

On the relation between the prosody and discourse functions of *well*

Vera Michilsen

6011861

Abstract

Discourse markers like *well* have several semantic and pragmatic interpretations depending on the context they appear in (see Svartvik 1980, Bolinger 1989, Schiffrin 1988, Jucker 1993, Müller 2004, among others). Despite the numerous studies concerning discourse markers, it remains unclear whether the interpretations of the discourse markers should be treated as independent semantic categories or if the variety of the attested interpretations could be attributed to an interaction between discourse context and prosody.

In this thesis, the question of whether there is an association between the prosodic realization of the discourse marker *well* and its semantic-pragmatic functions in discourse is answered by analysing *well* in casual conversational speech from the Santa Barbara Corpus of Spoken American English in terms of eight acoustic-prosodic parameters. The pragmatic meaning of *well* is analysed within the unified relevance-theoretic framework proposed by Jucker (1993), which codes *well* as a marker of insufficiency, a face-threat mitigator, a frame and a delay device.

No one-on-one association between the prosodic realizations of the discourse marker *well* and its semantic-pragmatic functions in discourse was found. However, two prosodic variables had a significant correlation with certain pragmatic functions. When *well* is not turn-initial, it is most likely to be a frame marking device, and the difference in duration between the functions of frame marking device and face-threat mitigator is significant; *wells* that were labelled as face-threat mitigators were longer in duration.

Contents

Introduction.....	3
Research question.....	4
Method	5
The corpus	5
Acoustic-prosodic analysis.....	5
Presence and type of accent.....	5
Realisation	6
Phrasing	7
Initiality	7
Speaker turn	7
Intonational contour type.....	7
Pragmatic framework	9
Marker of insufficiency	9
Face-threat mitigator.....	10
Frame	11
Delay device	11
Results.....	12
Discussion	17
References.....	19

Introduction

Discourse markers, or pragmatic markers or discourse particles, have been extensively researched in the last four decades, yet remain a relatively vague area in the field of linguistics, semantics, pragmatics and prosody. Even now, some expressions that have been labelled as discourse markers in some studies, are being excluded in others. Fraser (1999) gives a comprehensive overview of discourse marker studies, and poses that generally, discourse markers are syntactically and semantically optional expressions that do not affect the truth conditions of the utterance. Moreover, they are in some sense connectives, be it between textual elements or between propositions.

Discourse markers like *now*, *I mean* and *well* have several semantic and pragmatic interpretations depending on the context they appear in (see Svartvik 1980, Bolinger 1989, Schiffrin 1989, Jucker 1993, Müller 2004 among others). Scholars have analysed the interpretations of these discourse markers in a number of ways. For instance, Lee (2017) analyses *now* as an indicator of a change of state, while Schourup (2011) analyses it as a device that constrains context selection. The discourse marker *I mean* has been described as an elaborative marker (Fraser 1999) and as a modifier of ideas and intentions (Schiffrin 1989). Jucker (1993) analysed *well* as marker of insufficiency, face-threat mitigator, a frame, or a delay device, while Fuller (2003) treats it as a turn-taking device and Svartvik (1980) as a qualifier.

Despite the numerous studies concerning discourse markers, it remains unclear whether the interpretations of the discourse markers should be treated as independent semantic categories or if the number of these semantic categories could be reduced and the variety of the attested interpretations could be attributed to an interaction between discourse context and prosody.

Previous research has often neglected the prosodic properties of discourse markers, as it has been assumed that they appear mostly in deaccented and reduced form in speech (Halliday & Hassan 1976, Romero-Trillo 2018), and as research has mainly focussed on the written form of spoken corpora (see Jucker 1993; Fraser 1999; Schourup 1999, 2011; Lee 2017 among others). However, a prosodic analysis of the discourse markers may shed light on our understanding of their distribution and meaning, as prosody has been previously shown to steer discourse interpretation with variation in intonational contours, pitch accents and boundary tones (Pierrehumbert & Hirschberg 1990).

Two studies of note have been conducted on the prosodic properties of *well*. Svartvik (1980) examined the prosodic realization of *well* in terms of tones, pauses and discourse

position, and attempted to correlate them with his pragmatic framework of *well* as a qualifier and a frame. The tone types he used were Fall, Level, Rise, Rise-fall and Fall-rise, and he also reported the length of each pause that occurred before or after *well*. However, he concluded that “there appears to be no clear evidence that there is a close correlation between prosody and the two major uses of *well* as a qualifier and a frame.” He added that “the most probable explanation for the failure to find a correlation is that the analysis of prosody was too superficial in concentrating on *well* and paying too little regard to the surrounding context” (p. 176). Another factor that might have influenced his results is the pragmatic framework that he used.

Romero-Trillo (2018) investigated the prosodic patterns and the Tone Unit position of *I mean, you know* and *well* in combination with their pragmatic functions such as disagreement, self-initiated self-repair, start of the turn, sympathetic circularity and feedback. A Tone Unit is a speech segment that comprises one coherent intonation contour. *Well* can appear as a unique element in the Tone Unit (so in its own intonational phrase), in initial position, middle position and final position. The numbered Tones Romero-Trillo distinguishes are deaccented or no tonicity (0), fall (1), rise (2), level-(rise) (3), (rise)-fall-rise (4) and (fall)-rise-fall (5). His results showed that most pragmatic functions were realized with Tone 0, and thus appeared deaccented. Therefore, a correlation between Tone and pragmatic function was not found. He states that this “confirms the importance of intonation contours as distinct factors in the study and classification of the pragmatic markers” (p. 182), coming to a similar conclusion as Svartvik.

