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The phonetics of sequence organization: an investigation of lexical repetition in other-initiated repair sequences in American English

by

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B.A., University of Notre Dame, 1991
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A thesis submitted to the
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other-initiated repair sequences
written by Traci S. Curl
has been approved for the Department of Linguistics

Barbara A. Fox

Dr. Richard A. Ogden

Date July 15, 2002

The final copy of this thesis has been examined by the signatories, and we find that both the content and the form meet acceptable presentation standards of scholarly work in the above mentioned discipline.
Curl, Traci S. (Ph.D., Linguistics)

The phonetics of sequence organization: an investigation of lexical repetition in other-initiated repair sequences in American English

Thesis directed by Prof. Barbara A. Fox

This thesis investigates the interrelationship of phonetic structure and sequence organization in talk-in-interaction. It integrates the methodology of Conversation Analysis and impressionistic and instrumental phonetics to show how activities in a conversation are managed and oriented to by the participants.

The study examines the phonetic characteristics of repetition in other-initiated repair sequences in American English. In these sequences, speakers repeat their immediately prior talk after prompting (e.g., what?; huh?). Phonetic analysis of the repairs contradicts published accounts of the phonetic correlates of clear speech, and descriptions of the phonetics of repetitions.

The combination of sequential and phonetic analysis reveals a relationship between the phonetic realization of the repetition, and the trouble source turn it repairs. Trouble source turns which are fitted in sequence are repaired with repetitions that are louder, have expanded pitch ranges, longer durations, and long-domain changes to the articulatory settings (compared to the trouble source turns) – the ‘upgraded’ phonetic pattern. Trouble source turns which are disjunct at the place in structure where they occur are repaired with repetitions that are quieter, have non-expanded pitch ranges, shorter durations, and no major differences in articulation when compared to the trouble source turns – the ‘non-upgraded’ phonetic pattern.

It appears that speakers manipulate clusters of phonetic parameters to negotiate who is ‘at fault’ for a conversational breakdown. Repetitions with the ‘non-upgraded’ phonetic pattern may be displays of the understanding that turns treated as trouble
sources were indeed disjunct and problematic for the sequence-so-far. Conversely, repetitions with the ‘upgraded’ phonetic pattern may be displays that turns treated as trouble sources were fitted and appropriate next actions, and thus did not warrant repair initiation.

This thesis highlights the indispensable role of the phonetic level of organization in the collaborative resolution of problematic sequences of talk. It shows that systematic differences in the phonetic realization of repetition repairs co-occur with differences in the turn-taking properties and sequential relevance of the original utterance. It emphasizes the importance of combining attention to phonetic detail with sequential analysis to fully understand the orderliness in everyday talk-in-interaction.
Acknowledgements

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Finally, never-ending thanks to Gareth, whose patience, support, love, and understanding brought me through the darkest times, and who celebrated with me during the best times. But thanks most of all for helping me be able to say, “I did it in \TeX.”
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Chapter 1

Introduction and rationale behind the study

This research investigates the interrelationship of phonetic structure and sequence organization in talk-in-interaction. It contributes to a growing body of work which shows how systematically produced clusters of phonetic events are manipulated and responded to in both shaping and interpreting talk in natural conversation (French & Local 1986, Local et al. 1985, Local et al. 1986, Local & Kelly 1986, Couper-Kuhlen & Selting 1996 inter alia, Couper-Kuhlen 2001b, Ogden 2001, Szczepek 2001, Walker 2001, Jasperson 2002). These researchers, and the study presented here, integrate the methodological approach of Conversation Analysis (CA) and impressionistic and instrumental phonetics to show how particular activities in a conversation are managed and oriented to by the participants themselves. The discovery of systematic differences in the fine-grained phonetic production of the utterances that accomplish these actions is evidence that parties to talk-in-interaction continuously display their awareness of the sequential structure(s) within which their talk is located.

The goals and contributions of this thesis are:

- To increase our knowledge about the structure of a particular, co-constructed interactional sequence (that of other-initiated repair). While a good deal of research has focused on occurrences of self-repair (e.g., Jefferson 1975, Schegloff et al. 1977, Schegloff 1987a, Schegloff 1987b, Fox et al. 1996), including the phonetics of self-repair (Jasperson 1998, Jasperson 2002), little research
has looked at other-initiated repairs exclusively (but see Couper-Kuhlen 1992, Schegloff 2000b, Wong 2000a). This study describes the phonetic and interactional structure of a particular class of other-initiated repairs – those resolved by lexical repetition of the trouble source turn.

- To test predictions about the phonetic correlates of repetition and of clear speech. Current work on these phenomena makes opposing predictions about how the phonetics of repetition repairs would be realized. This study shows that neither set of predictions is supported by the data, and that rather, certain phonetic parameters are systematically manipulated according to the sequential fittedness of the trouble source turn.

- To emphasize the worth and importance of combining phonetic and interactional analysis. This study demonstrates that phonetic studies can be improved by a more sophisticated understanding of the social actions that utterances are used to accomplish, and also that interactional analyses can reach a more thorough level of explication by considering the phonetic structure on a par with lexico-syntactic structure and sequential organization.

Other-initiated repair is a type of conversational sequence that is co-constructed by (at least) two parties. In an other-initiated repair, one party produces a request for repair, and the other party to the conversation responds with a repairing utterance. An example of such a sequence from the collection gathered for this thesis is presented below in (1).

(1) BATHROOM 4431CHAm

1 B: You in the bathroom?  Trouble source
2 A: Huh?  Next-turn-repair initiator
3 B: You in the bathroom?  Repair
Line 1 is labelled as the trouble source turn (TS). No utterance is necessarily, in and of itself, a trouble source. Any turn may be treated as such, however, by another party. In this particular example, Speaker A treats line 1 as creating some kind of problem, as displayed by her production of huh? (line 2). Utterances like huh, what, hmm, what's that are known as next-turn-repair initiators, or NTRIs (Schegloff et al. 1977), because they make it contingent upon their recipient to produce a repair in the next turn. In line 3, Speaker B produces the repair by repeating his prior, trouble-source turn.

Other-initiated repair sequences such as this are at least superficially familiar to everyone. That is, we have all had the experience of initiating a repair (saying what or huh) and of responding to such a request for repair. Repair initiators such as what, huh are known as 'open class' NTRIs, because they leave the source of the trouble unexplicated (Drew 1997). Thus, the type of repair to be performed is left open as well.

Early CA research called NTRI turns 'requests for repeat' (Jefferson & Schegloff 1975), and in the naturally-occurring example given in (1), the repair is done by repetition of the trouble-source turn. Although not all responses to open-class NTRIs are repetitions of the trouble source turn, the fact that other-initiated repairs can be realized with repetitions of the TS turns makes them prime sequences for phonetic analysis. No research to date has focused on the phonetic realization of other-initiated repairs; therefore the description provided in this thesis addresses this gap in our knowledge.

Other-initiated repairs also provide an environment, in naturally-occurring conversation, to examine claims in the literature about the nature of repetitions. Additionally, because a possible problem displayed by the production of an NTRI is the inability to display an understanding of the prior talk due to problems of hearing (Schegloff et al. 1977, Schegloff 1995b: 148), we could expect a repetition repair to show evidence of 'clear speech' (compared to the trouble source turn).

A good deal of research has investigated the phonetics of repetition, and has
found that repetition correlates with shorter word durations, and phonological reduction processes (Fowler & Housum 1987, Fowler 1988, Bard et al. 1989, Shields & Balota 1991, Bard & Anderson 1994, Sotillo 1997, Jurafsky et al. 1998, Bell et al. 1999). The phonetic correlates of 'clear speech' have also been investigated experimentally, in work by Picheny et al. (1985), Picheny et al. (1986), Picheny et al. (1989), Bond & Moore (1994) Uchanski et al. (1996), Bradlow et al. (1996). This research finds that highly intelligible speech (produced both with and without instructions to speak 'more clearly') has an expanded vowel space, is louder, has an expanded pitch range, and is produced at a slower rate than other, or conversational, speech.

Lindblom's (1990) theory of hypo- and hyper-speech encapsulates these two approaches, and highlights the problems they raise in predicting the form of repetition repairs. Lindblom argues that speakers must choose between the default state of producing utterances with least effort (hypo-articulation), and the principle of informativeness – making their utterances sufficiently discriminable. Since repetitions reproduce information already given in the conversation, they are redundant, and therefore repetition repairs could be hypo-articulated. However, repetition repairs are produced as responses to a display by the listener that he or she requires 'help' in understanding the prior utterance. This argues for their hyper-articulation.

Thus, we see that these bodies of research make incompatible predictions about the phonetic realization of repetition repairs. Work on repetition predicts that repeated words will be reduced, while work on clarification predicts that these repairs will be more fully articulated. This study of repetition in other-initiated repair sequences shows that in fact neither of these predictions is borne out in repetitions produced in a specific sequential environment in naturally-occurring talk-in-interaction. It shows instead that systematic differences in the phonetic realization of repetition repairs correlate with particular issues of turn-taking and sequence organization at the place in structure where the trouble source turn occurs, supporting the point made by Schegloff (1987a:
...it is incorrect to count all instances of repeats or recycles as instances of a same class of phenomena by virtue of the fact that they all re-do some bit of verbal production. They occur differentially placed by reference to the structural organization of conversation, and their placement is as much a part of their character, as constitutive of them as phenomena, as the fact that some words get repeated.

Examination of the phonetic characteristics of the collection of repetition repairs reveals two patterns: one group of repairs is done more loudly than the trouble source turn, with expanded pitch ranges, longer durations, and long-domain changes in articulation (e.g., stretches of lip-rounding that were not present in the trouble source turn). Another group of repairs is not louder than the trouble source turn, has non-expanded pitch ranges (i.e., the range is either compressed or nearly identical), does not have longer durations, and has similar articulations. These phonetic patterns mark the repetition repair as, respectively, ‘upgraded’ or ‘non-upgraded’ from the trouble source turn.

The terms ‘upgraded’ and ‘non-upgraded’ are used as aides memoire for the two phonetic patterns described. The terms imply no psychological stance toward the function of the repairs (but see Chapter 6); that is, there is no claim that words with longer durations will necessarily be responded to interactionally as ‘upgrading’.

Antonyms are used because only two patterns were found in this study. However, this should not be taken to mean that the phonetic features represented by these terms are manipulated in a categorical, binary manner. One aim of this study was to examine how phonetic parameters were manipulated in relation to the sequential structure of the conversation; therefore, any and all differences between the ‘original’ utterance and its repetition, whether categorical or gradient, were of (potential) interest. This work thus tests the theoretical distinction between linguistic and paralinguistic behavior, manifested in the claim that categorical distinctions are linguistic while gradient
differences are paralinguistic (cf. Laver 1994: 22-23, Ladd 1996: 33ff). This study shows that the manipulations of phonetic parameters usually deemed paralinguistic do have an interactional function; they are used by participants in talk-in-interaction to display their understanding of the talk at particular, and different, points in the sequential structure. The combination of phonetic analysis and sequential analysis, using the methodology of CA, provides an empirical basis for working out ‘paralinguistic’ categories. It also calls into question the value of continuing to separate ‘linguistic’ sound-meaning relationships from ‘paralinguistic’ sound-meaning relationships, since participants in talk-in-interaction orient to both in similar ways.

The ‘upgraded’ and ‘non-upgraded’ patterns are produced on repetitions which repair trouble source turns occurring in various environments. That is, the trouble source turns occur both in overlap and in the clear, and they are both first actions (e.g., questions) in sequences known as adjacency pairs (see section 3.2) and responsive actions (e.g., answers). The distribution of the ‘non-upgraded’ and ‘upgraded’ repetitions correlates with differences in both the turn-taking organization (whether the TS turn overlaps prior, ongoing talk, or whether the ongoing production of the TS turn is overlapped by incoming talk) and with differences in sequence organization (whether the TS turn is or is not responsive to and coherent with the prior talk).

Trouble source turns which are fitted are sequentially relevant actions based on the structure of the sequence-so-far, and in terms of turn-taking organization, do not intrude into the turn space occupied by another speaker (they are either overlapped by incoming talk, or produced in the clear). These turns are repaired with the ‘upgraded’ phonetic pattern of louder talk, with expanded pitch range, longer durations, and long-domain changes in articulation. Trouble source turns which are disjunct are either violative from a turn-taking standpoint – they overlap ongoing talk from the other participant – or, if they begin in the clear, they are ill-fitting actions in the sequence-so-far. These TS turns are repaired with the ‘non-upgraded’ phonetic pattern of repetitions
which are not louder, have non-expanded pitch ranges, durations which are not longer, and similar articulations to the trouble source turns.

This thesis uses the terms fitted and disjunct to reflect the structural differences that precede the two realizations of repetition repairs. As is shown in the following chapters, the difference between these groups is not one of affiliation and disaffiliation; fitted trouble source turns can be disaffiliative (as shown in the discussion of fragment 15 on page 86), and disjunct trouble source turns can be affiliative (as shown in the discussion of fragment 23 on page 124).

The sequential analysis of other-initiated repair sequences revealed that the majority of the repetition repairs in the collection occurred in the aftermath of overlap resolution. Many of the cases of overlap with the TS turn are unusually extended, contra Schegloff (2000a: 19-20); they persist for several ‘beats’, or syllables. Extended cases of overlap are indicative of a major conversational breakdown, which can be righted by the mechanisms of repair organization. Because the majority of the lexical repetition repairs occur after overlapping talk, a difference in the nature of the overlap and repair initiation is a candidate explanation for the two phonetic patterns found in the repair turns. After some occurrences of overlapping talk, the speaker who began in overlap initiates repair. This is called an ABBA sequence, because A is talking, B overlaps, B initiates repair, and A repeats the overlapped talk. In other sequences, the speaker whose ongoing turn was overlapped initiates the repair. This is called an ABAB sequence, because A is talking, B overlaps, A initiates repair, and B repeats the talk that overlapped A’s turn.

In most ABBA sequences, where the overlapping speaker and the repair initiator

---

1This use of the term ‘beat’ is at best quasi-linguistic; it implies nothing about the rhythmical organization of the talk, and is used merely to describe the extent of overlapping talk in a manner that is oriented to by the participants themselves. See Schegloff 2000a for an extended discussion of the use of the term in Conversation Analysis literature.
are the same person, the repair is produced with the 'upgraded' phonetic pattern; likewise, in most ABAB sequences, where the overlapping speaker and the repair initiator are different people, the repair is produced with the 'non-upgraded' phonetic pattern. These differences in turn-taking sequences (e.g., whether initiation of overlap and initiation of repair are done by the same person), however, do not exhaustively explain the phonetic patterning of repetition repairs. Not all ABBA sequences have repairs produced with the 'upgraded' pattern, nor do all ABAB sequences have repairs produced with the 'non-upgraded' pattern. This suggests an additional level of organization in addition to, or working in tandem with, turn-taking organization.

Furthermore, an analysis based only on possible problems in turn-taking organization cannot explain the repetitions of TS turns produced in the clear (i.e., with no overlapping talk). The repairs of these in-the-clear TS turns are nearly evenly split between the 'non-upgraded' and 'upgraded' phonetic patterns.

Rather than rely on an explanation based only on turn-taking, or only on sequence organization, this analysis combines an examination of the turn-taking organization with an examination of the sequential relevance of the turns themselves. The phonetic patterning of all the other-initiated repairs is shown to correlate with the trouble source turns' fit, or disjunction, with the prior turn and sequence. Turns which are sequentially fitted are repaired with the 'upgraded' phonetic pattern; turns which are disjunct, either in turn-taking or sequential organization, are repaired with the 'non-upgraded' phonetic pattern.

