A Diachronic Study on the Dual-Form Adverbs *Deep/ly*, *Quick/ly*, and *Slow/ly* in American English 1810–2009

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1. Introduction

English adverbs can be roughly divided into two groups: those with the adverbial suffix *-ly* and those without it. Most adverbs fall into only one of these groups, but some, called 'dual-form adverbs', can take both forms. In this paper, the form with the suffix is called the 'LY-form adverb' and the form without it is called the 'Zero-form adverb'.[1] Dual-form adverbs can be further divided into two groups. In the first, the presence or absence of the suffix *-ly* generates a clear difference in the meaning of the adverbs (for instance, *late/ly, hard/ly,* and *rare/ly*); in the second, a difference in meaning is not clearly recognized (apart from the stylistic differences), as in the following examples:

(1) Adam wrote his name *slowly/quickly/carefully*.
(2) Adam wrote his name *slow/quick/carerful*.

<div align="right">(Ross 1984: 243; emphasis added)</div>

In this paper, this second group of adverbs[2] will be investigated focusing on three frequently discussed dual-form adverbs: *deep/ly, quick/ly,* and *slow/ly*.

   Both LY- and Zero-form adverbs have existed since the Old English (OE) period. At this time, adverbs were derived from adjectives by adding the suffix *-e*. Additionally, adjectives were derived mainly from nouns or from other adjectives by adding the suffix *-lic*, which had originally been a substantive meaning 'a body, dead or alive' (Guimier 1985: 155). Since *-lic* was a very productive suffix that was used to form many adjectives, many adverbs came to end in *-lice*. Because of the dominance of these

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[1] The latter form goes by several different terms in the literature, including 'flat adverbs' and 'base-form adverbs'. However, in order to emphasize the alternation of the presence and absence of the suffix *-ly*, the name 'Zero-form adverbs' will be used. For the discussion of the labeling, see Opdahl (2000, I: 16).
[2] For the more detailed distinctions of the types of dual-form adverbs, see Nevalainen (1997: 185).

adverbs, *-lice* came to be recognized as one unit: an adverbial suffix able to derive adverbs. As a result of this, some adverbs came to be derived directly from adjectives that did not end in *-lic* (for instance, *bealdlice* and *swetelice*; Guimier 1958: 155), which led to the existence of two adverbial suffixes in OE: *-e* and *-lice*. Some adverbs came to have two forms ending in both suffixes.

In the Middle English (ME) period, 'final unstressed vowels [the *-e* suffixes] were gradually weakened and eventually became mute' (Guimier 1958: 155). The adverbs that had ended in *-e* lost the suffix resulting in the Zero-form adverbs found in Modern English (ModE). The OE *-lice* was shortened to *-lic*, which eventually became the ModE suffix *-ly*.

While it is clear that both forms have long histories, the Zero form is the older of the two as the OE suffix *-lice* presupposes the suffix *-e*. This is the reason that the use of the Zero-form adverbs is considered conservative in ModE by some linguists (Görlach 1991: 103).

Given this historical background, it is intriguing that some previous studies suggest that Modern American English (AmE) has used more and more Zero forms recently (Tagliamonte & Ito 2002: 238; Rohdenburg & Schlüter 2009: 368). For this reason, this study investigates the use of dual-form adverbs focusing diachronically on AmE.

The next section reviews the literature on the historical development of LY- and Zero-form adverbs and on the differences between their use in AmE and British English (BrE). Section 3 explains the methodology of this study. In Section 4, the results of the investigation are shown and it is discussed how they can be interpreted, and in Section 5, concluding remarks are made.