These two prosodic studies concerning *well* have analysed different sets of prosodic aspects and used different pragmatic frameworks. This thesis aims to synthesize and rework these and other discourse marker-centric studies to come to a more appropriate way of studying the prosody of a discourse marker like *well* in conjunction with its pragmatic meaning.

Research question

Is there an association between the prosodic realization of the discourse marker *well* and its semantic-pragmatic functions in discourse?

Method

The corpus

It has been shown that discourse markers such as *well* and *oh* appear more frequently in casual conversational speech than in interviews (Fuller 2004), so in order to address my research question, I compiled a corpus of five conversations in an informal setting between speaker pairs from the Santa Barbara Corpus of Spoken American English (Du Bois et al, 2000-2005). The conversations range from 24 to 30 minutes in duration and together contain a total of 174 discourse uses of *well* according to the accompanying transcriptions.

Acoustic-prosodic analysis

The instances of *well* were marked and prosodically analysed in Praat (Boersma & Weenink 2019), examining the following properties (partially from Svartvik 1980, Hirschberg & Litman 1993 and Romero-Trillo 2018): 1) presence of accent on *well*, 2) type of accent on *well*, 3) realisation of *well* (Fully realised, reduced or fully reduced), 4) phrasing of *well* (Does *well* form its own accentual phrase?), 5) duration of *well* in milliseconds and 6) initiality of *well* (is *well* in initial position in the intonational phrase?). Furthermore, the status of the phrase containing *well* with respect to speaker turn, if initial, and the type of intonational contour used over the phrase in which *well* occurs (question, declarative or exclamatory) were noted. In the following section I will briefly elaborate on each of the acoustic-prosodic properties.

Presence and type of accent

The intonational aspect of this thesis is formulated in line with the autosegmental framework (Pierrehumbert 1980). This framework describes intonational contours as sequences of low and high tones in the fundamental frequency (F0) contour. A pitch accent is one of these tones, and together with phrase accents and boundary tones form a whole intonational contour. Pitch accents appear as peaks or valleys in the F0 contour and are aligned with the stressed syllables of words. Words or phrases that are not accompanied by an accent are deaccented.

The following figures illustrate the different pitch accents found in the corpus. In Figure 1, the first *well* is accented with a prominent H*L pitch accent, while the second *well* is deaccented.

The *well* in Figure 2 is accented with a L* accent. In Figure 3, the first *well* has a L*H accent. The second *well* is presumed to be deaccented, but it was hard to categorize due to speech overlap. On top of that, Tommy's last name was censored, leaving only the lower

formants intact. In Figure 4, the first *well* carries another L* accent and the second *well* has a H* accent.

Realisation

The variable of realisation is broken up in three gradations: fully realised, reduced and fully reduced. A fully realised *well* has clearly recognizable vowel and a relatively long duration, such as the *well* in Figure 5. A reduced *well* has a (very) reduced vowel and is pronounced more like *w'l* with syllabic *l*. A fully reduced *well* is mostly just a *w-* and is mostly coarticulated with surrounding words. Fully reduced *wells* are also the shortest ones.

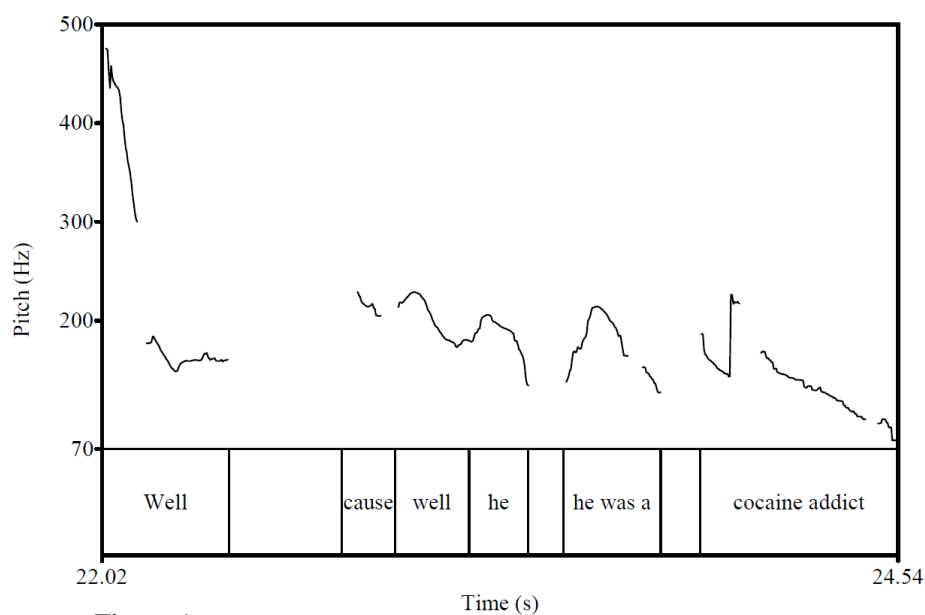


Figure 1.