Consider the following examples. Fragment 2 is an example of a 'upgraded' pattern repetition repair, occurring after a fitted trouble source turn. Arrows point to the repair sequence.

\(^2\)For a list of the transcription conventions, see page 45.
In fragment 2, the turn treated as a trouble source occurs in line 3. By saying an um (. ) what else in line 1, Speaker A is displaying an understanding that whatever she and Speaker B have been discussing previously is possibly complete. Following this, Speaker B passes on the opportunity to begin a new sequence herself (note the 0.3 second silence at line 2). In line 3, Speaker A begins a new sequence with um:: the twins are getting big, an utterance fitted to the place in which it occurs.

This repetition repair exemplifies the 'upgraded' phonetic pattern. It is louder than the TS turn; it has a pitch range of 5.5 semitones\(^3\), compared to a pitch range of 3 semitones on the trouble source turn (an increase of 2.5 semitones in range); its overall duration is longer, as are the durations on three of the individual words (the, twins and big). The long-domain differences in articulation consist of changes in phonation and the placement of vowels. While the second half of the TS turn is produced with fairly breathy phonation, the repetition is not; the vowels in the repetition are also more front than the vowels in the trouble source turn.

The next fragment presents an example of a repetition repair of a disjunct trouble source turn. This repair is done with the 'non-upgraded' phonetic pattern. Arrows point to the repair sequence.

---

\(^3\)Semitones are computed from the Hertz measurements, and scaled relative to the speaker's baseline.

See section 3.3.2 for more information on the calculation of semitones
In fragment 3, Speaker A is recounting a conversation she had with a mutual friend whom she had encountered unexpectedly. While she is in the process of telling Speaker B what she said to this friend, Speaker B produces the utterance he lives there (line 2). This turn is subsequently treated as the trouble source (see line 4).

The talk in line 2 begins in the middle of Speaker A's ongoing turn, in fact in the middle of the constituent I said. Speaker A has clearly not reached a point of possible completion with her utterance; that is, en he said whadda you doin' here I is not syntactically, prosodically, or pragmatically complete (Ford & Thompson 1996). Thus, Speaker B's talk is disjunct from a turn-taking standpoint.

The repair of this disjunct trouble source turn is done with the 'non-upgraded' phonetic pattern. It is not louder than the TS turn; the repair has a pitch range of 9 semitones, compared to a 14 semitone range for the trouble source (i.e., the repair has a non-expanded pitch range); it does not have a longer overall duration (the final two words, lives and there, have shorter durations); and there are no noticeable differences in articulation (e.g., in both utterances, the word lives ends with a voiceless labiodental fricative and the vowel qualities in all the words are quite similar).

These two fragments illustrate the two patterns exhibited by the data. This thesis provides evidence that these two patterns do in fact describe the practices used and oriented to by conversation participants in other-initiated repair sequences. In the next chapter, I review the relevant literature on the phonetic correlates of repetition and 'clearer' speech. While these findings are not disputed, they are shown to make
incorrect predictions by virtue of their failure to take into account the context of occurrence of the talk. That is, although ‘reduction’ processes may be found at a statistically significant level for repetitions produced in a laboratory setting, these findings are not necessarily applicable to repetitions employed in the pursuit of particular activities, i.e. those that are produced in similar sequential environments. Also, the findings of several recent studies which stress the importance of considering phonetic structure on a par with sequential structure are discussed.

In Chapter 3, the methodology of Conversation Analysis is outlined. This methodology allows and insists upon a constant renewal of connection (Firth 1957) between the analysis and the data. Using the tools and practices of sequential analysis, participants themselves are shown to display an orientation to the postulated analytic categories. This chapter also presents the methods of phonetic analysis used to investigate the parameters of loudness, pitch, duration, and articulation – the four parameters found in systematically differentiated clusters in the repetition repairs of fitted and disjunct trouble source turns.

Chapters 4 and 5 present the bulk of the data analysis. Several case studies are provided to exemplify the use of the terms ‘fitted’ and ‘disjunct’. Additionally, graphs of intensity (loudness), pitch range, and duration are provided which exemplify the differences between the repetition repairs and the trouble source turns in both the ‘non-upgraded’ and ‘upgraded’ phonetic patterns.

Chapter 6 summarizes the findings of the study, and discusses their import for current research in phonetics and in Conversation Analysis. The shortcomings of the study are addressed, and directions for future research are outlined.
Chapter 2

Motivation and research questions

This chapter situates the current work among past research into other-initiated repair and repetition. It covers three main areas: research on repair sequences (concentrating on other-initiated repair) in Conversation Analysis (section 2.1); phonetically-based studies of repetition and clarification (section 2.2); and research combining CA and phonetic analysis (i.e., recent work in the Interactional Linguistics framework) in the investigation of several types of conversational sequences (section 2.3).

Some of the questions posed by research to date, which this thesis contributes to answering, are:


- Can the repairs in this particular interactional structure be related to the claim that self-repetitions in this environment are ‘clarifying’ utterances (Jefferson & Schegloff 1975, Schegloff 1995b: 148) by finding evidence of the phonetic correlates of ‘clear speech’, as reported by Picheny et al. (1985), Picheny et al. (1986), Picheny et al. (1989), Bond & Moore (1994), Uchanski et al. (1996), Bradlow et al. (1996)?

- Does self-repetition in this particular interactional structure show evidence of
‘reduction’ and/or durational shortening, as has been shown in other studies of self-repetition (Fowler & Housum 1987, Fowler 1988, Bard et al. 1989, Bard & Anderson 1994, Shields & Balota 1991, Sotillo 1997, Jurafsky et al. 1998, Bell et al. 1999)?

Clearly, certain gaps exist in our current knowledge of repair resolution (especially its phonetic exponents); this chapter points out those gaps, and discusses how they are addressed by the current research.

2.1 Conversation Analysis investigations of other-initiated repair

This thesis investigates the interrelationship of phonetic and interactional structure by analyzing instances of self-repetition in other-initiated repair sequences. This section describes previous work describing the structure of other-initiated repair, including its differences from and similarities to self-repair (section 2.1.1), and discusses work outlining the implications of the study of repair for all areas of linguistics (section 6.3). A brief mention of CA work concerned with repetition appears in section 2.1.3, and the section is summarized in 2.1.4.

2.1.1 The structure of repair

Jefferson (1975) is one of the earliest studies to discuss what is now commonly called repair. Jefferson shows that by a systematic use of *uh*, certain kinds of errors and their subsequent corrections are displayed to co-participants as a kind of activity in themselves. That is, she does not dismiss repair as ‘mere’ errors, unavoidable in the course of everyday talk; rather, by carefully examining conversational materials, she finds that certain kinds of errors are systematically produced and resolved in an “Error Correction Format”.

Repair is listed in Sacks et al. (1974) as one of the ‘grossly observable facts’
about conversation that a model of turn-taking must be able to accommodate. That is, since one can observe the mechanisms for resolving turn-taking violations and errors, a model that purports to describe turn-taking must specify the way such mechanisms operate. Repair is both subject to turn-taking practices (i.e., repair is not initiated by ‘other’ until a current unit or turn is completed), and serves to resolve troubles in turn-taking (e.g., when two parties talk at once, one may recycle (repair) the beginning of his/her turn until the other drops out, returning the system to its normal one-at-a-time status (Schegloff 1987b)).

Repair sequences themselves are the focus of the research by Schegloff et al. (1977). This work advocates the use of the more inclusive term ‘repair’ rather than correction, noting that speakers repair utterances when no noticeable error has been made. They also note that nothing appears to be excludable from the class ‘repairable’; that is, if both errors and non-errors are subject to repair, all talk is subject to repair.

Schegloff et al. (1977) show that repair is a sequential phenomenon composed of initiation and outcome segments. Each of these (initiation and outcome) can be done by self or other. Failure can also result from either self- or other-initiation of repair. While the current research focuses on just one of these, other-initiation followed by self-repair, Schegloff et al. (1977) note that there is a bias toward, or preference for, self-correction as instantiated by self-repair. This is due to the different placements of self- vs. other-initiation.

Overwhelmingly, self-initiations of repair are placed in the same turn as the trouble source. The majority of these are also successfully repaired in that same turn. Other-initiation of repair, however, is regularly placed in the next turn after the trouble source, and provides for repair in the turn after that. Thus, the current speaker simply has more opportunity to initiate repair on her/his own talk; it can be begun at any point within the turn (on the syntactic constraints of repair initiation and resolution, see Fox et al. 1996). In order to initiate repair on another’s turn, however, speakers are subject
to the organization of turn-taking, which does not provide for unprincipled intrusion into a turn occupied by another. Current speakers can, and do, interrupt their own turns for the purposes of repair, however.

In addition to working within the constraints imposed by the turn-taking system, Schegloff et al. (1977) note that the other-initiation of repair is regularly delayed – that is, it does not always occur immediately upon the completion of a turn later treated as a trouble source. Often, a gap of silence occurs. They argue that this ‘withholding’ (by delay) of other-initiation of repair, and the fact that participants do not interrupt each other’s talk immediately after the production of a trouble source, “allows the speaker of a repairable the use of an opportunity, or set of opportunities, to initiate repair himself” (Schegloff et al. 1977: 374).

The majority of subsequent work on repair has been concerned with the positioning of repair initiators. Schegloff (1987a) investigates the self-repairs that take place in recycled turn beginnings. The repairs he investigates are geared toward repairing problems of turn-taking organization; that is, the turns which exhibit recycled beginnings occur in overlap with other talk. Once the overlap is resolved, certain elements of the prior, turn-beginning talk are repeated. He finds that only certain elements are ‘recycled’ in the repair; specifically, words such as well, y’know, so, but, yeah are not repaired/repeated, because they are not syntactically or semantically important to the turn’s action.

Schegloff (1997b) describes the structure of third-turn repair, in which speakers ‘correct’ a prior turn after a response to that turn which has not displayed any problem of understanding. The sequential structure of such repairs is different from third position repairs, which are prompted by a somehow problematic response to the earlier turn (Schegloff 1992).

Self repair has been widely investigated by non-CA researchers (e.g., Levelt 1983, Brédart 1991, Clark 1994, Clark & Wasow 1998). This work, however, takes
as its aim the psychological underpinnings of repair initiation, and does not rely upon an examination of participant orientation to support its analyses. In much of this work, self-repairs (often involving self-repetition) are explained away as evidence of a planning problem, rather than as a resource used by speakers to e.g. gain the floor (Schegloff 1987a) and/or resolve the occurrence of overlapping talk (Schegloff 2000a, Jefferson & Schegloff 1975).

The structure and function of other-initiated repair, however, has attracted less research, none of which investigates the phonetic characteristics of other-initiated repairs. Schegloff (1997a) discusses a collection of fragments which are only superficial cases of other-initiated repair. Schegloff (2000a) discusses some of the uses of other-initiated repair especially in the case of overlapping talk, but the investigation of other-initiated repair sequences is not the focus of the article.

Wong (2000a) looks at the occurrence of other-initiated repairs in native/non-native speaker interaction, and finds that other-initiation of repair appears to be more delayed here than in native/native interaction, claiming it generally occurs even later than next-turn. Schegloff (2000b), however, argues that many instances of what appear to be delayed next-turn-repair initiation are special cases of ‘next turn,’ due to constraints imposed by the turn-taking system when attempting to initiate repair on e.g., multi-unit turns. Many of the turns which Wong (2000a) calls ‘delayed’ are what Schegloff (2000b) would classify as ‘post-response’; that is, some understanding of the prior turn is indicated (e.g., oh wow displays an understanding that an assessment is relevant) after which repair is initiated by that same speaker on the displayed-to-be-understood turn.

Drew (1995) discusses how practices such as repair initiation can have both an official and an unofficial level, such that while the ‘official’ function of an next-turn-repair initiator is to elicit a repair, a possible unofficial function may be the postponing of a response. This possibility was first noted by Harvey Sacks in the 1960s; here
Sacks (1992a: 6-7)\(^1\) discusses the use of next-turn-repair initiation by callers to a suicide hotline as a device to avoid giving their names; the initiation of repair can do more than delay a next-due action, it can ‘skip’ it entirely.

Drew (1995) also claims that sometimes a practice’s unofficial or ‘strategic’ action might be available along with its official function, making the practice ambiguous both for the analyst and the participants. That is, although an NTRI has the official business of asking for repair, it may also have the ‘unofficial’ job of being a harbinger of an upcoming dispreferred or disaffiliative response (Schegloff et al. 1977, Schegloff 1979, Schegloff 1995b, Drew 1997). Speakers may display, through their repairing turns, an understanding of the type of activity they understand the repair initiation to be pursuing.

Research on repair overwhelmingly concludes that the other-initiation of repair is itself a dispreferred action (see especially Schegloff et al. 1977: fn28, Schegloff 1979). The initiation of a repair sequence by other-than-speaker of the trouble source sets a new sequence in motion, suspending the activity of the current sequence until the repair is performed and accepted. This suspension can lead to the ‘original’ sequence never being resumed; at the very least, its adjacency is disrupted.

Researchers going all the way back to Sacks (1992a) recognized the importance of adjacency in conversational organization; according to Sacks, contiguity is assumed, and special work must be done to display disjunction with the preceding talk. As Schegloff (2000b: 19) explains, “The default understanding of any turn at talk is that, unless otherwise provided for, it is addressed to what just preceded.” When an other-initiated repair sequence intervenes, ‘what just preceded’ has been, in effect, moved further back.

Along these lines, Schegloff (2000b) suggests\(^2\) that when other-initiated repair

\(^1\) Transcribed lectures from the late 1960s and early 1970s
\(^2\) Schegloff (2000b) remarks that further research is needed to see if these suggestions are borne out in
is employed in the aftermath of overlap resolution, it is generally the speaker of the ‘old’ topic that yields to the speaker of the ‘new’ topic. That is, if two speakers begin speaking simultaneously (or nearly so), the speaker who initiates repair is generally the speaker who had been pursuing the previous line of talk. The old topic is abandoned, with the initiation of repair providing a space for the ‘new’ topic to be further developed (although this is not always the case). Thus even here, the other-initiated repair ‘stops’ an ongoing sequence, allowing a new (possibly unrelated) sequence to take its place.

Unlike the other research outlined above, Mazeland & Zaman-Zadeh (2001) focuses on the repairing utterance itself, as realized in clarifications produced by non-native speakers of Finnish attempting to converse with other non-native speakers. Their data comes from recordings of classroom conversations between adult learners of Finnish; the students were asked to speak Finnish with each other during a break between lessons. This research discusses the conceptual, interactional, and semantic logic of word clarification repairs; thus, it is in essence quite different from the line of research pursued in this thesis. The collection of repetition repairs analyzed in chapters 4 and 5 are not, by virtue of being repetitions, explicitly involved in clarification. That is, nothing in the repetition itself warrants its analysis as a clarification. Because they are repetitions, these repairs display an absence of ‘doing clarification’; they do not attempt to repair possible problems with person or object reference, nor do they substitute simpler words for more complex ones.

The research presented here is thus unique in examining the phonetic realizations of other-initiated repetition repairs. In the course of examining the phonetic structure of these repairs, an interesting interactional/sequential correlation was found. The collection of data examined in the present study suggests that the initiation of repair might be understood on an unofficial level (Drew 1995) as an assignment of blame, or fault, a larger collection; although not the focus of the research presented here, this collection of other-initiated repetition repairs does support his finding.
for the displayed problem in responding to the prior turn, and that the choice of phonetic pattern used on the repetition repair is responsive to this unofficial function. Once the lexico-syntactic choice of repetition has been made, another level of organization – phonetic – is employed to display the speakers’ understanding of who might be ‘at fault’ for the production of a trouble source: themselves, or the other. This understanding is itself grounded in the turn-taking and sequential organization at the time the trouble source turn was produced.

