate of comparatives formed with more rather than -er in North American English). The case studies here do not compare synthetic and analytic variants, and thus the data are only tangentially relevant to investigating the claim, but the tendency in both varieties to favour the contraction of have does not suggest the difference in processing load suggested by Rohdenburg & Schlüter.

More generally, the two case studies here demonstrate that linguistic mechanisms work in the same way in a particular language regardless of geographic separation. The fundamental processes governing adverb placement and adverb choice are the same in both varieties: ongoing grammaticalization, context-based conditioning (e.g., polarity differences) and interactions with other changes (e.g., intensification or contraction), as described above. The

² Rohdenburg & Schlüter (2009a:5) also suggest differences about writing, which the spoken data studied here cannot shed light on, and differences in the treatment of function words, which does not include adverbs, so I do not consider these issues here.
variable behaviour of the adverb phenomena examined here are the chiefly the result of linguistic factors, rather than social factors, regardless of the perceptions of regional difference (for adverb position) or youthful speech (the use of actually).

As a final point, it is interesting that the descriptions of difference elsewhere are at odds with the empirical results; that is, there is a mismatch between perception and praxis. The placement of an adverb with respect to an auxiliary has been noted as a transatlantic difference (Swan 2001, Algeo 2009), but the results from the spoken data here reveal a quantitative, rather than a qualitative, difference. That is, rather than being a distinction in what is permitted in one variety or another, adverb position with respect to an auxiliary is governed by the same factors, with the differences, such as they are, confined to how frequently pre-auxiliary adverbs occur in the two varieties. On the other hand, the behaviour of actually and really has been treated as uniform across varieties, with no mention of differences in the literature. However, the data here demonstrate variability in how these two adverbs interact with each other and their linguistic (and social) environments. The linguistic factors governing both of the phenomena are complex. Adverb position depends on lexical factors (the adverb and the auxiliary) as well as the structure of the auxiliary phrase. The choice of actually or really is dependent on polarity and pragmatic meaning. Therefore, an explanation of the misperception must be unrelated to the inherent nature of the phenomena themselves, as it is not possible to claim one variable is more complex than the other. Therefore, I posit a relationship between perception and overall frequency level. In cases such as adverb placement, where the frequency of one variant (e.g., pre-auxiliary position) is extremely low, a difference of only a few percent may be salient enough to be interpreted as a categorical difference. However, in the case of a more frequently occurring phenomenon, differences may go unnoticed. For instance, in the case of actually and really, both adverbs are used often in speech (recall that they are both in the list of the

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3 See Preston (1991) for a discussion of the greater role of linguistic factors in general.
twenty-five most frequent adverbs), and thus the nuances of choice between them may go unobserved until a quantitative analysis is undertaken.

Finally, the results here suggest two lines of further study. First, it would be interesting to examine these adverb phenomena in other locales. For example, it would be enlightening to investigate other data from North America and Britain to determine if there is any intra-regional variation. Furthermore, as adverb variation is not restricted to only North American and British varieties of English, another obvious direction for future sociolinguistic work would be to examine adverbs in other dialects, such as in African, Asian and Antipodean varieties of English. Second, the change observed here appears to be the current manifestation of long-term language shift, such as the grammaticalization of adverbs (Swan 1991; Traugott & Dasher 2002). However, historical studies (Jacobson 1981; Swan 1991; Traugott & Dasher 2002) have not considered some of the important factors identified in this study, such as the role of the structure of the auxiliary phrase in adverb position, or a quantitative examination of the interaction of actually and really. Thus, an examination of these features using data from a historical corpus would likely be illuminating.
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