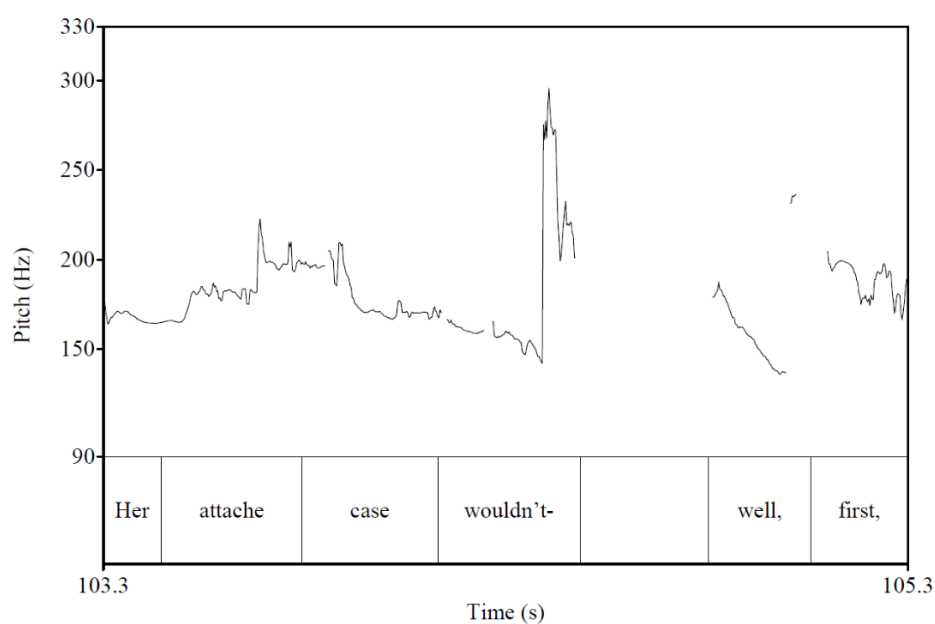


Figure 2.

Phrasing

An example of a *well* that forms its own accentual phrase can be found in Figure 1. This variable is mostly dependent on pauses; in Figure 1 there is a considerable pause after *well*. Coarticulated *well*s often do not form their own accentual phrase. Moreover, only accented *well*s can form their own accentual phrase.

Initiality

The first *well* in Figure 1 is initial in the intonational phrase because it forms its own accentual phrase, while the second *well* in Figure 1 is non-initial in the intonational phrase. In Figure 2, *well* is initial, as well as in Figure 4 and 5.

Speaker turn

If a *well* is initial in the intonational phrase, it can also be initial in a new speaker turn. Examples of this are found in Figure 1 (first *well*), Figure 3 (second *well*) and Figure 4 (both *well*s).

Intonational contour type

The three intonational contours under discussion in this thesis are declarative, inquisitive and exclamative. A declarative contour often has a L% boundary tone while an inquisitive one often ends in H% or L*HL%. Exclamative contours also often end in H% (Pierrehumbert & Hirschberg 1990). All contours in the figures are declarative, except for the one in Figure 3, where a prominent L*HL% on the *why* signals an (indignant) question.

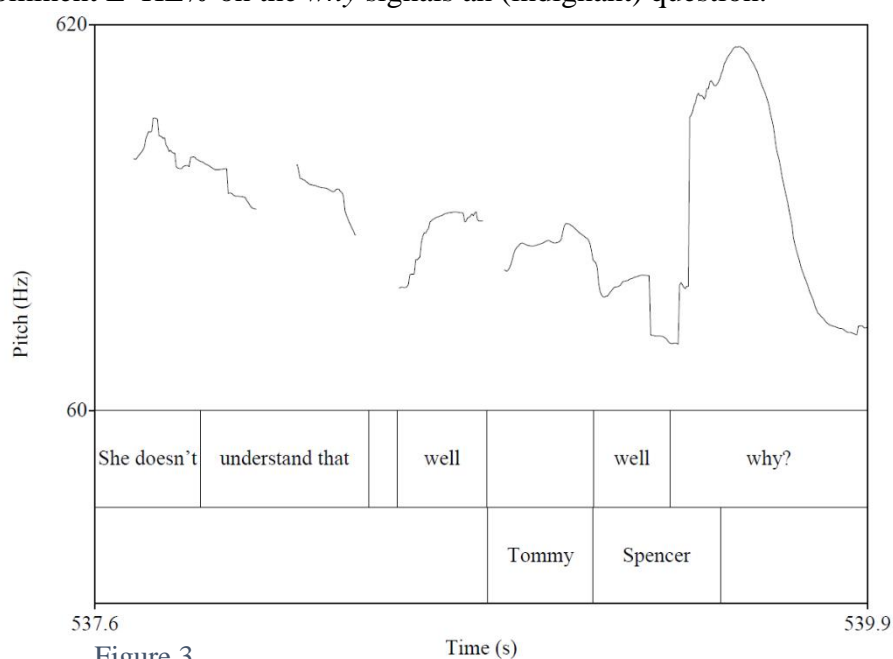


Figure 3.