2.1.2 Linguistic implications of the study of repair

The study of repair in conversation has implications for the larger field of linguistics, especially in the areas of syntax, and phonetics and phonology. Research into repair has shown that its mechanisms are sensitive to a language’s syntax, and that repair provides ways to expand that language’s syntactic possibilities (Fox et al. 1996, Schegloff 1979). This work shows the importance of understanding the organization of repair, because that organization both affects the grammatical form a sentence can take, and shows how repair practices are implicated in organizing the syntactic ‘choices’ open to speakers. For example, Fox et al. (1996) show that the practices of repair make it possible for a speaker of English to create, responsive to sequential/interactional contingencies, a ‘spliced’ utterance. Such a ‘splice’ would be impossible according to a grammar organized without reference to repair. To date, however, this research has centered on self-initiated self-repairs.

The present research does not discuss issues of syntax (partly because the repairs are all repetitions, thus re-using the same syntax as the previous turn). Another level of linguistic organization that has been investigated in the realm of self-initiated self-repair – but not till now for other-initiated self-repairs – is the phonetic organization of repairs. Jasperson (1998), Jasperson (2002) describe the phonetics of closure cut-off (and to a lesser degree, pulmonic cut-off) in the production of self-initiated self repairs.
Jasperson (2002) suggests that the difference between pulmonic cut-off and closure cut-off may be phonological, but further investigation is needed into the sequential organizations in which each type of repair is instantiated.

2.1.3 CA investigations of repetition

Some work in the CA framework has looked at the function of repetitions (e.g., Schegloff 1996, Wong 2000b), and some at the responses to repetitions (Sorjonen 1996). In the research reported here, however, I focus on the phonetic realization of the repetition repair rather than the function of the repetition. The comparison of repairs realized by repetition to those realized by other means is left for another study.

Two studies in particular, Couper-Kuhlen (1996) and Klewitz & Couper-Kuhlen (1999), combine phonetic (prosodic) analysis with an investigation of repetition. Because these studies embody the dual analytic approach advocated and adopted by this thesis, they are discussed in section 2.3.

2.1.4 Summary

As we have seen, a fuller investigation of other-initiated repairs – on all levels, including their syntactic and phonetic organization – is warranted. Research to date has focused heavily on self-initiated self-repairs, finding much of value linking the organization and mechanisms of repair to other levels of linguistic (and interactional) organization. This study shows that affording other-initiated self-repairs the same research scrutiny is sure to be as rewarding.

For instance, research to date on repair has insisted upon a certain degree of autonomy between the organization of repair, and the source of the trouble. That is, the source of the trouble is not correlated with particular mechanisms for repairing the trouble. Certainly, some of the practices of repair differ:
Word searches take a different form than do misarticulation replacements. But word replacements take a largely undifferentiated form, whatever the considerations that have engendered the replacement of some part of the prior talk – whether errors in word selection, changes in what the talk is being used to do, recipient-designed shifts, etc.

(Schegloff 1987b: 217)

The work reported here supports this differentiation, yet also shows a relationship between the practices of other-initiated self-repair and the trouble source. This study shows that when the action pursued by the repeated turn is fitted, one phonetic pattern (the ‘non-upgraded’ pattern) is employed; when the action pursued by the trouble source is disjunct, another pattern (the ‘upgraded’ pattern) is employed.

Without the combination of phonetic and sequential analysis, participant orientation to this difference would be missed. Since both types of trouble are repaired by repetition, techniques which can compare and discover differences between superficially similar lexical items must be brought to bear. If researchers in CA truly believe that there is order at all points, order at the phonetic level cannot be assumed to be less interactionally salient than syntactic or lexical choice.

2.2 Phonetic investigations of repetition and ‘clear speech’

This section presents the findings of research on self-repetition and on so-called ‘clear speech’ phenomena. Repetition is an area that has been fairly well-investigated by researchers in both phonetics and psycholinguistics, and in computational studies. These studies and their shortcomings in light of the present work are presented in section 2.2.1.

The moniker ‘clear speech’ is often used as an antonym of ‘conversational speech’, embodying the prevalent idea that conversational speech is ‘sloppy’ (Nespor & Vogel

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3 The practice may only relate to self repetition; that is, trying to get some ‘same action’ done in a new sequential position.
1986) and ‘casual’ (Lass 1984). Experimental studies which investigate the phonetic correlates of clear speech are presented in section 2.2.2, which discusses their failure to generalize to the majority of the repairs in this study.

2.2.1 The phonetic correlates of repetition

Fowler & Housum (1987) is an early and oft-cited study comparing the repetition of a word to the first time it was uttered. This was done as a series of experiments in which words were excised from their surroundings and variously measured or presented to subjects in different tasks. The data came from a radio monolog, ostensibly used because “it was not, apparently, read, and the speech sounds spontaneous and natural” (p. 494).

One type of analysis performed was the comparison of the durations of first and second mentions of a word. Care was taken to ensure that the words were truly coreferential. The second mention of a word was found to be significantly shorter when compared to the first mention, an effect that has come to be known as ‘durational shortening’.

Another experiment tested the ‘intelligibility’ of a word by presenting (separately) first and second mentions to subjects, and asking them to write down what word they heard. Although overall intelligibility scores were very high (88% correct), first mentions – ‘new’ words – were more intelligible than second mentions, or ‘old’ words, at a statistically significant level.

Fowler & Housum (1987) also tested subjects’ ability to identify a word as old or new in the monolog upon hearing it excised from the context. The original word and its repetition were excised from the monolog and presented to listeners whose task was to label the words as new (first mentions) or old (second mentions). This task proved rather difficult, with only 60% correctly identified. However, the research does suggest that speakers have some knowledge about first and second mentions of a word.
Fowler and Housum had subjects listen to the recorded monolog. At set times, it was interrupted, and subjects were presented with two excised words. They were asked to judge whether either word had already been heard. One of the pair was either a word that had just been spoken before the monolog was interrupted (i.e., a new or first mention) or was that same word, but from a later point in the conversation (i.e., an old or second mention). The other word in the pair was a word related to whatever had been recently said in the passage. The old words – the repetitions – got higher scores than the new words (the first mentions). In other words, subjects more often picked the repetitions of the words than the exact word they had just heard, even though that was the set task.

Fowler & Housum (1987) suggest that the differences they found between the first and second mentions of a word may be related to what conversation analysts would call recipient design; that is, they suggest that by producing the second mention of a word differently (e.g., with a shorter duration), speakers alert hearers that this is the same entity as referred to before. Interestingly, though no evidence of phonetic analysis is presented, they refer to the less intelligible productions as 'reduced.'

Though Fowler & Housum themselves ascribe some communicative significance to differences in the production of repetitions and first mentions, their data comes from a fairly one-sided communicative setting. That is, rather than using data from a conversation, or even a scripted or semi-scripted dialog, their words were excised from a radio monolog – a performance. In fact, many studies of repetition adopt this paradigm, most likely to have control over the variables in order to construct a balanced experimental design. Several which do not (Bard & Anderson 1994, Sotillo 1997, Jurafsky et al. 1998) are discussed below, because interestingly their findings support (to some degree) those of Fowler & Housum (1987).

In the follow-up study to Fowler & Housum (1987), an even stronger argument is presented for the importance of communicative context. In Fowler (1988), three
experiments were performed to test the durational shortening effect. The first looked at shortening in (read) word lists, and found no effect – that is, repeated words were *not* shorter than the first mentions of words. In the second experiment, subjects read a paragraph aloud. Here, some durational shortening effects were found, but they were of a lesser magnitude than the findings of Fowler & Housum (1987).

The third experiment measured the duration of new and old mentions of the same referent in a spontaneous monolog compared to new and old mentions of words in a read passage. The durational shortening effect was greater for the spontaneous speech than for the read passage, supporting the findings of Fowler & Housum (1987), and strengthening the claim that the context in which the talk occurs affects the production of repetitions.

Although these findings were published 15 years ago, little attention appears to have been paid to the importance they attribute to the communicative setting. That is, although other studies have looked at various other speech situations – i.e., repetitions in dictated recordings (Bard et al. 1989), repetitions in child-directed speech (Bard & Anderson 1994), repetitions of function words in conversation (Jurafsky et al. 1998, Bell et al. 1999) – none investigate the activities the repeated utterances are involved in pursuing.

Several studies have built on and extended the findings of Fowler & Housum (1987) regarding durational shortening and/or loss of intelligibility in repetitions. Bard et al. (1989) performed experiments on repetitions from recorded dictations. This data consists of recordings made by businesspeople for later transcription by administrative assistants into letters, memoranda, etc. Bard et al. (1989) found that repetitions which were self-edits, i.e., were meant to replace the prior mention of the referent, were less intelligible than first mentions\(^4\).

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\(^4\)Again, intelligibility was measured by presenting the words, stripped from context, to subjects for identification, and comparing the percent correct on repetitions to the percent correct for first mentions.
Bard et al. (1989) found, however, that a distinction between new and given information influences the intelligibility of a repeated word. Words which introduced a new entity to the discourse, yet were homophonous with previous words, were more intelligible than repetitions of words which were coreferential with their first tokens.

Bard & Anderson (1994) investigates talk produced in adult-child interaction. Even here, effects of durational shortening and loss of intelligibility were found, although such ‘degraded pronunciations’ might be especially difficult for a young language learner to decode. It is interesting to note, however, that notwithstanding a significant difference between the two scores, only 57.5% of the first mentions were identified correctly, compared to 43.5% of the repetitions. Furthermore, these are the scores of adult listeners, attempting to identify the words stripped from context, and given no information about the function of the utterance in which the words were first produced. Whether the children to whom the words were originally directed had trouble understanding and responding to the utterances is not reported.

Shields & Balota (1991) reproduces the findings of Fowler & Housum (1987) but ignores the caveat in Fowler (1988) regarding the importance of communicative context. This experimental approach creates a highly artificial situation, with no communicative import at all. Subjects read sentences to themselves, and then produced the same sentence, changing the verb tense. That is, a sentence such as *Her cat chases our cat* would be silently read by the subject, then that subject would produce, for recording, *Her cat chased our cat*.

In this study, the durations of the repeated words were not compared to the first mentions. Instead, the set of sentences was constructed so that sets of repetitions, ‘associatively related’, and unrelated words could be compared:

- *Her cat chases our cat*$_r$
- *Her dog chases our cat*$_a$
- *Her son chases our cat*$_u$
The durations of the target words (e.g. cat) in the three conditions — repetition, associated, and unrelated — were compared, rather than comparing cat, with cat. The repetitions were produced with shorter durations than either the associated or the unrelated words, supporting other findings on repetition with a very different kind of data.

Shields & Balota (1991) also investigated the amplitude of the target words. The amplitude was measured as the peak amplitude of the primary vowel, and was compared to the amplitude of the previous stressed word. The amplitude of repetitions was less than the previous stressed word, thus quieter. This lower amplitude is perhaps part of the loss in intelligibility reported in other studies of repeated words, though Shields & Balota do not suggest this.

Hawkins & Warren (1994) counter the reliance on the given/new distinction on the shortening and/or reduction of words, and instead present evidence that it is instead accent (or stress) which influences these processes. They argue that first mentions of referents are likely to be accented, as they are new information, and that subsequent mentions will be unaccented. This, they argue, explains the findings that second mentions — old information — are shorter, and 'reduced' (cf. Bard et al. 1989, who also acknowledge that focus and sentence accent are likely to play a role in the increased intelligibility of their repeated-but-non-coreferential tokens). This work represents an early, and it seems nearly singular, attempt to investigate the phonetic underpinnings of the reported losses in intelligibility associated with repetitions. The other studies mentioned above make no mention of controlling for stress on the repetitions or first mentions of words.

Sotillo (1997), however, addresses and discounts Hawkins & Warren (1994)'s claim that accent or stress, rather than the new/old information distinction, accounts for the differences in duration and intelligibility. She reports that in her data (problemsolving dialogs from the MapTask corpus) second mentions of content words (i.e. place names from the maps each subject is describing to the other) are not unaccented, yet
she still finds durational shortening and loss of intelligibility for these repetitions.

Sotillo (1997) also reports that losses in intelligibility are difficult to explicitly relate to phonological reduction processes. That is, she finds that, e.g., assimilation does not reliably occur in every instance of repetition; similarly, not all vowels in repetitions are more centralized (schwa-like).

These studies differ from the research presented in this thesis in that they all rely on statistical measures of significance, rather than adopting a qualitative approach. The quantitative approach taken in these studies is found, based on the research reported here, to paint the phonetic realization of repetitions with too broad a brush. That is, not only are all repetitions not shorter than first mentions, but those that are not all share a common function. The cases which are statistically insignificant in the above studies may also all share, as Fowler (1988) puts it, a common communicative context; if examined on a sequential basis, we might find they all perform similar actions, thus explaining their differences regarding durational shortening and ‘reduction’.

Unlike all the previously discussed work, which concentrated on content words, Jurafsky et al. (1998) and Bell et al. (1999) look at the reduction of function words (e.g., a, an, the, that) in conversation. This work is of interest to the research presented here because it reports directly on the ‘reduction’ of repetitions.

Jurafsky et al. (1998) and Bell et al. (1999) both include repetitions of function words under the heading of so-called planning problems – whether the speaker was having difficulty in production. This subsection of their analysis, then, examines the effects of self-repair on subsequent mentions of the same words. They find that before a repetition, a function word is likely to have a full form (i.e., not be reduced) and be longer in duration. That is, the first the in The the one over there is likely to have a full vowel, and be longer than the second the.

These last two studies thus widen the database investigated for repetitions to that of conversation, and consider an entirely different class of words. However, these
studies are somewhat difficult to compare to other work on repetition.

First, they group repetitions together with other planning problems, which include pauses and the use of *um* and *uh*. Thus, it is impossible to know how repetitions alone behave. Note also that the results report an effect on the first word of set of repeated words – that is, the effect is not that the repetition is reduced and shortened; rather the word preceding the disfluency (which could be a repetition) is likely to have a full form, and likely to be longer in duration than the repetition. The likelihood that words following disfluencies – i.e. repeated words – will be reduced is not reported.

Second, their distinction between full and reduced forms is not altogether clear, nor necessarily relatable to intelligibility. They classify [u] as a full form of the word *it*, but [ɔt] as a reduced form. Similarly, [i] is classed as a full form of *of*, but [ɔv] is reduced. In other words, only the centrality of the vowel is considered when classifying a word as full or reduced.

To compare Jurafsky et al. (1998) and Bell et al. (1999) to other work on repetitions, it would be necessary to relate their full and reduced forms to more and less intelligible forms. It does not seem likely, however, that [i] (a full form) presented to subjects out of context would be more often correctly identified as the word *of* than [ɔv] (a reduced form). Therefore, Jurafsky et al. (1998) and Bell et al. (1999)’s ‘reduced’ words may not be comparable to the less intelligible repetitions reported in other studies (cf. Sotillo 1997).

### 2.2.1.1 Summary

Work on repetition has shown that repeated words are subject to durational shortening, and are less intelligible than the first mentions of the same words. Attempts to relate the loss of intelligibility to reduction processes, however, have not been entirely successful. Research which shows shortening and loss of intelligibility for repeated words is taken to provide evidence of less effort expended in articulation. The idea of
least effort is in line with Lindblom (1990)'s theory of hypo- (versus hyper-) articulation, discussed further in section 2.2.3.