2. Previous studies

As this study incorporates diachronic perspectives and 'there has been a longstanding competition between suffixed and suffixless adverbs' (Rohdenburg & Schlüter 2009: 368), it is appropriate to begin by reviewing previous studies that have examined the historical development of English dual-form adverbs. These studies generally argue that the suffix *-ly* was already productive in the genesis of dual-form adverbs and kept increasing its productivity over the course of the history of the English language, which has resulted in the strong and increasing dominance of

the LY form over the Zero form. This is demonstrated by Donner (1991) and Nevalainen (1997), who investigate the use of dual-form adverbs in ME using the *Middle English Dictionary* (MED) and in Late Middle English (LME) and Early Modern English (EModE) using the *Helsinki Corpus* (HC), respectively. The presence of the LY form continued to become stronger even after EModE. This is documented by Mizuno (2008), who investigates the competition between the two forms of six intensifiers using *The Corpus of Late Modern English Text* (CLMET).[3]

As expected, many previous studies find that the suffix *-ly* is highly productive in present-day English (PDE) and that LY forms are used much more frequently than Zero forms. For instance, Brinton & Traugott (2005: 134) argue that grammaticalization of the suffix causes the LY form to prevail to the extent that some researchers 'claim that it [the process of adding the suffix] is now (primarily) an inflection'. In summary, the studies cited above agree that the suffix *-ly* has exhibited a strong and steadily increasing presence since dual-form adverbs first appeared.

As for the differences between the use of dual-form adverbs in AmE and BrE, many previous studies claim that Zero-form adverbs are used more frequently in AmE than in BrE (cf. Biber et al. 1999: 542; Nevalainen 1994: 139; Rohdenburg & Schlüter 2009: 368). This tendency is traditionally attributed to 'colonial lag'[4] (Marckwardt 1958: 80; Görlach 1991: 103). This point will be discussed further in Section 4.2.

It appears that diachronic studies of dual-form adverbs in AmE are relatively lacking in the literature, which is why this study incorporates historical perspectives in its investigation of AmE. Furthermore, it seems that many previous studies on dual-form adverbs focus on degree adverbs and intensifiers, including Nevalainen (2008), Tagliamonte & Ito (2003), and Rohdenburg (2014). This leads me to focus this study on manner adverbs.

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[3] Note, however, that the corpus used by Mizuno (2008) represents BrE. This previous study is mentioned because it is relevant to the discussion in Section 4.2 where AmE and BrE are compared.

[4] Görlach points out that 'the speech of emigrant communities is particularly conservative, preserving certain pronunciations, forms and words' (1991: 90).

3. Methodology

The material used in this study comes from the online *Corpus of Historical American English* (COHA), in which more than 400 million words from AmE texts originating in 1810–2009 can be searched (covering Late Modern and present-day AmE). The corpus contains four genres: fiction, non-fiction, magazine, and newspaper.

Before searching the corpus, three dual-form adverbs were selected in order to keep the amount of analyzed data manageable. The selection was conducted by referring mainly to Opdahl (2000), who conducted a comprehensive and demonstrative study on the use of dual-form adverbs in present-day AmE and BrE incorporating four major corpora and two questionnaires. Referring to her Table 2.1 (I: 29-30) and other previous research, three frequently mentioned dual-form adverbs were selected: *deep/ly, quick/ly,* and *slow/ly*. As the next procedure, three verbs were selected for each adverb, based on their frequency of co-occurrences with Zero forms in Opdahl's (2000) corpus material.[5] As a result, the following nine collocations are investigated in this study: *deep(ly)*/GO, SINK, DRAW; *quick(ly)*/GET, DO, COME; *slow(ly)*/GO, TURN, RUN.[6]

With regard to genre, this study focuses on fiction. This decision was made to keep the amount of data manageable. Additionally, fiction allowed the text to be divided into the dialogue and narrative parts, which enabled data on both spoken and written English to be obtained. Both overall and divided results are discussed in Section 4 regarding dialogue and narrative in fiction as one of the texts of spoken and written English, respectively.[7] Furthermore, Opdahl (2000, I: 137) reveals that fiction, as a text genre, has no significant effect on the choice to use either LY or Zero forms. This means that fiction is very likely to provide neutral (genre-independent)

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[5] See her Tables 6.4 (2000, II: 148), 14.3 (2000, II: 374), and 18.3 (2000, II: 463) for *deep, quick*, and *slow*, respectively.