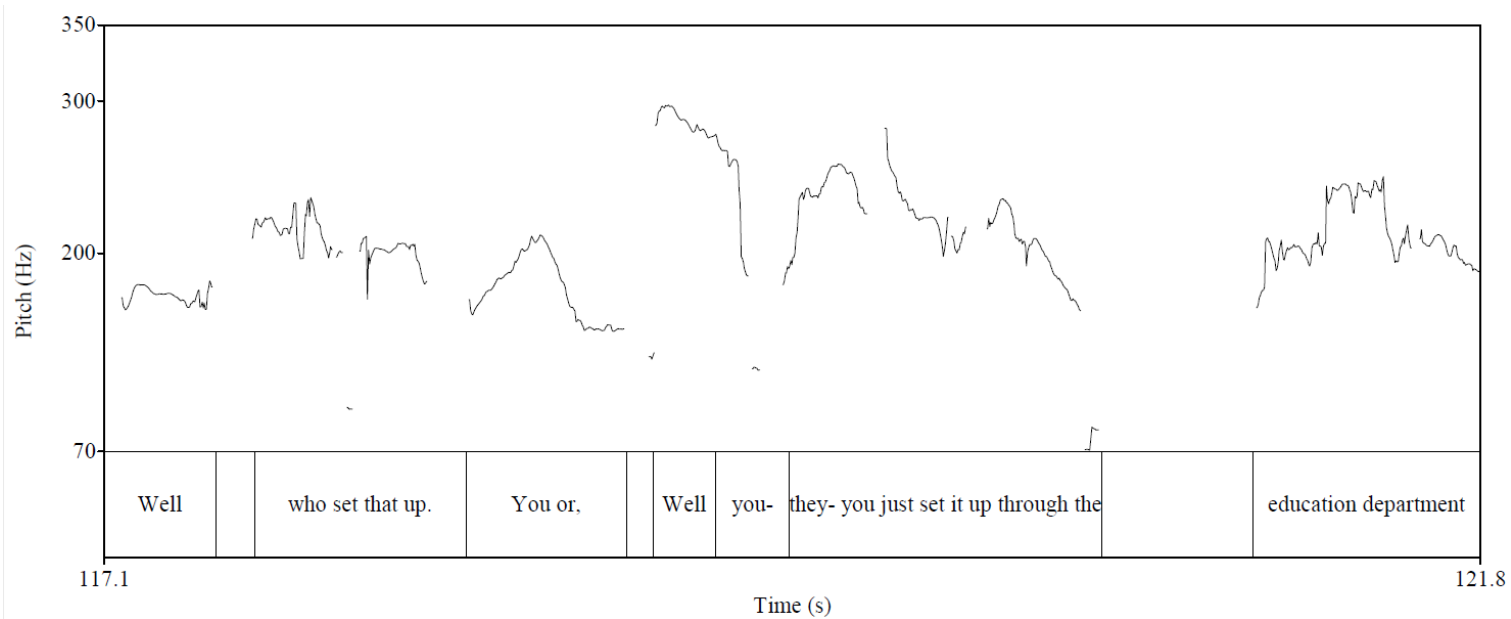


Figure 4.

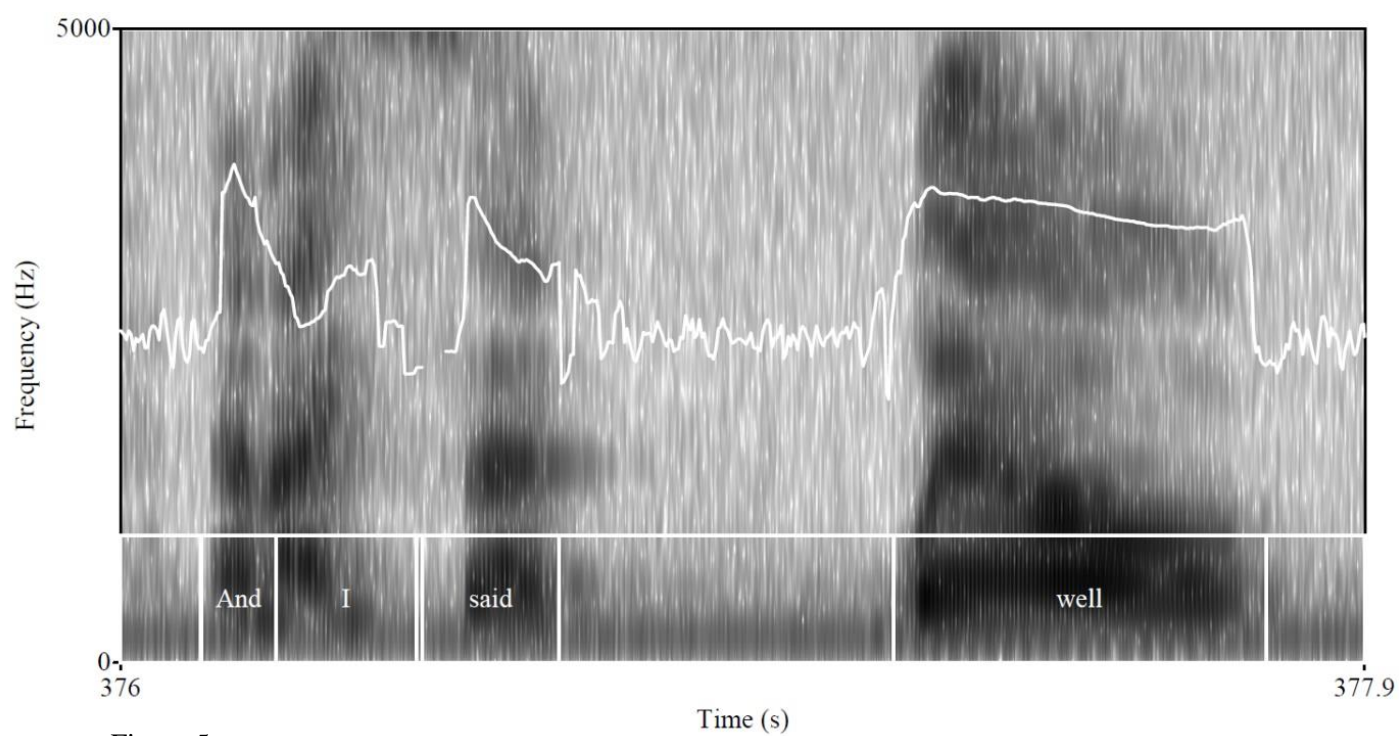


Figure 5.