2.2.2 The phonetic correlates of 'clarification'

A small body of experimental phonetic work has investigated the speech of people instructed to speak 'clearly.' The phonetic correlates of 'clear' speech are of interest to this study, because nearly all the repetition repairs in the collection are produced in response to an open-class (i.e., non-specific) request for repair. That is, one possible trouble the repair might be responsive to is trouble in hearing. If so, matching the phonetic correlates of clear speech to the phonetic exponents of the repetition repair would support the claim that repetition repairs are involved in 'doing clarification'.

Picheny et al. (1985: 97) found that read nonsense sentences were more intelligible (to sensorineurally impaired listeners) when the readers were told to "enunciate consonants more carefully and with greater effort than in conversational speech and avoid slurring words together." This 'clear speech' was also found to have longer durations than the corresponding 'conversational speech' style.

Although some acoustic measurements were reported in Picheny et al. (1985) (e.g., consonant intensities for clear speech were greater than those in conversational speech), more acoustic work on the same database is reported in Picheny et al. (1986), Picheny et al. (1989), and Uchanski et al. (1996). In 'clear' speech, the average speaking rate decreased from 160-200 words per minute to only 90-100 words per minute.

Picheny et al. (1989), and Uchanski et al. (1996) manipulate the duration of recorded speech in an attempt to isolate the effects of speech rate on intelligibility. Speeding up and slowing down both varieties of speech (clear and conversational) had a negative effect on intelligibility, as did manipulating the durations of individual segments. Although neither Picheny et al. (1989) or Uchanski et al. (1996) say as much, this inability to increase intelligibility through manipulation of duration alone points to
the necessity of manipulating other phonetic parameters along with changes in tempo.

Picheny et al. (1986) report that no dramatic differences were found in the fundamental frequency (F₀), although somewhat higher F₀s and wider ranges were found in the clear speech condition. Bradlow et al. (1996), however, reports that intelligible speech uses a wide F₀ range, as do Bond & Moore (1994).

Together, Picheny et al. (1986) and Bradlow et al. (1996) report that clear speech has:

- Less vowel reduction (Picheny et al. 1986 found that conversational speech has twice as much reduction to [a] than clear speech)

- An increased vowel space (Bradlow et al. 1996 suggests that for American English, the high/low distinction in vowels may be more salient than the front/back distinction)

- More aspiration and release of consonants (Picheny et al. 1986 found that in conversational speech, stop bursts are not released when followed by a consonant with a different place of articulation in 60% of possible cases; only 15% of the possible cases in clear speech are not released)

- Longer segmental durations

- Greater intensities for obstruents, especially stops (i.e., clear speech is louder)

These characteristics are not unexpected. They fit our expectations, both as lay conversationalists and as linguists, about what clearer speech would be like. In this regard, it is important to note that the subjects in the experiments were in artificial situations. In work by Picheny et al., subjects were instructed to speak clearly when recording one set of stimuli later presented to another group of subjects for intelligibility judgments. Bond & Moore (1994) and Bradlow et al. (1996) analyze the phonetics
of sentences judged to be highly intelligible; these sentences were all read in a laboratory setting, surely not a natural activity.

Bond & Moore (1994) report on the characteristics of what they call inadvertently clear speech. That is, their talkers were not instructed to read the test sentences particularly clearly (nor particularly ‘conversationally’, it should be added). They found that intelligibility scores for one talker, however, were much lower than those for the other four talkers they scored. They report that this speaker did not use any of the above listed characteristics of clear speech: he had undifferentiated, schwa-like vowels, little pitch movement, and short segmental durations. They argue that their results show that clear speech has the same phonetic characteristics whether it is deliberate or not.

Whether speakers are instructed to speak clearly, or are doing so ‘inadvertently’, they are, nonetheless, producing talk which other subjects found to be highly intelligible (or at least more intelligible than other talk). If the phonetic correlates of this activity—which we can gloss as ‘speaking carefully’—were found in the repetition repairs, this would be strong evidence that the function of such repairs was clarification.

The phonetic differences between trouble source turn articulations and repetition repair productions, however, do not correspond to the differences between clear and ‘conversational’ speech noted by Picheny et al. (1986), Bond & Moore (1994) and Bradlow et al. (1996). By not displaying these phonetic correlates of clear speech, the repetition repairs examined in this research show how our intuitions about what activity an utterance is performing may not correspond to the activity displayed and oriented to by the participants themselves.

2.2.3 Summary

Phonetic work on repetition often takes Lindblom’s (1990) H & H theory as a starting point. Lindblom claims that speakers will use the least effort possible in articulating their utterances while still making the utterance understandable. As with
other motor systems, the articulatory system is presumed to default to the lowest-cost behavior. Utterances are therefore assumed to be less carefully, or hypo-articulated, whenever possible. Research on repetition suggests that speakers use this default setting when they repeat words with shorter durations, and less intelligibly (where less intelligible equals more reduced): i.e., with least effort.

The ‘whenever possible’ clause is important in H & H theory, however. Lindblom claims that speakers are extremely hearer-sensitive, and that they will select the most discriminable phonetic forms based on their estimation of listener knowledge. Thus, if a listener is assumed to have little or no knowledge of a referent, and/or a referent is unpredictable from the context, the utterance will be precisely articulated, regardless of the ‘cost’ to the motor systems. This is called hyper-articulation, and is supported by the findings on speakers attempting to produce clear speech.

The H & H theory neatly sums up the competing predictions made by work on repetition and work on clearer speech. Each suggests a different outcome for the production of other-initiated repetition repairs. On the one hand, H & H theory and the research cited in section 2.2.1 predicts that all the repairs would be hypo-articulated. A speaker need not exert more effort to repeat something already said.

On the other hand, Lindblom (1990) notes that there are output constraints on speech. That is, speakers must take listener knowledge into consideration. Therefore, it is just as logical to predict that all repetition repairs would be hyper-articulated, because they are responses to a display by the listener that he or she requires ‘help’ in producing a response to the prior utterance. This prediction would be supported if it is found that the repetition repairs share the phonetic correlates of clear speech as described in section 2.2.2.

Neither of these predictions or intuitions are borne out when we examine real-life conversational data, however. Repetition repairs show either ‘reduction’ processes or closer approximation of stops and fricatives than in the trouble source turn – and
sometimes both at different locations within the same utterance; some repetitions are louder, but many are quieter; some are produced with longer durations on the same words, and some with shorter; some have a compressed pitch range relative to the prior utterance, while some are expanded.

These findings, however, do not mean that the phonetics of repetition repairs vary randomly. Rather, differences in the aforementioned phonetic parameters are distributed systematically according to the place in the structure of the conversation where the trouble-source turn occurs.

If the trouble source turn is disjunct (i.e., violates the turn taking organization, or is not a relevant next action in the sequence-so-far) the repair is produced with the 'non-upgraded' phonetic pattern. This pattern exhibits some 'durational shortening', but is not oriented to as less intelligible. In fact, all repairs in the collection\(^5\), regardless of the phonetic pattern employed on the repetition, are oriented to as intelligible – the recipient displays understanding, accepts the repair, and the sequence suspended by the repair initiation is continued.

If the trouble source turn is fitted (i.e., is a sequentially relevant next action, and placed appropriately according to the turn-taking practices described by Sacks et al. 1974), the repair is produced with the 'upgraded' phonetic pattern. This pattern is most likely what Lindblom (1990) had in mind when he describes hyper-articulation; additionally, these utterances exhibit some of the characteristics of clear speech listed in section 2.2.2 – they are e.g., louder, and have longer durations than the trouble source turn.

This study of repetitions occurring in talk-in-interaction suggests that predictions based on the findings of experimental studies and research which does not explicate the

\(^5\)Except one, where it becomes clear that the problem is one of reference. The trouble source turn refers to loft as a type of bed, a use of the word the recipient claims lack of familiarity with later in the post-repair sequence.
activities performed by the talk are only partially helpful in understanding the use of language in everyday conversation. The findings of research carried out on artificial databases, or within a purposefully constrained context, are likely to be restricted to the specific environment created by the design of the research. At the very least, we have no reason to believe that these results can completely address the varied phenomena in everyday conversation; in fact, this study points to just the opposite conclusion.

The next section presents research which combines the methodology of CA and phonetic analysis. This research takes its data from naturally-occurring conversation, and investigates displays of participant orientation to systematic differences in the phonetic parameters manipulated to accomplish different activities.

2.3 Combining sequential and phonetic analyses

The subfield of research combining phonetic analysis and the sequential analysis of talk-in-interaction was pioneered by John Local and colleagues in the 1980s. French & Local (1983), Local et al. (1985), Local et al. (1986) are some of the earliest works advocating focusing on interactional categories, investigating their general phonetic characteristics (i.e., intonation, rhythm, tempo, modes of phonation, degree and manner of oral occlusion, Abercrombie 1965), and abstracting a phonology of conversation from the observable regularities and systematicities between these two levels of organization.

French & Local (1983)\(^6\) show that when speakers use a combination of the features high pitch and increased loudness (\(< h + f >\), for high and \textit{forte}, louder) in overlapping talk, such overlaps are treated by other parties as competitive attempts to take the floor. The four pieces of evidence they provide as support for this analysis all involve careful attention to the way that the co-participants orient to the use (or absence)

\(^6\)Slightly revised in French & Local (1986).
of \(< h + f >\).

First, \(< h + f >\) is sustained only until the current turn occupant drops out – that is, until the ‘interruption’ is successful. Second, turn occupants either upgrade or downgrade the prosodic properties of their own speech; that is, they do not continue speaking with the same loudness, pitch and tempo as before the overlapping talk, which they do when that overlapping talk is not produced with \(< h + f >\). Third, turn-yielding is performed differently in the environment of incoming talk that is low-pitched, and quieter than it is in the environment of \(< h + f >\) incoming talk. Fourth, speakers use increased loudness alone to continue an incomplete turn in the face of overlapping talk. That is, rather than using \(< h + f >\), which displays a competition for a turn not secured by incoming speaker, these speakers use loudness only to display the continuation of a turn only momentarily suspended.

This research exemplifies the use of sequential analysis to show that participants themselves orient to the use of particular phonetic features – in this case, using them to ‘do interrupting’. This is the value of combining the principled, data-driven approach of Conversation Analysis with phonetic analysis: researchers need not rely on their own intuitions, or on judgments provided by parties not present (or involved) in the original production and interpretation of utterances to prove analytic points; instead, they can show how the people participating in the talk analyzed, understood, and responded to the proposed categories.

Local et al. (1985), Local et al. (1986), Wells & Peppé (1996), Wells & Macfarlane (1998) and Walker (2001) also combine detailed phonetic analysis with sequential analysis. These studies focus on the phonetic events surrounding the orderly exchange of turns in several different dialects of English. This work provides detailed phonetic analysis of not only the intonational marking of possible completeness of a turn (cf. Ford & Thompson 1996) and how turns are continued, but also of the importance of other phonetic parameters, e.g. vowel quality and duration of the last foot of the utter-
ance (Local et al. 1986).

Other investigations of the relationship between turn-taking and phonetic expo-
nency have also moved beyond considering only intonation (pitch). Local & Kelly
(1986) describes the use of held glottal stop articulations to ‘hold’ a turn over a possi-
ble transition space; that is, when phonation is cut off by means of a glottal stop at what
is a possible transition relevance place, other participants routinely do not begin a new
turn, thus displaying an orientation to the turn-holding function of this particular bit of
phonetic production. Ogden (2001) describes, for Finnish, the use of creaky phonation
for turn yielding, and the use of glottal stop for turn holding (in the same manner as
described by Local & Kelly 1986 for English).

Local (1992) investigates the phonetic resources used to display continuation
(vs. re-start) of a turn after the insertion of ‘parenthetical’ material. Speakers are
found to use pitch, tempo and loudness features to display continuation after such
self-interruptions, and after co-constructed episodes of talk that are begun by turn-
competitive incomings.

Turn projection is not the only aspect of conversational organization that has been
investigated by researchers interested in combining phonetic analysis with CA. Local
(1996) describes the phonetic details which discriminate among several different se-
quential placings of the news receipt oh. Pitch movement, voice quality, glottalization,
and vowel quality are intertwined with lexical and sequential design in determining
how this news-receipting particle is treated by other parties, as evidenced in how the
sequence continues. For example, free-standing oh is oriented to as sequence terminat-
ing. These ohs differ from the realization of e.g., ohs + assessments, such as Oh that’s
wonderful. Free-standing ohs all have a falling dynamic pitch movement, whereas oh
+ assessment may not have any associated dynamic pitch movement; free-standing ohs
may or may not begin with a glottal stop ([ʔ]), whereas all of the oh + assessment tokens
in the collection begin with [ʔ].
Along with showing how the sequential placement of a word token or utterance can shape the phonetic form it will take, Selting (1996) shows that the phonetic form with which an utterance is produced may shape the following sequence. Selting shows that for other-initiations of repair which are lexically identical (e.g., bitte), the systematic use of clusters of prosodic cues differentiate between whether the repair initiator is responded to with a repair, or treated as a problem of expectation (what she calls a display of ‘astonishment’).

Work by Elizabeth Couper-Kuhlen has described many more activities in which the manipulation of some phonetic parameter plays a role. Her earlier work (Couper-Kuhlen 1993) focused on investigating rhythm and tempo, including their role in ‘interactive repair’ (Couper-Kuhlen 1992). She claims that repair initiations are rhythmically integrated (i.e., come in neither early nor late) with the prior turn when the problem is one of hearing. Differentiation of the kinds of problems which cause trouble is described rather anecdotally, however. Repairs initiated by the token pardon combined with a high-rising intonation pattern are said to signal an ‘acoustic mishearing’. The repairs of these ‘hearing problems’ are found to have slower tempo, and again it is said that “it is the special ‘acoustic’ nature of hearing problems which appears to be responsible for how talk is paced in resolving them” (Couper-Kuhlen 1992: 350).

Couper-Kuhlen (1992) reports that the resolution of non-hearing problems is accomplished by accelerated tempo, and occurs after repair initiations that are not rhythmically integrated. Reservations about the possible circularity or reliance on intuited categories of hearing vs. understanding problems aside, this work shows repair sequences can be co-constructed by participants to arrive at a display of a shared understanding of something previously shown to be a trouble source for one of the parties to the talk. The study presented in this thesis is entirely in agreement with the claim that

...the way a problem is handled interactively – whether as a routine trouble or as a face threat instead, and in the latter case how the so-
cial roles of offender and offended are assigned – is collaboratively achieved over time.

(Couper-Kuhlen 1992: 361)

This characterization of the way that phonetic form interacts with repair resolution is revisited in Chapter 6.

In Couper-Kuhlen 2001a,b, the use of prosody in reason-for-call turns is investigated. Early research in CA noted the sequential organization of phone calls generally includes, after identifications and the exchange of greetings, a ‘slot’ for the declaration of the reason behind the call (Schegloff & Sacks 1973). The same is true for calls to a radio phone-in program, in fact in a much more condensed version. In such data, the reason-for-call generally occurs immediately after the greetings.

Couper-Kuhlen (2001b) finds that when callers use high pitch on the onset syllable of their utterances, the radio show host does not begin a turn at the first transition relevance place; rather, he appears to respect the use of high onset pitch as marking out the beginning of a larger unit-in-progress. When such high onsets are not employed by the caller, the host usually responds with an acknowledgement token (or continuer, see Schegloff 1982). Additionally, turns lacking high onset pitch are not treated by either participant as being the reason for the call; rather, they are treated as preliminaries to that particular activity. These findings are also extendable to non-institutional (i.e., family) interactions, as shown in Couper-Kuhlen (2001a).