[6] The capitalized verbs refer to their lemmatized forms.

[7] This point is not uncontroversial as some researchers claim that dialogue in fiction does not reflect spoken English exactly. However, they share many characteristics, as Biber & Finegan (1992) demonstrate, even though the dialogue parts are not exactly equivalent to actual spoken English. Therefore, it is not far-fetched to regard dialogue in fiction as one of the texts of spoken English. Furthermore, a major English historical corpus called *A Representative Corpus of Historical English Registers* (ARCHER) classifies dialogue in fiction as a speech-based genre, as pointed out by Otsu (2007: 3).

results, which is considered appropriate for this study.

The searched instances are those where the selected verbs occur within four words before or after each adverb (a window of ± 4). This spectrum was set assuming that the sequence 'article+adjective+noun' was the longest subject or object of a potential sentence. Additionally, Opdahl (2000) observes that most of the instances she obtains fall into this spectrum.[8] Therefore, it was assumed that the set window would not prevent me from retrieving sufficient data to investigate the development of the three dual-form adverbs.

The part-of-speech tags of the corpus were not used because they were not attached to the dual-form adverbs properly. Therefore, after searching for the nine collocations, the irrelevant occurrences were manually omitted.[9] Following this procedure, all instances that occurred in the 1810s, 1850s, 1900s, 1950s, and 2000s were searched, and then, the ratio of Zero-form adverbs was calculated to all instances of dual-form adverbs in each period in order to analyze the historical development of Zero forms.

4. Results and discussions
4.1 Results and the variety of historical developments of dual-form adverbs
The results combining all of the three dual-form adverbs are presented first. Tables 1–3 show the number of tokens and the ratios of Zero forms to LY forms in the text as a whole, in the dialogue parts, and in the narrative parts, respectively. Figure 1 presents a visualization of the Zero-form ratios appearing in Tables 1–3.

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[8] According to her, *deep, quick*, and *slow* occur in 100%, 81.4%, and 88.4% of the retrieved instances, respectively (2000, II: 147, 373, 462). Each of the corresponding LY forms also shows the high ratios.
[9] As for the omissions, Opdahl's (2000) methodology was generally adopted.

Table 1. Zero-form and LY-form adverbs in both dialogue and narrative parts[10]

	1810s	1850s	1900s	1950s	2000s	Total
Zero form (N)	12	91	267	163	226	759
LY form (N)	2	153	472	461	352	1440
Total (N)	14	244	739	624	578	2199
Zero form (%)	*85.7*	*37.3*	*36.1*	*26.1*	*39.1*	*34.5*

Table 2. Zero-form and LY-form adverbs in dialogue parts only

	1810s	1850s	1900s	1950s	2000s	Total
Zero form (N)	8	40	153	90	82	373
LY form (N)	0	49	74	59	41	223
Total (N)	8	89	227	149	123	596
Zero form (%)	*100*	*44.9*	*67.4*	*60.4*	*66.7*	*62.6*