Pragmatic framework

The occurrences of *well* were classified using Jucker's (1993) pragmatic functions: 1) marker of insufficiency, 2) face-threat mitigator, 3) frame and 4) delay device. These functions revolve around a core meaning that is derived from the relevance theory developed by Sperber and Wilson (1995). This theory states that every utterance is constructed with the intention of being maximally relevant or coherent with previous discourse. According to Jucker, *well* signals that "the addressee has to reconstruct the background against which he can process the upcoming utterance. What seems to be the most relevant context is not appropriate" (p. 438). This meaning is at the centre of each pragmatic function. What follows is a quick discussion with examples of each function.

Marker of insufficiency

When *well* functions as a marker of insufficiency, it indicates a problem on the content level of the current or the preceding utterance. In example (1), both *wells* mark a form of insufficiency by implying a discrepancy between the background assumptions of the two interlocutors:

- (1) A: [Mike]'s the one who stole Hector's radio.
 B: How do you know.
 A: Well... cause well, he -- he was a cocaine
 addict.

A's assumption that B has the needed background information to accept A's statement has proven to be false; B does not know Mike as well as A thought. A's first *well* signals she had thought this information to be obvious, and therefore prompts B to fill in some of the details. The second *well* initiates, after a meaningful silence of B communicating her inability to fill in the details, a renegotiation between A's background assumptions and those of B.

In example (2), *well* functions as a marker of insufficiency as well: it signals the correction of an erroneous assumption.

- (2) A: [tastes soup]
 That's pretty good. I'm not hungry, but gosh that
 sure tastes good.

B: Well have a little more, we just won't tell him.

By complimenting the soup, A implicates that she wants more. However, since both speakers know A's father made the soup for dinner later that evening, she probably assumes it is impolite to have more. Therefore, she negates the implication by stating she is not hungry. B sees no problem in A having more soup, as long as they do not tell the father. B signals her denial of A's assumption with *well*, indicating A does not need to worry about it.

Face-threat mitigator

As a face-threat mitigator, *well* precedes a denial where an approval is expected, disagreement where an agreement is wished, or any other situation where the face of the hearer or speaker is threatened. In example (3), A expects B to laugh at and agree with her story, but B does not. On top of that, B shifts the focus of the conversation to A herself, who finds her face threatened.

- (3) A: Amy and Tony, they fight like cats and dogs anyway.
 And then when they're not feeling well, you know,
 and Amy just goes off the handle, cause Tony's
 bugging and nosy, [...] they're both gonna drive each
 other crazy.
- B: Well you're... not the most pleasant person when
 you're ... sick.

In example (4), *well* mitigates a general face-threat on A's side. According to B, A mispronounces a Basque name, but A mitigates the face threat by claiming she followed someone else's example, prefaced by a *well* that shifts the threat away from her.

- (4) B: How do you say his name?
- A: DeLiando?
- B: ... I don't think that's how you –
- A: Oh, that's what they told me.
- B: Oh, okay. I didn't think that's how you pronounced a
 good old Basque name but,
- A: Well that's what I've b- -- I mean that's

Frame

The main functions of *well* as a frame are to introduce reported speech, or more generally to shift the focus or topic of the discourse. In example (5), the speaker introduces direct reported speech with *well*, paired with the functionally similar clause *I was like*.

- (5) A: I was like well, hey, Zeus.

In example (6), A begins a story, but decides he needs to start the tale elsewhere. He signals a partial shift of focus and prefaces it with *well*. Here, *well* is also a transitioning device to a more overt focus shift marker: the clause *let me back up here*.

- (6) A: I was just, me and Janine, well let me ... back up
here.

Delay device

Instances of *well* as a delay device were not recognized in the current corpus. The following example (7) is from Jucker (1993), which was in turn borrowed from Svartvik (1980):

- (7) B: on the floor
A: on on [ði:] well on [ði:] you know on [ði:]
hatchway there.

A corrects B's statement but cannot immediately think of the word *hatchway*. *Well*, like the repetition and the floor-holding device *you know*, signals to B that A has more to say. *Well* also signals an adjustment in cognitive environment not only for B, who needs to be corrected, but A as well, who has to think and rethink on the word *hatchway*.

Every function of *well* facilitates the adjustment of relevant context in conversation. As a marker of insufficiency, it is mostly on the content level of the utterance. As a face-threat mitigator, the adjustment is chiefly interpersonal in nature. As a frame, the structure of the discourse is adjusted, as and a delay device *well* is concerned with temporal and interpersonal elements alike.

Results

The corpus consisted of roughly 136 minutes of recording and contained 174 occurrences of the discourse use of *well*. Around six instances of *well* could not be categorized into accent type, realisation or duration because of speech overlap between the speakers. Table 1 displays the types and frequencies of the accents that were found.

Table 1. *Distribution of accent types of well.*

Accent	Frequency
Deaccented	121 (69.5%)
L*	8 (4.6%)
H*L	21 (12.1%)
L*H	11 (6.3%)
H*	7 (4.0%)

Most instances of *well* are deaccented. Of the ones that are accented, most have a H*L accent. L*H, L* and H* accents are used less frequently.