Other work (Couper-Kuhlen 1996, Klewitz & Couper-Kuhlen 1999) looks at the phonetic correlates of talk understood as quoting or as mimicking. These studies take the (later) repetition of another’s talk as their data. Klewitz & Couper-Kuhlen (1999) looks at the prosodic marking of reported speech, i.e., ‘repetition’ of another’s talk from a different interaction. Such reported speech is often marked off from other talk by manipulation of global pitch (range), loudness, speech rate, isochronous timing, nasality, and voice quality.
Couper-Kuhlen (1996) looks at immediate repetitions of another participant’s talk, and finds that relative register (or pitch range) matching is generally responded to as a quotation, presented for confirmation from the original producer of the utterance. Repetitions with absolute pitch matching, however, are responded to as humorous, i.e., mimicking, utterances.

This study in particular argues for the need to employ a certain level of sophistication in the investigation of phonetic parameters. That is, despite the proliferation of easy-to-use speech analysis software, researchers need a basic understanding of the concepts behind the output of such machinery. The differences between ‘relative’ and ‘absolute’ pitch matching rely on an understanding of the measurement of the frequency of the human voice, and its relationship to physiological (and perhaps cultural) factors. For example, absolute pitch matching is observable from the raw Hertz values of the talk, but relative pitch matching is not. When the measurements of the original utterance and the quotation were converted to a common baseline and arranged on the perceptual scale of semitones, however, the similarity in range between utterances produced by e.g., a female and male speaker became quite clear. That is, quotation can be accomplished by matching the excursion one speaker uses within one’s own range, rather than matching that other speaker’s actual values. The difference between matching another’s absolute pitch vs. relative pitch matching correspond to different treatment by the recipient – the difference between being mimicked, and being quoted.

Szczepek (2001) investigates displays of prosodic orientation by one speaker to another, and finds evidence of matching of intonation contour, pitch jump, pitch register (or range), volume, speech rate, and voice quality. She attempts to investigate the matching of what she calls phonetic sound production, but admits to problems in its demonstration. What would constitute a “noticeable orientation towards the sound production of another speaker” is not entirely clear. For instance, the production of different words would necessitate the production of different sounds; how closely these
could match those employed by another speaker may be constrained by the choice of lexical items. This study of self-repetitions, however, resolves this problem by comparing repetitions of a speaker’s own talk (in a different sequential location), and presents evidence of matching and non-matching of the speaker’s own prior articulations (e.g., in place and manner).

Showing how one turn is or is not responsive to the prior turn, and what understanding of the prior it displays, is of course a primary tool of CA methodology. Therefore, Szczepk’s (2001: 15) claim that high falsetto communicates great enthusiasm needs backing up with evidence of participant orientation to such enthusiasm. The use of handy, but ultimately misleading labels such as ‘annoyed’ and ‘frustrated’ should not become shorthand for the analysis of participant displays of understanding (cf. Cruttenden 1986, Ladd 1996).

Like the collection analyzed in this thesis, Tarplee (1996) also looks at repetitions. Her data, however, is other-repetition, and comes from adults’ repetitions of children’s attempts at labelling pictures from a book. She finds that repetitions which have maximally different pitch contours from that used by the child (e.g., child uses low fall, adult repeats with high fall-rise), are temporally delayed in the transition relevance space, and which have strongly contrasting articulations\(^7\) result in continued attempts from the child to name the picture. Repetitions with no delay, and minimized contrastivity both of pitch and articulation, lead to continuation of the activity, with both child and adult moving on to label another item. Again, this work shows that fine phonetic details of talk are associated with different trajectories for the subsequent talk.

\(^7\)See Tarplee 1993 for a more detailed account of the differences in place and manner of articulation.
2.4 Summary

This chapter has argued that examination of only the interactional sequence, or only the phonetic realizations of *ad hoc* categories of data, neglects (or worse, obscures) the interrelationship of the phonetic structure of the talk and the sequential unfolding of the interaction. This chapter has shown how studies which ignore either the phonetic structure of utterances, or the sequential environment in which they are produced, does not provide as full an account as possible of the events taking place.

Section 2.3 presented the findings of a large and growing body of research which has shown that clusters of phonetic events co-occur with particular interactional activities. Thus, sequential analysis alone (of the type summarized in section 2.1) may not entirely explain the categories relevant to participants in talk-in-interaction. For instance, work by Local (1996) shows that additional levels of detail can be found by applying phonetic analysis to different interactional uses of the particle *oh*. Tarplee (1996) and Couper-Kuhlen (1996) also show that what appear to be ‘the same’ actions, repetitions of talk by other speakers, are differentiated by the phonetic organization of the repetition. Participants displayed different orientations to ‘the same’ activity; impressionistically and instrumentally trained phoneticians can clearly and accurately describe the systematic differences between such turns.

Likewise, section 2.2 shows that phonetic work on analyst-constructed categories such as ‘repetition’ and ‘clear speech’ makes opposing predictions about the realization of repetition repairs, with the result that neither set of predictions is fully supported by the data analyzed here. The abstraction of phonetic patterns from a collection of phenomena deemed by the analyst to be ‘the same’ may obscure the dissimilarities among the cases. Analyses based only on external factors (e.g., lexis in the case of repetitions), rather than the activities performed by the utterance in which the repetitions are embedded, are argued to lead to misleading hypotheses about the phonetic practices involved.
in a particular, sequentially-organized bit of talk.

By providing evidence that the choice of phonetic pattern employed in producing a repetition repair is a display of participants' awareness (not necessarily conscious, see Drew 1995) of the type of sequence underway, this thesis builds on the work presented in this chapter, and emphasizes the importance of combining sequential analysis with linguistic (i.e. phonetic) analysis.
Chapter 3
Methodology

This section details the methods used in the analyses presented in chapters 4 and 5. In section 3.1, the database used to build the collection is described. Details are given of how the fragments were transcribed and prepared for analysis, and the criteria for selecting 'repetitions' are given. Section 3.2 outlines the methodology of Conversation Analysis, which is the approach to sequential interactional analysis used in the research. Turn taking practices, adjacency pair and preference organization, and deviant case analysis are explained. Section 3.3 details how the phonetic parameters of loudness, pitch, duration, and articulation were analyzed, and section 3.4 summarizes the chapter.

3.1 The data

The data used in this study come primarily from the Callhome corpus of American English. Callhome is a corpus of telephone calls between family members and friends, collected in the late 1990s as part of an unrelated research project on speech recognition. The corpus was made available through the Linguistic Data Consortium.

Participants were recruited in the United States via the internet, advertising, and word-of-mouth. They were given a free 30-minute phone call anywhere in the world, with the only stipulation being that both callers be native speakers of American English. The telephone calls in the corpus were recorded in stereo, with separate channels for
each speaker, and are of a high audio quality overall.

Over 50 calls, totalling 25 hours of talk, were used to compile the collection of 78 fragments used for this study. Some conversations did not yield a single instance of other-initiated repetition repairs; others contained as many as 10. Each repair sequence and surrounding context was copied from the CD-ROMs into separate WAV files using the Praat software program\textsuperscript{1}. Praat preserves the dual channel recordings, but also has the capability of playing both channels at once. Because of the dual channel recordings, speaker overlap can be timed and described in fine detail.

Once the fragments were located in the recordings and copied into separate sound files, transcriptions were prepared. The following section provides information on the transcription conventions.

3.1.1 Data preparation

The transcripts of the calls provided with the corpus were not of a suitable quality for this study. The use of time-stamping to mark each utterance obscured the sequential order of speakers. The start and end time of each utterance (identified on syntactic grounds or by time – any silence of more than 0.5 seconds was deemed ‘utterance-bounding’) was noted for use in the automatic recognition of overlapping talk, but the absence of any visual indication of overlap makes such a transcription system quite difficult for manual searching by human users. Therefore, the calls were listened to and repetition repair sequences identified by ear. These sequences were then transcribed by the author, according to the following conventions.

As much as possible, normal orthography was used. Because the speakers’ actual productions of words and phrases such as going to and because sounded so different from what the ‘normal’ orthographic forms imply, commonly known (American) col-

\textsuperscript{1}The Praat system for phonetic analysis of speech is available for download free at www.praat.org.
loquial spellings such as *cuz*, and *gonna*\(^2\) were used.

Stress is not marked in the transcripts, though extremely loud talk is represented with capital letters. Intonation is sporadically marked in the transcripts, using the symbols noted below. Where important for the analysis, and for the specific turns at talk under investigation in this research, full phonetic descriptions of the pitch ranges and intonation contours are given. The remaining transcription conventions are given below.

\[\begin{align*}
.h, .hh & \quad \text{Inbreath (each [h] represents 0.1 sec)} \\
h, hh & \quad \text{Outbreath (each [h] represents 0.1 sec)} \\
: & \quad \text{Sound ‘stretch’; each [:] represents 0.1 sec} \\
(,) & \quad \text{Micropause (less than 0.2 sec)} \\
(0.3) & \quad \text{Timed pause (equal to or greater than 0.2 sec)} \\
[ & \quad \text{Beginning of overlapping speech} \\
] & \quad \text{End of overlapping speech} \\
= & \quad \text{Latching between two turns or words within a turn} \\
> < & \quad \text{Words between the symbols are at a faster tempo than surrounding talk} \\
? & \quad \text{Tal at a much lower volume than surrounding talk} \\
; & \quad \text{High rising pitch} \\
. & \quad \text{Level pitch} \\
( & \quad \text{Falling pitch} \\
( & \quad \text{Transcriber doubt} \\
((clank)) & \quad \text{Labels for non-speech sounds}
\end{align*}\]

Table 3.1: Transcription conventions

The use of plain transcriptions reflects the methodological stance of approaching the data with as few preconceptions as possible. Because of the extent of phonetic analysis that would be carried out on the talk, the transcripts only needed to capture the words and the sequential ordering of the talk. The plainness of the transcripts highlights the inadequacy of mere transcriptions (however detailed) as a substitute for the actual talk, captured on the recordings.

The choice was made to adopt neither traditional CA transcriptions of intonation,

\(^2\)The *-na* spelling was used for many combinations of verb + particle or verb + article
nor phonological transcription systems for intonation (e.g., ToBI, Silverman et al. 1992, Beckman & Ayers 1994). Such systems are limited in what aspects of intonation they capture, and how they are represented. The CA transcription system for intonation consists of approximately four symbols for turn-final pitch, and the use of up- and down-arrows for intra-utterance pitch changes. The most commonly-used markings of turn-final intonation are rising [?], falling [.], level [;], and ‘continuing’ [,] (Atkinson & Heritage 1984: xi). These symbols do not indicate where in the preceding turn the pitch began to move; just over the final word? the final syllable? over the entire utterance? Nor is any indication given in the transcription system of the relative placement of one rise or fall to another; that is, how much rise is needed to warrant a [?]? How level must an utterance be to warrant the use of a [.]? Of course, transcription is an art rather than a science, but using plain transcripts and relying on recordings of the talk supplemented by post-analysis presentations of the relevant parameters of pitch, tempo, duration, etc. is perhaps the wiser choice.

The ToBI system also makes categorical assumptions about the tones used to mark functions of utterances. This style of transcription consists only of high and low tones (transcribed as H and L) with additional indications of where they are located within an intonational phrase – on the accented word (the pitch accent, i.e., H*), on the intermediate phrase (a sub-unit within an intonational phrase, i.e., L-) and on final pitch of the intonation phrase (the boundary tone, i.e., L%). Because of its phonological approach to intonation – the claim that intonation contours are linguistic and categorical, unlike other manipulations of pitch which are paralinguistic and gradient – the ToBI system was not used to transcribe the data collected for this study3. Rather, this thesis follows the CA maxim expressed in Heritage (1984b: 22) that “no order of

detail in conversational interaction can be dismissed *a priori* as disorderly, accidental or interactionally irrelevant", and attempts to relate interactional categories to phonetic exponents. In this way, the thesis arrives at an analysis grounded in the data, and one that is demonstrably relevant to the participants as well.

This thesis shows that a parameter not reflected by either of these transcription systems, that of location within a speaker’s pitch range, correlates with the function of a repetition repair. Neither the intonation symbols employed in the CA transcription system, nor those of the ToBI transcription system, would have captured this difference⁴.

### 3.1.2 Criteria for inclusion in the collection

This study investigates the phonetic properties of other-initiated repair turns, and compares them to the phonetics of the trouble source turns. Therefore, only repairs that were lexical repetitions of the trouble source were selected for analysis. In this way, some of the variability certain to occur with naturally occurring talk could be controlled. For instance, since the two turns were heard as ‘the same words’, we would expect them to have similar articulations, similar durations, and so on. Any differences between the two productions can then be described in a principled way, by reference to the first utterance, the trouble source turn.

Repetition repairs are a special kind of response to a request for repair. As Schegloff et al. (1977), Schegloff (2000b), Drew (1997) (among others) have shown, the production of a next-turn-repair initiator (NTRI) is often the harbinger of an upcoming dispreferred pair part, or other disaffiliative action. The recipient of an NTRI, however, has the option of changing or modifying the trouble source turn in some way, to perhaps prevent the disaffiliative action projected by the NTRI from occurring. In repetition re-

⁴In Chapter 6, I consider the ramifications of this finding for this phonological approach to intonation, and the distinction (or lack thereof) between paralinguistic and linguistic manipulations of phonetic parameters.
pairs, however, not only do speakers not modify the trouble source turn, they persevere
with the activity pursued or begun in the trouble source turn, by the very fact that they
pass on the opportunity to do anything else.

Exact repetition repairs proved not to be particularly common in the corpus, al-
though their rate of occurrence was highly variable from call to call. In the initial stages
of data collection, both exact repetitions and ‘near repeats’ were gathered. Some of
these boundary cases of repetition (Schegloff 1997a) were eventually incorporated into
the collection and subjected to analysis; others were not. The collection has 45 cases of
exact lexical repetitions, 17 repetitions with additional items, and 17 repetitions with a
lexical item omitted5.

Exact lexical repetitions were of course easy to identify. One of these repetitions
is given in fragment 4. Arrows point to the trouble source turn, NTRI, and repetition
repair.

(4) FRIEND 4838CHAm

1 B: oh Vince is in one of my math classes=
2 A: =he i:s? that’s cool
3 (1.1)
4 B: "ye:a:h
5 (0.4)
6 A: ye:ah
---> 7 B: my friend’s name is Shelly
8 (1.4)
---> 9 A: what did you just say
10 (0.4)
--->11 B: my friend’s name is Shelly

In fragment 4, Speaker B repeats my friend’s name is Shelly after
Speaker A produces a request for repair, what did you just say (line 9).

Some fragments that were not exact lexical repetitions, but that either omitted or
added very little material were included in the collection. Repetitions were not included
or excluded from the collection based solely on the length of the added or omitted

5Two fragments have turn-initial particles which are omitted in the repetition, and turn-final additions;
therefore, the sum of the kinds of repetition is greater than the total number of fragments in the collection.
lexical material, however. The type of lexical items (i.e. verb, adjective, adverb) and their placement in the turn affected their suitability for inclusion.

Repetitions with added material were included because the trouble source turn was in fact repeated, albeit with some 'extra' material. The content of the extra material was carefully inspected to assure that it did not substantially add to (or subtract from) the content of the turn. That is, repetition repairs with additional lexical material that changed the action pursued by the trouble source turn were excluded from the collection (see below for examples).

Turn-initial *I said* plus repetition of the trouble source turn was found in only five fragments in the corpus, and all these were included in the collection. Also, three fragments which have additional turn-constructional units (TCUs) appended after a lexical repetition of the trouble source turn were included in the collection. After their production, these additional TCUs do change or modify the action pursued by the repetition repair. However, they are placed after a beat (or more) of silence, making it possible to include the lexical repetition portion of the turn in the analysis.