Table 3. Zero-form and LY-form adverbs in narrative parts only

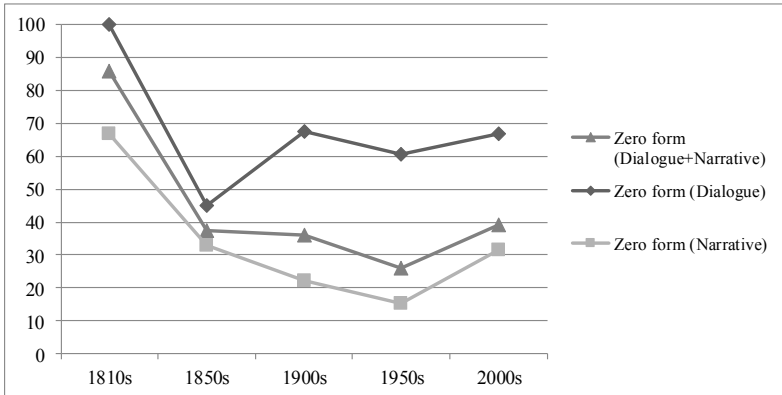|	1810s	1850s	1900s	1950s	2000s	Total
Zero form (N)	4	51	114	73	144	386
LY form (N)	2	104	398	402	311	1217
Total (N)	6	155	512	475	455	1603
Zero form (%)	*66.7*	*32.9*	*22.3*	*15.4*	*31.6*	*24.1*

Figure 1. The historical development of the Zero-form adverbs (%)

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[10] The ratios of Zero forms are rounded off to one decimal place; this also applies to the other tables.

Significantly, the overall results (dialogue+narrative) demonstrate that the use of Zero-form adverbs in AmE rebounded in the 1950s–2000s after steadily decreasing in the 1810s–1950s. This is a significant tendency from a historical perspective, which will be discussed in further detail in the next section.

When the results for the dialogue and narrative parts are considered separately, it is notable that—although the 1950s–2000s increase is observed in both—the ratio of Zero forms increases more significantly in narrative (from 15.4% to 31.6%) than in dialogue (from 60.4% to 66.7%) parts in this period (Tables 3 and 2, respectively). The results indicate that the ratio of Zero forms in narrative from the 2000s had almost recovered to its level in the 1850s (32.9%). In addition, the ratio of Zero forms is higher in dialogue than in narrative in every investigated period. These points are also discussed further in Section 4.3.

Next, the results of each of the dual-form adverbs are presented. Figure 2 graphs the ratio of Zero forms in each investigated dual-form adverb.[11]
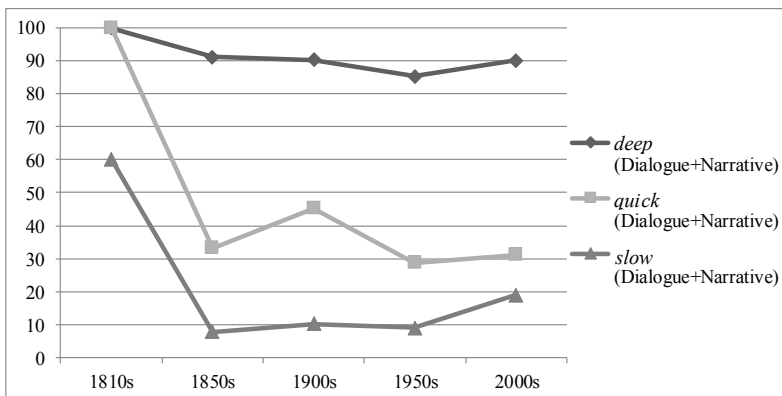

Figure 2. The historical development of each of the three Zero-form adverbs (Dialogue+Narrative; %)

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[11] For readability, the detailed data is displayed in the appendices (see Appendices 1-3). The results for each adverb in the separated data on the dialogue and narrative parts of the studied text appear only in the appendices for the same reason (see Appendices 4-9).

The three dual-form adverbs show different Zero-form ratios and different historical developments. For instance, the adverb *deep* maintains a very high ratio compared to the other two Zero forms (85.3% at minimum), which does not change radically throughout the investigated period. As for the historical developments, while *slow* increases only moderately and *deep* decreases slightly in the 1850s–1900s, the use of *quick* significantly increases.[12] This suggests that dual-form adverbs have different degrees of preference for their Zero forms and that their use has not developed uniformly. Related to this point, Schibsbye (1965: 151) argues: 'A development is taking place in the direction of -*ly* as the general adverbial ending; most adverbs have reached this final stage, but a number have not yet acquired the suffix'. Therefore, it seems that some dual-form adverbs have almost completed the transition to the LY form while others have not, which results in various degrees of entrenchment of Zero forms. Furthermore, Nevalainen & Rissanen (2002) demonstrate that the dual-form adverbs *pretty/prettily* and *fair/fairly*, although sharing similar meanings and functions, underwent different processes of adverbialization and showed different historical development of their Zero and LY forms. This agrees with my findings that suggest that dual-form adverbs do not develop uniformly.