An overview of the different realisations of *well* is presented in Table 2. Four instances could not be categorized due to speech overlap. Most *wells* were fully reduced, one third were reduced and only about a quarter were fully realised.

Table 2. *Distribution of realisations of well.*

Realisation	Frequency
Fully reduced	74 (42.5%)
Reduced	54 (31.0%)
Fully realised	42 (24.1%)

Table 3 shows the type of intonation contour used over the phrase containing *well*. Almost all intonational phrases were declarative.

Table 3. *Distribution of intonation contour type of well.*

Intonation contour	Frequency
Declarative	159 (91.4%)
Question	8 (4.6%)
Exclamatory	3 (1.7%)

The mean duration and standard deviation for each category of *well* is shown in Table 4. *Well* as a face-threat mitigator has the highest mean duration, but also the largest standard deviation. *Well* as a frame marking device has the lowest mean duration. The difference in

duration between the functions of frame marking device and face-threat mitigator is significant ($B = 0.012$; $S.E. = 0.005$; $p = 0.012$).

Table 4. *Mean duration of well in milliseconds for each pragmatic category.*

Pragmatic meaning	Mean (Std. Deviation)
Marker of insufficiency	150.32 (67.114)
Face-threat mitigator	170.65 (120.451)
Frame marking device	132.36 (70.358)
Total	145.02 (78.483)

In Table 5, the initiality of *well* is summarized. A vast majority of *wells* were placed initially in the intonational phrase (86.2%).

Table 5. *Distribution of position type of well.*

Initiality	Frequency
Non-initial	24 (13.8%)
Initial	150 (86.2%)

Table 6 shows how many initially places *wells* were also at the start of a new speaker turn. They are more or less evenly distributed between turn-initially and turn-internally, with the latter having a slight advantage.

Table 6. *Distribution of speaker turn position of well.*

Speaker turn position	Frequency
Turn-internally	86 (57.3%)
Turn-initially	64 (42.7%)

Finally, Table 7 displays the distribution of *well* across the pragmatic categories formulated by Jucker (1993). Most *wells* were categorized as a frame marking device, although the function as marker of insufficiency is not far behind. Around 14% of *wells* are face-threat mitigators, and no instances of *well* as a delay device were found in the corpus.

Table 7. *Distribution of well across pragmatic categories.*

Pragmatic category	Frequency
Marker of insufficiency	71 (40.8%)
Face-threat mitigator	24 (13.8%)
Frame marking device	78 (44.8%)
Delay device	0 (0.0%)

I cross tabulated each prosodic property separately with the pragmatic functions to examine whether there is any significant correlation between these two factors in the current corpus. The prosodic property of intonation contour is omitted from the analysis because the overwhelming majority of declarative contours (91.4%) made a reliable comparison difficult. Moreover, cross tabulation between individual accent and pragmatic function was unproductive because of the same majority of deaccented *wells*. Therefore, the accented *wells* are pooled in one “accented” category. The results can be found in Table 8. The distribution of accented *wells* across pragmatic functions is not significant [$\chi^2 = 1.403$ (2), $p = 0.496$].

Table 8. *Cross tabulation of well between pragmatic category and accent status.*

	Pragmatic meaning			Total
	Marker of insufficiency	Face-threat mitigator	Frame marking device	
Deaccented	46	16	58	120
Accented	22	7	18	47
Total	68	23	76	167

As a post-hoc analysis, I thought it interesting to compare the general meaning of the H*L accent (which was the most frequent accent, see Table 1) to the ascribed pragmatic meaning of H*L accented *wells* in the corpus. Pierrehumbert and Hirschberg (1990) assert that H*L accents “are used by [the speaker] to evoke a particular relationship between the accented items and [the hearer’s] mutual beliefs.” More specifically, a H*L accent is used when this relationship “should be inferable by [the hearer], from [the hearer’s] representation of the mutual beliefs” (p. 297). When we compare this meaning to Jucker’s (1993) core meaning of *well* (signalling a necessity to reconstruct relevant context), some similarities emerge. The notion of a mutual belief system varies only slightly from that of a set of background assumptions or relevant discourse context. Both Pierrehumbert and Hirschberg’s H*L and Jucker’s *well* allude to this notion. In the following section I will discuss H*L *wells* across the three pragmatic functions found in the corpus, to more precisely compare the pitch accent meaning of *well* to the pragmatic meaning.

The first *well* in the reprinted example (1) below is accompanied by a H*L accent and is categorized as a marker of insufficiency.

- (1) A: [Mike]'s the one who stole Hector's radio.
 B: How do you know.
 A: Well... cause well, he -- he was a cocaine
 addict.

The mutual belief meaning ascribed to H*L by Pierrehumbert and Hirschberg fits seamlessly with the pragmatic meaning of this *well*. A's first *well* signals she had thought her uttered information to be obvious, and therefore prompts B to fill in the details. By doing this, she appeals to B's mutual beliefs.

In example (8), *well* is classified as a face-threat mitigator on behalf of B and has a H*L accent. In this case as well, a strong argument can be made for *well* appealing to the mutual belief system of B.

- (8) B: But then I thought, that'd be kinda stupid, I call you
 at work, and if you didn't go to work they'll say, ...
 no, she's home sick today and, ... kinda like, what
 kinda mother are you. You live in the same house.
 A: Well, they know th-, I mean, that ... we have
 different schedules and stuff.