Another type of addition that was deemed acceptable were the adverbs *really*, *only*, *also*, *anyway*, *now*, *sometime*, of which the first three (*really*, *only*, *also*) occurred turn-medially and the last three (*anyway*, *now*, *sometime*) occurred turn-finally. Although these items certainly can change the activity pursued in a particular turn, it was determined that they did not do so in the fragments chosen for inclusion. An example of one of these fragments is given below. Arrows point to the repair sequence.

(5) SKILLS 4861CHAm (transcript simplified)

```
 --> 1 B: Lizzie everybody feels that w[ay who's worth hi]s salt
 2 A: [(is what) ]
 3 (0.5)
 4 B: d'you know tha[t
 --> 5 A: [is what?]
```

---

The determination of what lexical items to allow was not made *a priori*; rather it was made on a case-by-case basis as fragments with 'near repeats' were found in the corpus.
In line 9, Speaker B adds the word really before worth his salt. This, then, is not an exact repetition of the trouble source turn, line 17. However, the really here does nothing more than slightly emphasize the same point that is made in the trouble source turn. This fragment was included in the collection because the change in the repetition is minor, and does not display an analysis of a possible problem in understanding the trouble source turn.

Following is an example of a fragment which was not included in the collection, because the repair displays a particular analysis of the possible trouble. The material added in the repair is explicitly involved in clarifying the trouble source turn.

(6) BEACH 6521CHAm

In fragment 6, the adjective nude is added before the word beach in the repair. This displays Speaker A's analysis of the possible trouble with the pre-NTRI turn – that is, rather than just redoing the trouble source turn, Speaker A adds information to it that would aid in Speaker B's identification of the beach he is referring to. By attempting to clarify the reference, he displays an understanding that this may be the reason the repair was initiated in the first place. Thus, this is 'more' than a repetition repair, and 'more' in a different sense than the addition of an adverb such as really.

There are also fragments included in the collection in which material from the trouble source turn is not repeated in the repair. The omitted items also occur turn initially, turn medially, and turn finally.

7Terms of address are omitted in repetition repairs for the same reason as turn-initial particles. See the discussion below.
The turn initial items that are omitted in the repetition repairs are the lexical items *oh, well, yeah, okay, so* and *but*. There are two interactional reasons that these turn-initial particles are not repeated in the repair turn. One function of such particles, in the particular sequential environments in which they occur in these fragments, is that of acknowledgement tokens, or 'newsmarks' (Jefferson 1981). These particles connect the current speaker's talk with the prior talk, and display the speaker's receipt of that prior talk. As such, they are fitted to the place in the sequence where they occur – as the initial component of the trouble source turn. The repetition repair, however, occurs at another place in sequence; namely, as a responsive action to the request for repair. Here, an acknowledgement token of the turn prior to the trouble source turn would be misplaced.

An alternate function of these particles is as what Schegloff (1987a) calls 'overlap absorbers'. He finds that these particles (which he calls 'pre-placed appositionals') are not recycled, because they would not be functional once the speaker's turn emerged in the clear. These particles are not (again, in this particular usage) syntactically or semantically important. They do, however, give an incoming speaker an advantage in fighting for the floor, as they can be used to overlap and potentially stop the current speaker, allowing the incoming speaker's talk to emerge in the clear. An example of the use of one of these particles is given below in fragment 7. They also occur in several of the fragments discussed in chapters 5 and 4.

(7) FLIGHT 6521CHAm

<table>
<thead>
<tr>
<th>1</th>
<th>B: .hhhhhhhh [my: (.) jee pee ay i ]s (0.3) sl:iding=</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>A: [so when are you comin' home]</td>
</tr>
<tr>
<td>3</td>
<td>B: =down huh?</td>
</tr>
<tr>
<td>4</td>
<td>A: when are you comin' home</td>
</tr>
</tbody>
</table>

In fragment 7, the trouble source turn in line 2 begins with the particle *so*. This turn is begun in overlap with the prior, and thus one function of this particle would be to 'absorb' the overlap, and allow Speaker A's turn to emerge in the clear, with only
this semantically and syntactically empty particle being overlapped. For this to happen, however, Speaker B would have to drop out of her turn, which in this case she does not do. She does, however, initiate repair on the overlapping talk. When Speaker A repairs his talk, there is no function for the so to fulfill, since his talk now is a response to a request for repair, and not the beginning of an overlapping turn. It is, therefore, not repeated. The fragment is included in the analysis because the omission of this particle does not change the activity of the utterance; the particle is omitted as a consequence of the repair turn's new place in the sequence.

Three fragments in which turn-final elements were not repeated in the repair turn were also included in the collection. The repetition repair was judged to pursue the same activity as the TS turn even with these turn-final elements omitted. The elements consisted of more than one word, but are all ritual and/or redundant expressions which were judged not to seriously affect the activity pursued by the turn. Therefore, these fragments were included in the analysis.

Two fragments included in the analysis but which have word substitutions in the repetition repair turn should also be noted. In two of the collected fragments, articles (a, the) in the TS turn were 'replaced' by possessive pronouns (his, your) in the repetition. I have used scare quotes on the word replaced, and included these two fragments in the collection, because neither the speaker nor the co-participant exhibit any display of orientation to the substitution. The pronouns which occur in the repetitions are not produced with additional stress, or a change in pitch, or additional loudness. Neither party orients to the change of determiner as a repair, or displays any awareness of the substitution. For these reasons, and because the repetition repair turns in which these word changes took place were quite long and otherwise interesting for the analysis, they were included in the collection\(^8\).

\(^8\)One of which is discussed in Chapter 5 (Fragment 26).
This section has described how the collection was built, and given examples both of fragments that were included in the analysis, and fragments that were excluded. The next section describes Conversation Analysis, the methodology employed in the interactional sequential analysis of the collection.

### 3.2 Conversation Analysis

The methodology of Conversation Analysis (CA) offers a principled way of describing how participants manage the temporally unfolding interactional structure of conversation. This section explains the use of CA techniques, and presents some of the basic findings of researchers working in CA.

Conversation analysis is an empirically-grounded approach to the study of conversational interaction. CA is explicitly not a theory; rather it is 'an inventory of tools, materials and know how' (Schegloff 1999: 415). This method of examining and analyzing data holds the analysis answerable only to the data, not to any *a priori* categories set up by the analyst or any given formalism (e.g. speech act theory). Rather, CA demands that the parties in a conversation be shown, by their own actions, to orient to any proposed analytic categories (see among others Levinson 1983: 284ff; Schegloff 1995b).

Using this methodology, CA researchers have shown repeatedly that the sequential organization of conversation is not arrived at accidentally; that there is 'order at all points' (Sacks 1992a). One of the questions that CA seeks to answer is how this order is achieved. Many of the activities and practices taking place in conversation have been found to work in tandem with the consistently orderly practice of the exchange of the speaking turn, as described by Sacks et al. (1974). The following sections describe turn-taking practices, and discuss CA findings relating to the structure and function of adjacency pairs, preference organization, and the use of deviant case analysis in CA research.
3.2.1 Turn taking practices

Sacks et al. (1974) describe turn-taking in conversation as a jointly-achieved event which relies on normative practices that guide the actions and expectations of participants. They note that English turn-constructional units (TCUs) are composed of four possible unit types: word, phrase, clause, and sentence. The ends of these units are all projectable; that is, a participant in a conversation can tell what kind of unit is underway, and roughly what it will take to complete that unit. Upon beginning a turn, each speaker is initially allotted only one turn constructional unit. In other words, arrival at the first possible point of completion constitutes a transition relevance place, where speaker change may occur.

The following set of practices come into effect at an initial transition relevance place, and constrain turn construction, allocate next turns, and coordinate turn transfer (adapted from Sacks et al. 1974: 704): if a next speaker has been selected by the current speaker, the person selected is now accountable for the turn; if no next speaker has been selected, any speaker may self-select; and if no speaker self-selects, the current speaker may (but need not) continue. These practices reapply recursively at each successive transition relevance place.

Other sequence organizations within a conversation are organized by reference to these turn-taking practices. Another level of organization, and one of the ways in which turns at talk are instantiated, is through speakers' use of adjacency pairs.

3.2.2 Adjacency pairs

Adjacency pairs are a basic building block of conversation (Schegloff & Sacks 1973, Sacks 1992b). Adjacency pairs are paired utterances in the sense that e.g., questions take answers, greetings follow greetings, and summonses take responses.

Any given type of first pair part of an adjacency pair makes a particular type
of second pair part conditionally relevant. In the second pair part, a speaker has the opportunity and the obligation to display his or her understanding of what type of first pair part was produced. If the second pair part is lacking, or displays no orientation to the action pursued/initiated by the first pair part, that absence or ill-fittedness is noticeable and available to the participants for further action. That is to say, after a first pair part, a second pair part is immediately expectable and if absent, it will be noticeably absent (Levinson 1983: 306, Schegloff 1995a).

Most first pair parts of adjacency pairs set up a 'choice' of responses that can be done as the second pair part. That is, offers may receive acceptances or rejections; requests may be granted or denied. Some of these actions are dispreferred, and they may (or might not) be done in a dispreferred format. The different formats of the responses (e.g. acceptance vs. rejection, grantings vs. denials) display another level of organization – preference organization, described in the following section.

3.2.3 Preference organization

Conditionally relevant responses have a structure of their own, known in CA as preference organization. The term 'preference' does not imply psychological preferredness; it is related to the structure of the adjacency pair. Generally, second pair parts that promote continuation of the sequence are preferred, and those that stop or close the sequence are dispreferred. Additionally, dispreferred responses are generally accompanied by structural features such as delays, hesitations markers and restarts, and are often followed by accounts.

Finally, an important finding of the research in CA is that utterances are both context dependent and context determining (Fox 1987, Heritage 1984b). That is, an utterance is shaped by the context it occurs in – the meaning of an utterance cannot be

But not all; see (Schegloff 1995b: 111), where greetings are given as an example of an adjacency pair without a preference organization.
stripped from the environment in which it was produced. *Do you know the time?* can be used to issue a warning if a meeting is about to start, or to request the time from a passer-by. Utterances can also create a particular context for understanding: the production of an acceptance displays the speaker’s understanding that the prior action/utterance was an invitation in such a way that it is, retroactively, made into one and renews the context to make an acknowledgement of the acceptance relevant.

The final important methodological contribution of CA research is use of deviant case analysis, described in the following section.

### 3.2.4 Deviant case analysis

CA does not prescribe the way that participants must carry on conversation; its findings are not ‘rules’ for interaction. On the contrary, CA researchers are constantly faced with evidence that “Devices or practices in conversation do not work in an automatic or mechanistic fashion: The practices evident in conversational patterns are RESOURCES that enable speakers to engage, recurrently, in certain activities, using means by which these activities will be coherent, recognizable, and meaningful to co-participants” (Drew & Holt 1998). Some of this evidence comes from the analysis of so-called deviant cases – cases which at first glance do not fit the proposed analysis.

Since CA research proceeds by examining a ‘series of individual instances’ (Wootton 1989:250), no cases can be left aside or explained away as statistically insignificant. The discovery of cases which deviate from observed patterns can lead to two outcomes: On the one hand, a deviant case may highlight inconsistencies or weaknesses in the analysis, and show that it must be redone so that the deviant case(s) can also be accounted for (Schegloff 1968); on the other hand, a case may be only superficially deviant, and may show speakers’ orientation to the very practices being investigated. That is, by producing an utterance in a ‘deviant’ way, speakers may be displaying their understanding of the ‘normal’ use of the practice.
The use of deviant case analysis exemplifies the stance of CA as a qualitative, rather than a quantitative, methodology. “Terminology such as OCCASIONALLY or MASSIVELY reports an experience or grasp of frequency, not a count; an account of an investigator’s sense of frequency over the range of a research experience, not in a specifically bounded body of data; a characterization of distribution fully though tacitly informed by the analytic import of what is being characterized” (Schegloff 1993: 119). In addition to a concern with describing what is found to ‘overwhelmingly’ occur in different types of conversational sequences, CA methodology can also be fruitfully applied to a single case study. CA researchers are unwilling to ignore the single, deviant case in favor of the aggregate; an instance of a phenomenon is not tagged as statistically insignificant if it does not ‘fit in’ with other cases.

A deviant case – in which talk runs off in a different way than in other candidate instances of a particular practice – represents a mismatch between the researcher’s experience or grasp of a massively recurrent phenomenon and a real event which was produced and responded to by participants in a conversation. Investigation of deviant cases can show, however, that the participants are aware of the existence of the practice, and also show their orientation to its ‘normal’ use. In this way, deviant case analysis can provide a sort of proof of participants’ orientation to the normative power of conversational practices.

An example of deviant case analysis is presented by (Wootton 1989: 251ff). He analyzes the use of *uh huh* as treating the prior talk as incomplete, thus providing the current speaker the opportunity to continue (see also Schegloff (1982) on ‘continuers’). This analysis is based on the fact that most occurrences of *uh huh* are at points where the talk is recognizably incomplete. What, then, can be made of *uh huhs* which *do* occur at a recognizable completion point? The following extract is taken from Wootton (1989):
New Year’s Eve call, 1964: Sacks

1 Pt: I’ve got a date coming in a half hour and I ((sob))
2 Dr: I see
3 Pt: I can’t go through with it I can’t go through with the evening I can’t ((sniffle))
4 Dr: Uh huh
5 Pt: You talk I don’t want to talk
6 Dr: Uh huh
--->8 Pt: ((laugh sob)) It sounds like a real professional
--->9 uh huh uhhuh uh huh ((sniffle))

The patient makes it clear that she has completed her talk in line 6. The doctor, however, responds with *uh huh* (line 7). The patient’s response to this shows her understanding of the normative use of *uh huh*; that is, her response (lines 8-9) is a complaint about the doctor’s seeming refusal to produce some talk of his own. Here, the device *uh huh* is found in a ‘deviant’ location – after a recognizably complete prior sequence. The recipient of the *uh huh* responds to it as misplaced, thus supporting the analysis of its ‘normal’ usage and placement, and the existence of a normative organization.

This section has presented an overview of the important aspects of CA methodology which inform the analysis presented in chapters 4 and 5 – turn-taking practices, adjacency pair organization, preference organization, and deviant case analysis. The following section outlines the types of phonetic analysis the data were subjected to.

### 3.3 Phonetic analysis

This research combines the methodological stance of Conversation Analysis with more ‘traditional’ aspects of linguistic, especially phonetic, inquiry. Therefore, rather than beginning with set notions of what parameters to concentrate on, the collected data fragments were examined with as little prejudice as possible to discover which, if any, phonetic parameters differed between the speakers’ productions of the trouble source turns and the repetition repairs. Four parameters were found to vary systematically
between the two utterances: loudness, pitch range, duration, and articulation. Different clusters of these parameters (though not all four at once) have been found to play a role in other conversational practices as well – see work by French & Local (1986), Local (1992), Local (1996), Selting (1996), Ogden (2001), Walker (2001), Szczepek (2001), all reviewed in Chapter 2. In this section, details of the phonetic analysis of each of these four parameters are given.

3.3.1 Loudness

One difference noted between the production of the trouble source turn and the repetition repair is in the domain of loudness. Loudness is the perceptual equivalent of the instrumental measure of intensity. Intensity is the measurement of the amount of disturbance that a sound wave causes to the surrounding air molecules; it is “proportional to (the square of) the amplitude of oscillations of air molecules in sound-waves passing through the atmosphere” (Laver 1994: 501).