4.2 Colonial lag vs. post-colonial innovation

In the previous section, it has been documented how the overall result indicates that AmE has used Zero forms increasingly frequently since the 1950s. This tendency is very remarkable because previous studies find Zero-form adverbs to keep decreasing in competition with LY-form adverbs from ME, as noted in Section 2. Additionally, in the same section, it has been mentioned that past studies state that present-day AmE uses more Zero-form adverbs than present-day BrE, and that this tendency has been traditionally explained as resulting from colonial lag, as in Görlach (1991). However, the increased use of Zero forms in the 1950s–2000s observed in this study leads me to argue that this is a manifestation of 'post-colonial innovation' (cf. Hundt 2009)[13] rather than colonial lag. The

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[12] Indeed, the difference of ratios and historical developments of Zero forms was also observed in the collocations of each adverb.

[13] She does not exactly use the term 'post-colonial innovation'; cf. 'post-colonial

historical fact that the Zero form is older than the LY form would suggest that the more frequent use of Zero-form adverbs in AmE is a conservative characteristic, but the retrieved data indicating a recent increase in their use after a period of prolonged decline would appear to contradict this. In other words, while Zero forms before the 1950s are likely to be remnants of the older forms, their use after the 1950s reflects an AmE innovation. In fact, Rohdenburg & Schlüter (2009: 368) suggest 'U-turn development led by AmE' as to Zero-form adverbs in AmE, but they only provide the synchronic research and the data of PDE. However, the data in this study (which incorporates diachronic perspectives) shows an actual arc of the ratio of Zero forms. Therefore, it can be claimed the greater use of Zero forms in present-day AmE is not simply colonial lag but should be regarded as an innovation of AmE.

4.3 Colloquialization

In Section 4.1, it was pointed out that the observed increase to the use of Zero forms from the 1950s–2000s is very striking, especially in the narrative parts of the studied text. This suggests that written AmE has increasingly used Zero forms in PDE. From this observation, it can be argued that this is the manifestation of a process called 'colloquialization' (Hundt and Mair 1999: 225; Leech et al. 2009: 239). This point presupposes the colloquialness of Zero-form adverbs, which is documented in many grammars and previous studies. For instance, Tottie (2002: 168) argues that Zero-form adverbs appear 'almost always in a very colloquial context', and Biber et al. (1999: 542) claim that the Zero form is used 'particularly in colloquial AmE' with evidence from corpus findings. Furthermore, this study finds that the ratio of Zero forms in dialogue is higher than in narrative in every investigated period (see Figure 1), which also indicates the colloquialness of Zero forms.

The employment of colloquialization as an explanatory framework for the increased use of Zero forms is, indeed, far from a sophistry because colloquialization is a very extensive trend in PDE. Many linguists

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survivals' (2009: 13), 'post-colonial re-innovation' (2009: 27). What is intended by the term, 'post-colonial innovation' is simply that the greater preference for Zero forms in AmE is not simply considered a 'lag' but can be regarded as an 'innovation', which arose in LModE (PDE).

recognize this trend, including Biber (2003:169), who claims that popular written registers became more similar to spoken registers over the course of the nineteenth and twentieth centuries. Furthermore, Leech et al. (2009: 240–4) discuss many concrete manifestations of colloquialization, such as contracted negatives and the *get*-passive. Therefore, the increased use of Zero forms observed by this study in the narrative parts of the studied text can be interpreted as one manifestation of this extensive trend.