A assures B that her work knows her mother and she have different schedules, and that her mother will not be judged so harshly as she thinks. By prefacing her statement with *well*, A appeals to B's prior knowledge as if to say *Well you know this already but...*

The *well* in example (9) is categorized as a frame marking device, as it shifts the focus of the conversation. Here, the mutual belief meaning of the H*L accent is less applicable.

- (9) A: Did she tell you about Jonathan?
 B: Yes. Trying to get him a job?
 A: Oh yeah. Well, then see that's another thing.

Signalling a shift in conversation topic is not in the same domain as appealing to the hearer's mutual beliefs; it merely alludes to those mutual beliefs as not up to date. Nonetheless, the general meaning of the H*L accent as posited by Pierrehumbert and Hirschberg (1990) fits surprisingly well with the overall pragmatic meaning of *well* formulated by Jucker (1993). One

explanation for the lack of correlation between separate accents and meanings could be because each accent only highlights the meaning apparent from the discourse context. I will elaborate on this in the discussion section of this thesis.

In Table 9, realisation of *well* is cross tabulated with pragmatic meaning. The distribution is not significant [$\chi^2 = 4.909$ (4), $p = 0.297$].

Table 9. *Cross tabulation of well between pragmatic category and realisation status.*

	Pragmatic meaning			Total
	Marker of insufficiency	Face-threat mitigator	Frame marking device	
Fully reduced	25	12	37	74
Reduced	25	4	25	54
Fully realised	19	7	15	41
Total	69	23	77	169

Initiality of *well* in the intonational phrase is set off against pragmatic meaning in Table 10. The distribution is not significant [$\chi^2 = 4.846$ (2), $p = 0.089$].

Table 10. *Cross tabulation of well between pragmatic category and initiality status.*

	Pragmatic meaning			Total
	Marker of insufficiency	Face-threat mitigator	Frame marking device	
Non-initial	7	1	15	23
Initial	64	23	63	150
Total	71	24	78	173

In Table 11, the speaker turn status of *well* is cross tabulated with the pragmatic categories. This distribution is significant [$\chi^2 = 53.645$ (2), $p < 0.001$]. When *well* is not turn-initial, it is most likely to be a frame marking device.

Table 11. *Cross tabulation of well between pragmatic category and speaker turn status.*

	Pragmatic meaning			Total
	Marker of insufficiency	Face-threat mitigator	Frame marking device	
Non turn-initial	20	8	58	86
Turn-initial	44	15	5	64
Total	64	23	63	150

Table 12 shows the result of a post-hoc analysis in which duration and the dichotomous variables of phrasing, (de)accentuation, initiality and speaker turn position of *well* are

correlated with each other. Duration, phrasing and accentuation are all significantly correlated with each other on a moderate level. A longer duration means a higher chance of that *well* forming its own intonational phrase as well as being accented, and vice versa. Initiality and speaker turn position could not be correlated because all speaker turn initial *wells* are initial in the utterance as well.

Table 12. *Correlation coefficients between duration, phrasing, accentuation, initiality and speaker turn position.*

	Phrasing	Accentuation	Initiality	Speaker turn position
Duration	0.681**	0.691**	-0.116	0.089
Phrasing		0.767**	-0.003	0.106
Accentuation			-0.087	0.101
Initiality				. ^a

** significant at $p < 0.001$

^a cannot be computed because one of the variables is constant

Discussion

In summary, there seems to be no one-on-one association between the prosodic realizations of the discourse marker *well* and its semantic-pragmatic functions in discourse, nor does there seem to be an interaction effect between prosody and pragmatic function. However, two prosodic variables had a significant correlation with certain pragmatic functions. When *well* is not turn-initial, it is most likely to be a frame marking device, and the difference in duration between the functions of frame marking device and face-threat mitigator is significant; *wells* that were labelled as face-threat mitigators were longer in duration.

The latter result is hard to interpret due to the large standard error for duration that was measured for the function of face-threat mitigator (see Table 4). The only conclusion that can arguably be drawn from it, is that *wells* that mitigate a face-threat vary more in duration than *wells* that fulfil any other function.

The fact that non-turn-initial *wells* have a significant chance of being a frame marking device can be explained in three ways. One factor is the great number *wells* in the corpus that introduce reported speech, and that are almost all classified as frames. Because these *wells* are often preceded by a clause like *I said*, they are by definition mid-utterance and therefore mid-turn. Besides, a signal to attend the hearer to a shift in context is most needed when the direction of the conversation is already established throughout the turn but needs to be adjusted mid-

turn. Moreover, the nature of the pragmatic categories and their distinguishing factors likely contributed to this correlation. Jucker (1993) formulated the four functions as variations of a single core meaning, which means they lie close together in terms of denotation. One of the biggest distinguishing factors between the functions of frame marking device and marker of insufficiency was the fact that “in [the frame marking] function, [*well*] is often not placed at the beginning of a turn” (Jucker 1993, p. 446). By abiding to his categorization, having so many turn-internal *wells* as frames is a self-fulfilling prophecy of sorts.