Intensity traces were prepared using the Praat software program. The traces plot the intensity of the trouble source and repetition turns in decibels (dB), using a baseline intensity of 50dB. Although imperfect\(^\text{10}\), the intensity traces provide a reasonably reliable comparison of the loudness of the two turns, and reflect closely the perceptual experience of louder repetitions (associated with repairs of fitted TS turns) and non-louder repetitions (associated with repairs of disjunct TS turns).

\(^{10}\text{The measurement of intensity in real-life speech settings is beset with problems, including the comparison of voiceless stretches of speech to voiced stretches, the relative amplitude inherent in different vocal tract configurations (e.g., low vs. high vowels), and the inability to control a speaker’s distance from the recording instrument (usually a microphone, in this case a telephone handset).}
3.3.2 Pitch

The phonetic correlate of pitch is fundamental frequency ($F_0$), the rate of vibration of the vocal folds. Fundamental frequency was measured in Hertz (Hz), or cycles per second, using the pitch extraction function of the Praat software program. The pitch traces were inspected and hand-corrected for perturbations due to creaky voice, or where the computer program incorrectly judged voice vs. voicelessness. Creaky voice is a variety of non-modal vocal fold vibration. The vibration in creaky voice can be regular or irregular, whereas during ‘normal’ modal voicing, the periods are regular. Additionally, during creaky voice the vocal folds may vibrate together or separately (diplophonically). See work by Redi & Shattuck-Hufnagel (2001), Dilley et al. (1996) for more details. Pitch tracking computer programs assume modal voicing, and therefore do not always accurately model periods of creaky voice.

After hand correction, the pitch traces were smoothed with a 10Hz bandwidth before conversion to semitones. Because no physical activity is perfectly regular, the smoothing process averages out the microperturbations (Laver 1994: 453) that occur even in modal voicing (regular periods of vocal fold vibration).

The perception of pitch is modelled more accurately by a semitone scale than a Hertz scale (Couper-Kuhlen 1996, Nolan et al. 2002). Although there is a linear relationship between $F_0$ and Hz at lower frequencies, the correlation becomes more complicated as the frequency increases. For example, an increase in frequency from 300-350 Hz is not as noticeable as the equivalent change in frequency between 100-150 Hz. The semitone scale represents each Hertz value from the pitch trace in terms of its relative distance from the speaker’s baseline, or lowest pitch\textsuperscript{11}. Therefore, the pitch traces computed in semitones tell us where the utterance is placed in the speaker’s range.

\begin{footnotesize}
\textsuperscript{11}Each speaker’s baseline pitch was computed based on inspection of a 5-minute stretch of talk taken from the middle of each conversation.
\end{footnotesize}
(which may have interactional import, see Couper-Kuhlen 1996), and their ‘shape’ is a more accurate representation of the pitch perceived when the utterance is heard.

The pitch traces show where the trouble source and repetition repair turns were produced within the speakers’ overall ranges. Inspection of these traces show that repetition repairs of fitted TS turns are overwhelmingly expanded in the speaker’s range (i.e., had higher maxima and lower minima than the TS turns), while repairs of disjunct TS turns were not expanded. The non-expansion was exhibited in two forms—pitch range compression, and lowering of the same pitch range. The majority of the repetitions after disjunct trouble source turns are compressed (i.e., have lower maximum pitch, and higher minimum pitch than the trouble source turns). Some repetitions spanned the same range as the disjunct trouble source turns they repaired, but these were placed lower within the speaker’s overall range. No interactional differences attend these two types of pitch range manipulation; additionally, this parameter is found in a cluster with repetitions that are not louder, not longer, and have no major articulatory differences, arguing for their collapse into a single category, that of non-expansion.

3.3.3 Duration

Duration was another variable found to have systematically different values for the repetition repairs when compared to the TS turns. The durations of words in the repetition repairs were found to be longer than the same words in the trouble source turns for fitted TS turns, and shorter for repetitions of words from disjunct TS turns.

The unit ‘word’ was selected for measurement based upon ease of segmentation of the speech stream, and for comparison purposes between the two utterances. Division of the stream of talk into recognizable words was found to be easier (and easier to replicate in future studies) than division into syllables. Another factor weighing against division by syllable was that some repetitions have more syllables than the trouble source turn (and vice versa). Since the repairs were repetitions of the same ‘words’,
that unit was used for segmentation and measurement of both utterances.

The duration of each word in the trouble source and repetition repair turns was measured by hand from the waveforms and spectrograms, and they were plotted together on a logarithmic scale. A logarithmic scale is used to normalize the magnitude of difference between, e.g., an increase of 10 ms on a word with a 100 ms duration, and an increase of 5 ms on a repetition of a word with a 50 ms duration. On a linear scale, the difference between the two utterances of the same word would appear larger for the first pair of words. Each, however, is an increase of 10%, and a logarithmic scale represents the differences equally.

Inspection of the duration plots revealed that overwhelmingly, the repairs of fitted TS turns were longer, and the repairs of disjunct TS turns were shorter (i.e., not longer), than the utterances they repeated.

3.3.4 Articulation

Detailed phonetic records of both the trouble source and repetition repair turns were prepared, using the techniques of analytic parametric listening described in Kelly & Local (1989a: 30ff). First, the gross phonetic categories that the sounds of the utterances related to were recorded, e.g., voiced bilabial plosive [b], voiceless alveolar fricative [s]. This is known as referential listening, because it records the sounds by reference to known categories.

Attention was also paid to the (small) differences between the two productions of ‘the same’ articulatory complexes, e.g. listening for and noting any differences in the vocalic articulations of the individual words in both the trouble source turn and the repetition. This method of relativistic listening relates the characteristics of sounds at one place in structure (i.e. the repetition) to those at another place in structure (the trouble source turn).

Finally, the details of the sound qualities of longer stretches of the material were
noted. The changes sometimes evident over stretches of speech of varying lengths are noted by Laver (1994: 394): “The phonetic realizations of the phonemic sequence of that stretch of speech can show gradations of phonetic similarity to each other that make them audibly different from the phonetic realizations of the same string of phonemes said by that speaker on different occasions in different tones of voice ....” For the purposes of this research, ‘phonemic sequence’ and ‘string of phonemes’ can be replaced by ‘word sequence’ and ‘string of words’; it is beyond the scope of this dissertation to fully address the assumptions of phonemic theory.

The characteristics of these stretches of material are referred to in the analysis in chapters 5 and 4 as settings, following Laver (1994: 396): “A phonetic setting can be defined as any co-ordinatory tendency underlying the production of the chain of segments in speech towards maintaining a particular configuration or state of the vocal apparatus.” An utterance which shows a ‘bias’ toward returning to some habitual state (e.g., voicelessness or whisper) is described as having that setting.

Some settings are realized only intermittently – for instance, the whispy voice mentioned above would only be applicable to voiced sounds, since voiceless sounds cannot be made whispy. Settings can be short- or long-term; that is, they can apply over a few syllables, or over an entire utterance. Laver mentions four types of settings, which are

- articulatory
- phonatory
- overall muscular tension
- prosodic

Laver suggests that articulatory and phonatory settings, and the settings of overall muscular tension, be described as slight, moderate, or extreme deviations from the
neutral, or completely relaxed vocal tract, setting. In this research, however, the settings of the vocal tract in the repetition repair are described with reference to the ‘original’, trouble source utterance.

Pitch and loudness settings are grouped together under the ‘prosodic’ label by Laver, who recommends describing these parameters with reference to the neutral settings for pitch and loudness for each individual speaker (rather than to a universal neutral setting). In this study, differences in the pitch and loudness of the repetition repair (along with duration) are demonstrated instrumentally with reference to the TS turn, as described above.

Inspection and comparison of the phonetic records revealed the following pattern: repairs of disjunct TS turns were produced with similar articulations to the TS turn; that is, few if any changes to place or manner of articulation, or of vocal setting changes, were found. Repairs of fitted TS turns, however, were massively found to exhibit changes in vocal settings, and articulatory changes that made the repetition repair phonetically distinct (while still a production of ‘the same’ lexical item).

Although the overall phonetic patterns of ‘non-upgraded’ (negatively defined as not louder, with non-expanded pitch ranges, with durations that are not longer and with similar articulations) and ‘upgraded’ (louder repetitions, with expanded pitch ranges, longer durations and long-domain changes in vocal settings) hold over the collection of repairs as a whole, not every repetition exhibits ‘canonical’ values for all four parameters. For instance, duration is rather variable in both patterns, with some repetitions of disjunct TS turns which display other characteristics of the ‘non-upgraded’ phonetic pattern in fact having longer (instead of shorter) durations. Because this study takes a qualitative, rather than quantitative, approach to the data, such differences cannot be explained away as statistically insignificant. However, a strength of the qualitative app-

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12There are, however, only two cases which deviate from the normative pattern in more than one parameter.
proach is that individual case analysis can uncover systematicities in ‘deviant’ cases (see sections 4.3 and 5.3). The issue of strict adherence to the phonetic characteristics of the patterns is revisited in the deviant case analyses presented in Chapters 4 and 5, and in Chapter 6.

3.4 Summary

This chapter has described the building of a collection of repetition repairs. It has shown what criteria repair utterances needed to meet for inclusion in the analysis, and given the details of both the methods of sequential interactional analysis (CA) and phonetic analysis of loudness, pitch, duration, and articulation used in the following chapters.
Chapter 4

Repetition repairs after fitted trouble source turns

This chapter presents the systematicities evident in repetition repairs occurring after trouble source turns which are fitted in terms of both turn-taking position and sequential relevance. Repetition repairs of fitted trouble source turns exhibit the following systematic phonetic differences from the TS turn:

- They are louder
- The repeated words have longer durations
- They have an expanded pitch range
- They have long-domain articulatory resettings

These phonetic characteristics make up the ‘upgraded’ pattern of repetition repairs after fitted TS turns. These repairs are done differently from the repetitions after disjunct TS turns described in the following chapter. The current chapter shows that speakers orient to a particular set of norms when producing repetition repairs of turns which were fitted to their place in the sequential unfolding of a conversation, and that these norms are different from those oriented to when producing repetition repairs of disjunct turns.

\[\text{1Five of the twenty-five fragments which make up this group have compressed pitch ranges; these are discussed in section 4.3}\]
The chapter is structured as follows: Section 4.1 explains how the term 'fitted' is used, and the criteria for analyzing TS turns as fitted. Sections 4.1.1 and 4.1.2 provide examples of fitted trouble source turns which are overlapped and produced in the clear. Section 4.2 presents the interactional and phonetic analysis of representative cases. Section 4.3 provides evidence of speakers’ orientation to a phonetic norm for fitted repetition repairs by an analysis of phonetically deviant cases.

4.1 Fittedness of the trouble source turn

This section discusses the various ways in which a trouble source turn may be analyzed as fitted, and provides a sequential analysis of several fragments. It focuses on the sequential analysis of the trouble source turn, with a discussion of the phonetic pattern of the repetition repairs of fitted trouble source turns presented in section 4.2.

‘Fitted’ means that the trouble source turn is appropriately designed and placed to fit the structure set up by the prior turn and/or sequence. Fitted turns may continue a sequence in progress, or begin a new sequence after a (collaborative) closing of a prior sequence. Trouble source turns analyzed as fitted occur both in-the-clear and in overlap. No overlapping, or ABAB pattern trouble source turns, were analyzed as fitted because of their ‘illegal’ turn taking status (see the discussion in section 5.1.1).

In a handful of fragments, the turns treated as trouble sources begin simultaneously with other talk. These turns occur in places where talk was due by that speaker, and thus are analyzed as fitted even though produced in overlap. The main cause of such overlap is that some fitted trouble source turns are dispreferred responses to the prior turn. Because dispreferred turns often begin with a delay or hesitation, they are vulnerable to overlap. Rather than analyzing these dispreferred-format (i.e., with initial delay) turns as overlapping the talk produced by the other participant, I argue that the incoming talk is overlapping, since the turn-space is being filled by the other participant, albeit with silence (see Schegloff 1995a for a discussion of the activities that can
accomplished by not speaking in one's turn).

The occurrence of dispreferred but fitted TS turns again relates to the relationship of these (structural) categories of fitted and disjunct to displays of affiliation and disaffiliation. Fitted TS turns can be dispreferred, and thus do disaffiliative actions (for example, see fragment 15); it is also shown in Chapter 5 that disjunct TS turns can perform affiliative actions. Thus, this thesis shows that the structural distinction between a fitted and a disjunct next action (whether affiliative or disaffiliative) has more explanatory power in describing the distribution of the phonetic patterns of 'non-upgraded' and 'upgraded'.

Section 4.1.1 presents examples of fitted trouble source turns which are overlapped. In these other-initiated repair sequences, the same speaker who begins talking in overlap also initiates the repair. These sequences are thus ABBA sequences; Speaker A is talking, and Speaker B begins in overlap; Speaker B then initiates repair, and Speaker A repeats the overlapped utterance. This section shows how the talk in these overlapped TS turns is fitted to the prior sequence by either providing a relevant continuation of the activity instantiated by the prior turn, or launching a new sequence in the wake of collaborative closing of a prior sequence.

Fitted, in-the-clear trouble source turns are presented in section 4.1.2. Again, the talk in these trouble source turns is shown to be either a sequentially appropriate response to the prior turn, or the beginning of a new sequence after the (possible) closure of a prior sequence.

4.1.1 Overlapped trouble source turns: the ABBA pattern

This section presents examples of trouble source turns which, in spite of being fitted to their position in the structure of the conversation, are overlapped by talk from the other speaker. It presents two fragments in which the turn subsequently treated as a trouble source was audibly underway when it was overlapped, and one in which a
trouble source turn begins simultaneously with other talk. The utterance which begins simultaneously with other talk is shown to be analyzable, both to the analyst and the participants, as overlapped. This section focuses on the interactional analysis of the fragments, with a full explication of the phonetic properties of the repetition repairs reserved until section 4.2.

Fifteen fragments out of a total of twenty-five in the collection consist of fitted TS turns which are overlapped. The repair sequence beginning with the overlapped turn and ending with the repetition repair has previously been referred to as the ABBA pattern, because of the order of speakers – Speaker A’s talk is overlapped by Speaker B; Speaker B initiates repair, and Speaker A repeats the overlapped utterance. An example of a fitted TS turn which is overlapped in the ABBA pattern is given in fragment 9. The arrowed lines comprise the repair sequence.

(9) **ENGLAND 6067CHAm**

1. A: who do you learn with? anyone I would know?
2. B: um::: n:o a girl from England
3. (.)
---> 4. A: o:::h [that’s ne ]at?
5. B: [(it ends in)]
6. (0.8)
---> 7. B: what? .h
---> 8. A: that’s neat?
9. (0.2)
10. B: y:eah >(that) she’s great< .hh it just ended up that way
11. A: cool
12. B: ye:ah;

Speakers A and B are teenaged female friends. Prior to the beginning of this fragment they have been discussing whether Speaker B is still learning (the Torah), and if she is enjoying it. Speaker A’s two questions in line 1, who do you learn with? anyone I would know?, elicits a topic by providing a constrained environment for the telling of new material (Button & Casey 1984); that is, she specifies the type of answer that would be of interest to her (namely, does Speaker B learn with anyone she would know).
Line 2 provides the answers to line 1. In the utterance um::; no a girl from England Speaker B is able to show that she is not learning with anyone from their mutual group of friends, whom Speaker A could or should know, but rather, with a ‘foreign’ person. The first part of the answer addresses the second question (Schegloff 1995b), and is a dispreferred response (notice the hesitation marker um::;).