5. Conclusion

In this study, it is observed that each investigated dual-form adverb shows different degrees of preference for Zero forms and several developments. As for the overall result, it is documented that the use of Zero forms increased in the 1950s–2000s despite a steady decline in use during the 1810s–1950s. From this observation, it can be argued that the greater preference for Zero forms in AmE relative to BrE should be regarded as a characteristic of post-colonial innovation. It is also recognized that the striking increase of Zero forms used in the narrative parts of the studied text represents one manifestation of colloquialization.

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Appendices

Appendix 1. *Deep/Deeply* in both dialogue and narrative parts

	1810s	1850s	1900s	1950s	2000s	Total
deep (N)	2	52	93	58	111	316
deeply (N)	0	5	10	10	12	37
Total (N)	2	57	103	68	123	353
Zero form (%)	*100*	*91.2*	*90.3*	*85.3*	*90.2*	*89.5*

Appendix 2. *Quick/Quickly* in both dialogue and narrative parts

	1810s	1850s	1900s	1950s	2000s	Total
quick (N)	7	32	141	80	73	333
quickly (N)	0	64	170	198	161	593
Total (N)	7	96	311	278	234	926
Zero form (%)	*100*	*33.3*	*45.3*	*28.8*	*31.2*	*36*

Appendix 3. *Slow/Slowly* in both dialogue and narrative parts

	1810s	1850s	1900s	1950s	2000s	Total
slow (N)	3	7	33	25	42	110
slowly (N)	2	84	292	253	179	810
Total (N)	5	91	325	278	221	920
Zero form (%)	*60*	*7.7*	*10.2*	*9*	*19*	*12*

Appendix 4. *Deep/Deeply* in dialogue parts only

	1810s	1850s	1900s	1950s	2000s	Total
deep (N)	1	10	20	9	17	57
deeply (N)	0	0	5	1	0	6
Total (N)	1	10	25	10	17	63
Zero form (%)	*100*	*100*	*80*	*90*	*100*	*90.5*

Appendix 5. *Deep/Deeply* in narrative parts only

	1810s	1850s	1900s	1950s	2000s	Total
deep (N)	1	42	73	49	94	259
deeply (N)	0	5	5	9	12	31
Total (N)	1	47	78	58	106	290
Zero form (%)	*100*	*89.4*	*93.6*	*84.5*	*88.7*	*89.3*

Appendix 6. *Quick/Quickly* in dialogue parts only

	1810s	1850s	1900s	1950s	2000s	Total
quick (N)	7	27	110	65	47	256
quickly (N)	0	40	51	51	35	177
Total (N)	7	67	161	116	82	433
Zero form (%)	*100*	*40.3*	*68.3*	*56*	*57.3*	*59.1*

Appendix 7. *Quick/Quickly* in narrative parts only

	1810s	1850s	1900s	1950s	2000s	Total
quick (N)	0	5	31	15	26	77
quickly (N)	0	24	119	147	126	416
Total (N)	0	29	150	162	152	493
Zero form (%)	*0*	*17.2*	*20.7*	*9.3*	*17.1*	*15.6*

Appendix 8. *Slow/Slowly* in dialogue parts only

	1810s	1850s	1900s	1950s	2000s	Total
slow (N)	0	3	23	16	18	60
slowly (N)	0	9	18	7	6	40
Total (N)	0	12	41	23	24	100
Zero form (%)	*0*	*25*	*56.1*	*69.6*	*75*	*60*

Appendix 9. *Slow/Slowly* in narrative parts only

	1810s	1850s	1900s	1950s	2000s	Total
slow (N)	3	4	10	9	24	50
slowly (N)	2	75	274	246	173	770
Total (N)	5	79	284	255	197	820
Zero form (%)	*60*	*5.1*	*3.5*	*3.5*	*12.2*	*6.1*