This leads to a more in-depth discussion of the choice of pragmatic framework. While a unified account of *well* is valuable from a pragmatic/semantic viewpoint, it is less useable in the context of categorizing and correlating. Some *wells*, such as the ones introducing reported speech, could easily be placed in the frame-marking category. The other three functions had less concrete conditions or demarcations for when a *well* was considered to fulfil one function or another; an argument could always be made for at least two different functions. It might have been more productive for this thesis to use a fine-grained framework constructed directly from the corpus to accommodate a precise categorization, as was done in Müller (2004). She formulated fourteen functions of *well* across four levels (local, structural, dialog and without level) from the occurrences of *well* in her corpus. Such a precise categorization could have been an alternative to the functionally similar classes of a unified framework. However, the danger of such an approach is that there are too many functions to correlate with prosodic features with any statistic integrity. Such an analysis would require an enormous corpus. Furthermore, even with Müller’s detailed grouping, some functions differ too little from each other; the distinction between the functions “move to story” and “introducing next scene,” for example, is hardly present. On the other hand, the four levels into which the functions are divided are, like Jucker’s functions, too broad for correlation with prosodic features.

By now it can tentatively be concluded that acoustic-prosodic features alone affect the pragmatic meaning of *well* very little. Unified frameworks like Jucker’s or Svartvik’s as well as fine-grained ones like Romero-Trillo’s (2018) yield the same results: prosody alone cannot account for the variation in pragmatic meaning of *well*. Discourse context combined with the general meaning of intonational contours and pitch accents (see Pierrehumbert & Hirschberg 1990 and my discussion of them in the result section) are most likely the only correlators with pragmatic meaning. Because discourse context is hardly quantifiable, this effect is very difficult to research. However, it seems to be the most viable option for future research into the relation between acoustic-prosodic elements and pragmatic meaning of discourse markers.

While locating the discourse marker uses of *well* in the corpus, it became apparent that *wells* often appear in clusters. When one speaker uses *well*, both participants subsequently will use it more. Often a conversation can go fifteen minutes without one appearance of *well*, only to have it appear every other utterance in another part of the recording. Subject matter and tone were rather consistent within each conversation, so the most likely cause for this phenomenon is a priming effect of sorts. It would be interesting to see if this effect truly exists and what would fall under it.

It has been shown that discourse markers such as *well* appear more frequently in informal conversational speech than in a formal setting (Fuller 2003). The current thesis included only face-to-face and one-on-one informal conversations to ensure there were enough *wells* to analyse. However, aside from social setting, the amount of turn-taking has proven to be important in the current corpus as well. There was the tendency for speakers to launch into a monologue or story that allowed little room for back-and-forth conversation. Often, *well* was used more by both speakers when there was a lot of turn-taking that likely facilitated that priming-like effect described earlier. This observation is only based on five conversations and not at all consistent; sometimes there is a lively conversation with very few appearances of *well*. The focus of this thesis is too narrow to support further speculation, but this topic could prove to be interesting ground for research.

References

- Boersma, P., & Weenink, D. (2019). Praat: doing phonetics by computer [Computer program]. Version 6.0.50, retrieved 31 March 2019 from <http://www.praat.org/>
- Bolinger, D. (1989). *Intonation and its uses*. London: Edward Arnold.
- Crystal, D., & Davy, D. (1975). *Advanced conversational English*. (Vol. 1). London: Longman.
- Du Bois, John W., Wallace L. Chafe, Charles Meyer, Sandra A. Thompson, Robert Englebretson, and Nii Martey. (2000-2005). Santa Barbara corpus of spoken American English, Parts 1-4. Philadelphia: Linguistic Data Consortium.
- Fraser, B. (1999). What are discourse markers? *Journal of Pragmatics*, 31, 931-952.
- Fuller, J.M. (2003). The influence of speaker roles on discourse marker use. *Journal of Pragmatics*, 35, 23-45.
- Halliday, M. A. K., & Hassan, R. (1976). *Cohesion in English*. London: Longman.
- Hirschberg, J. & Litman, D. (1993). Empirical studies on the disambiguation of cue phrases. *Association for Computational Linguistics*, 19, 501-530.

- IBM Corp. Released 2017. IBM SPSS Statistics for Windows, Version 25.0. Armonk, NY: IBM Corp.
- Jucker, A.H. (1993). The discourse marker *well*: A relevance-theoretical account. *Journal of Pragmatics*, 19, 435-452.
- Lakoff, R. (1972). Language in context. *Language*, 48, 907-927.
- Lee, E. (2017). Discourse properties of *now*. *Journal of Linguistics*, 53, 613-640
- Müller, S (2004). Well you know that type of person: functions of well in the speech of American and German student. *Journal of Pragmatics*, 36, 1157-1182.
- Pierrehumbert, J.B. (1980). The phonology and phonetics of English intonation (Doctoral dissertation).
- Pierrehumbert, J.B., & Hirschberg, J. (1990). The meaning of intonational contours in the interpretation of discourse. In P.R.C.J.L. Morgan & M.E. Pollack (Eds.) *Intentions in communication* (pp. 271-311). MIT press.
- Romero-Trillo, J. (2018). Prosodic modelling and position analysis of pragmatic markers in English conversation. *Corpus Linguistics and Linguistic Theory*, 14, 169-195.
- Schiffrin, D. (1988). *Discourse markers*. Cambridge: Cambridge University Press.
- Schourup, L. (1999). Discourse markers. *Lingua*, 107, 227-265.
- Schourup, L. (2011). The discourse marker *now*: A relevance-theoretic approach. *Journal of Pragmatics*, 43, 2110-2129.
- Sperber, D., & Wilson, D. (1995). *Relevance: Communication and cognition*. Oxford: Blackwell.
- Svartvik, J. (1980). *Well* in conversation. In S. Greenbaum, G. Leech & J. Svartvik (Eds.), *Studies in English Linguistics for Randolph Quirk* (pp. 167-177). London: Longman.