In the remainder of the answer to the question asked in line 1, however, Speaker B offers some potentially newsworthy information: her learning partner is from England. This part of the response to the ‘double question’ who do you learn with? anyone I would know? may additionally function as an account for the dispreferred response, as well as delivering some news.

Speaker A acknowledges Speaker B’s answer and news announcement in line 4 with an assessment, which is subsequently treated as the trouble source turn. Line 4 begins with a news receipt, oh, which displays Speaker A’s understanding of Speaker B’s prior turn as ‘news’ – something she did not know before. This is followed by a Speaker A’s displayed assessment of the news (that’s neat), which promotes continuation of the informing (Heritage 1984b:303ff).

Therefore, line 4 provides an example of a turn treated as a trouble source which is fitted by virtue of providing an appropriate response to an informing. This particular question-answer sequence (lines 1-2) is not recognizable complete after the second pair part of the adjacency pair, because the answer contained in this second pair part makes

2 Both speakers are American, and at the time of the conversation Speaker B is in Israel; thus, a girl from England is ‘foreign’ to them on two counts.

3 All yes/no questions exhibit a preference for positive answers (Schegloff 1995b). In terms of the content of this question, it is quite difficult for the analyst to predict how ‘expectable’ a positive answer might be: on the one hand, Speaker B is living and studying in Israel while Speaker A is in the US; however, it seems that both speakers belong to a fairly small Jewish community that periodically sends students to Israel.

4 This is not unusual; most adjacency pairs with a preference structure (i.e., greeting-greeting adjacency pairs do not have a preference structure per se; there is no dispreferred response to a greeting other


a news receipt relevant. This is provided by line 4, which is subsequently treated as a trouble source turn.

A few remarks regarding the remainder of the fragment are in order. The repetition repair in line 8 does not contain a repetition of the news receipt, oh. In the entire collection of repetition repairs, news-receipt particles such as this are never repeated (see the discussion in section 3.1.2 regarding the collection of repetitions). News receipts display the speaker’s claim that s/he has undergone a change of state, and as such are relevant next actions after news deliveries and other kinds of tellings. The NTRI does not impart any such information, however, so a display of undergoing a change of state would be out of place in this position.

Fragment 9 is an example of a TS turn that provides a relevant response to a prior turn, and is therefore analyzed as fitted. Fragment 10 below is another example of a fitted turn which is overlapped, and subsequently treated as a trouble source.

(10) BIGGIRL 4065CHAm

1 B: well whatever turns them on ye[ah ]
2 A: [ye:]ah yeah
3 so [I'm guessing that's what] it's for and=
4 B: [( ) ha ha ha ]
5 A: =they need a (la[rge])
6 B: [a:nyway thank you very much for
7 your (. ) for your n:ote?]
8 (0.2)
9 A: [o:h ]
10 B: [and your car]d and your and your ( . ) photo
--->11 A: :hhh ye[ah she's comin' along ]
--->12 B: [a couple a weeks ago (an) I'm- I]
13 (0.7)
--->14 B: what?
15 (.)
--->16 A: she's coming alo:ng (heh)
17 B: y:eah she's a big girl

Speaker A is female, Speaker B male; they seem to have been fellow graduate students. This fragment begins about a minute and a half into the call. Up till the point than performing no greeting at all) require additional work to bring the sequence to a point of possible completion (Schegloff 1995b:111).
where the transcript begins they have only discussed the data collection project itself; no personal information has been exchanged.

In line 6, Speaker B marks off his turn as disjunct from the prior with *anyway*. He then proceeds with an activity that should be placed as early as possible in the call; a ‘thanking’ for some items he received from Speaker A some time ago.

This thanks receives no immediate uptake. After a gap of 0.2 seconds (line 8), both speakers begin talking simultaneously. Speaker A produces *oh*, which displays her assimilation of a bit of news – here, that Speaker B has received her note. Speaker B produces an increment to his prior turn, syntactically linking line 10 to line 7 with *and*, and also creating a three-part list (Jefferson 1990) of things he is thanking Speaker A for: your note? and your card and your ( ) photo.

Upon completion of this turn (line 10), Speaker A produces an audible inbreath of 0.3 seconds, displaying that she is ‘gearing up’ to speak, followed by yeah she’s comin’ along. This turn is overlapped by Speaker B.

The ‘thanking’ which line 11 responds to is a form of praise and appreciation, and as such sets up a complex preference structure for the response (see Pomerantz (1978) for a related discussion of responses to compliments). A ‘you’re welcome’ response would indicate that the speaker accepts and agrees with the claim that he or she did something that was out of the ordinary and thus ‘thankable’, and conflicts with what Pomerantz (1978) calls a constraint on the avoidance of self-praise.

Simply not responding to being thanked is not a viable solution to the problem, however. A delayed (and thus potentially absent) response to thanking is treated as noticeably absent by the speaker of the thanking turn both here and in fragment 15 (section 4.2). In both fragments, one speaker produces an extended enumeration of the items he is thanking the other speaker for after a gap of silence, which could indicate a lack of uptake.
In this fragment, Speaker A is already producing a response to the thanking when Speaker B begins his turn extension. Her utterance addresses the conflict of the constraint against self-praise and the preference structure of acceptance/rejection. She does this by means of what Pomerantz (1978) calls a ‘referent shift’; she directs attention away from the thankable action of sending the items, and instead assesses the object of the photo, her baby daughter: she’s comin’ along. This way, she avoids self-praise and yet still responds to the thanking turn by explicitly commenting on the item she is being thanked for sending.\(^5\)

Cut-off of the overlapping turn is recurrently found in this subset of the collection, and supports the argument that the overlapped talk is treated as fitted, while the overlapping turn is treated as ‘misplaced’. Note that Speaker A does not cut her talk off when Speaker B comes in in overlap; in fact, she produces a syntactically, pragmatically, and prosodically complete turn. Speaker B, however, cuts his overlapping talk off at the same time that Speaker A completes her turn, with the result that he produces no talk in the clear. This lack of persistence by Speaker B, just as his turn would have emerged into the clear, displays an understanding of Speaker A’s turn as the one necessary to complete the thanks-you’re welcome sequence begun back in line 6.

Fragments 9 and 10 thus present two examples of fitted yet overlapped trouble source turns. Both are fitted by virtue of being conditionally relevant responses to the prior turn, and both are overlapped after they are underway.

The next fragment presents an example of a trouble source turn begun simultaneously with other talk. In this example, the TS turn is analyzed as overlapped. When both speakers begin talking simultaneously, the determination of ‘who overlapped whom’ can be more difficult. This is especially true of the trouble source turns which occur

\(^5\)The function of the yeah at the beginning of the talk in line 11, and why it is not repeated in the repair, is discussed in section 3.1.2.
at a place in a sequence where no talk is ‘due’ from either participant – for example, turns which are produced after a prior sequence, such as a storytelling, has just been completed. At such places in the structure of conversation, both speakers have a right to be next speaker, according to the turn-taking mechanism described in Sacks et al. (1974)\(^6\), and sometimes, both speakers begin simultaneously. In these simultaneous production cases, either, or neither, of the overlapping turns could have been treated as trouble sources; for both the participants and the analyst, it is only the production of an NTRI after the overlap that indicates treatment of a turn as a trouble source (Schegloff 2000a: 44-45)

Fragment 11 presents an example of a trouble source turn that is begun simultaneously with other talk. The turn is analyzed as fitted by examining the sequence-so-far and determining that the turn treated as a trouble source was ‘permissible’ in that slot. Arrows point to the repair sequence.

(11) **FINE 4065CHAm**

1. A: how old is [he now
2. B: [(saying)
3. (0.4)
4. B: he's two
5. A: wow
6. B: =he was- he was uh middle of June was his second birthday
7. .huhuhh so he's a big boy and he's hhh .huhuhu doing all kinds of things that people do when they're two
8. A: ye:ah like being disagreeable and asserting in[dependence
9. B: [na:y nay
10. A: nay nay nay [no he's no he's pretty he's pretty agreeable=
11. (laughs))
12. B: =(most) of the time yeah yeah he's uh .huhuh but um (0.4)
13. tch y'know saying things and being kinda funny (0.2) .huhuh and uh walking around and uh: (.) just being nice-
14. nice little boy
15. A: oh that's neat
16. B: yeah

\(^6\)See also section 3.2
->19 A: [and she's happy]
20 B: [.hhhhh I should send you (I )know I ]
21 (0.5)
->22 B: what?
->23 A: and she's [hap]py
24 B: [she]
25 (0.4)
26 B: oh she's fine .hhh yeah um: (. ) you know the apartment's
27 a little bit small and stuff and they could- you know they
28 could use this and use that but .hhhh um:: all in all sure
29 she's fine yeah (. ) "yeah"

This fragment is from the same conversation as fragment 10. The fragment begins with Speaker A asking about Speaker B's grandson. In line 17, Speaker A assesses the prior telling with oh that's neat. This assessment displays an understanding that the prior storytelling is potentially complete, but also provides an opportunity for the storyteller to say more. Speaker B, however, declines to do so, and treats the prior sequence as potentially closed in his next turn. His minimal response, yeah (line 18), passes on an opportunity to take an extended turn at talk. Speaker A then launches a new turn, and a begins a new sequence.\(^7\)

As Speaker A begins her turn (line 19, and she's happy), Speaker B takes an in-breath, gearing up to do more talk (line 20). He produces this talk in overlap with Speaker A's turn. Nothing in the turn-taking practices described by Sacks et al. (1974) prevents this nearly simultaneous start-up; other-initiated repair is in fact one of the practices speakers regularly employ in the aftermath of overlap (Schegloff 2000a: 32ff). Either speaker has good grounds for initiating repair here, but it is Speaker B who does so.\(^8\) This cannot necessarily be taken as a display that he understands his own turn to be incursive on Speaker A's turn space, although a full analysis of the actions Speaker B is pursuing in initiating repair remains a question for future research. What is important for the study at hand is the fittedness or disjunctness of the turn treated as the trouble

\(^7\)Either speaker is also free to re-open the prior sequence; see Schegloff & Sacks (1973).
\(^8\)Had Speaker A initiated repair, Speaker B's (hypothetical) trouble source turn would also be analyzed as fitted.
source, which here is Speaker A’s turn. This turn is fitted, due to its placement after the collaborative closing of a prior sequence.

This section has presented the analysis of overlapped trouble source turns which were shown to be fitted to their place in structure. The following section discusses non-overlapped, fitted trouble source turns.

4.1.2 Non-overlapping sequences

This section presents the analysis of fitted trouble source turns which are not overlapped by other talk. The fittedness of these turns is described, and contrasted with that of the disjunct non-overlapped trouble source turns discussed in section 5.1.2.

The collection yielded 10 non-overlapped but fitted TS turns. An example is given below in fragment 12. Arrows point to the turns comprising the repair sequence.

(12) SING 6045CHAm

1 B: but the next Monday we're going to sing Christmas songs
2 (0.9)
3 B: .hh so come next Monday
4 A: ..hh o:........:h
5 B: so we'll have some fun
6 A: [.hh you sing noche ]
7 B: [.hh and the child- so me of the children are still in
8 school (0.2) but the [maj ority have finished
9 A: [yeah]
10 (0.7)
--->11 A: you sing noche depa:z
12 (0.9)
--->13 B: is the what
14 (.)
--->15 A: do you sing noche depa:z
16 B: ..hhh oh y:es:......... uh huh

This fragment comes from a call between two female friends. Speaker B is a music teacher. When the fragment begins, she is recounting a conversation she had with a parent of one of the children who takes lessons with her. The parent seems to have expressed concern over the singing of Jewish religious holiday songs. Speaker B is telling Speaker A how she responded to this in lines 1 and 3, but the next Monday
we’re going to sing Christmas songs .hh so come next Monday.

After Speaker A receipts this telling (line 4, o: : : : : : : : : : h), Speaker B resumes her
‘own voice’ in talk with Speaker A, saying so we’ll have some fun (line 5).

In lines 6 and 7, the transcript shows some jockeying for the turn space. Both
speakers take inbreaths and begin to speak simultaneously. Speaker B, in line 7, cuts
off and restarts her talk with an ‘upgrade’ in loudness and pitch, after which Speaker
A drops out ([.hh and the chil- so]me). This practice for overlap resolution
is described in Schegloff (2000a) and Schegloff (1987a). The very turn that Speaker A
drops out of is the one redone in what is treated as the trouble source turn.

The TS turn does not occur, however, until Speaker B finishes her utterance at
lines 7-8: [.hh and the chil- so]me of the children are still in
school (0.2) but the majority have finished. After a 0.7 second
pause, Speaker A redoes .hh you sing noche (line 6) as you sing noche
depa: z (line 11). This redoing comes at the first transition relevance place after the
overlapping talk.

The sequence prior to the trouble source turn is potentially closed in lines 8 and
9. In line 8, Speaker B completes her telling. Speaker A produces a continuer in
non-competitive overlap (French & Local 1983) with Speaker B’s talk in line 9, ac­
knowledging the telling. This is followed by a 0.7 second pause before the TS turn.

The trouble source turn begins a new, but related sequence to the prior. Speaker
A has already displayed her understanding of the turn with a minimal response, and
Speaker B has not elaborated. Speaker A then extends the prior sequence by (re-)asking
her earlier, cut-off question. In the TS turn, Speaker A declines to participate in co­
constructing the closing of the prior sequence entirely, and instead re-opens it by be-

---

9The 0.2 second pause after school is not a TRP. The some of the children in the recycled
beginning to the utterance in line 7 projects the occurrence of another clause to complete the construction,
which is supplied by but the majority have finished (see Lerner (1996)).

10Speaker B teaches music to children in private lessons outside their normal schooling, and it appears
that more children come to the music school when there is no ‘regular’ school.
giving a related adjacency pair asking about Christmas songs.

Fragment 12 is an example of an in-the-clear, fitted TS turn which continues a prior sequence. It is the first pair part of an adjacency pair, which is also the case for many of the disjunct trouble source turns discussed in the following chapter. It is unlike those disjunct trouble source turns\(^1\), however, because the TS turn in fragment 12 continues a theme or topic of the prior sequence. After a silence of 0.7 seconds in which no further talk is forthcoming from Speaker B, Speaker A repeats a prior inquiry that had received no uptake at the time it was first produced. This inquiry relates directly to the issues Speaker B was discussing before the silence at line 10. TS turns that are first pair parts but analyzed as disjunct, on the other hand, begin new sequences that have no displayed relationship to the prior. In this way the fitted trouble source turns are different from the disjunct TS turns.

The next fragment, WORKING, is an example of a fitted TS turn which is a conditionally relevant response to the prior sequence (rather than beginning a new-but-related sequence, as exemplified in the fitted fragment above).

(13) WORKING 4431CHAm

```
1 B: so is she home for good
2 A: nope
3 B: he took her back?
4 (0.5)
5 A: no; he didn't take her back .hhhh but- his uh mom was
gonna buy her a car?
6 (1.2)
7 A: so that she'd stay out there and sure enough she's
8 staying out there
--->10 B: o:h "yeah:" (. ) she workin' it
11 (0.8)
--->12 A: huh
--->13 B: she workin' it
14 A: so (. ) anyway she called me a couple of days before she's
gonna come home en ((0.7 clanging)) en I go um .hhhh can you
tell me why (. ) you would (. ) stay: in a place where(. )
17 you know (1.1) you're not wanted
```

\(^1\)Exemplified by fragment 24, BATHROOM, in which the TS turn begins a new sequence when a response to a troubles-telling was relevant (section 5.2)
Fragment 13 is from a conversation between a sister (Speaker A) and brother (Speaker B). This fragment begins with Speaker B asking his sister about a female acquaintance of theirs, so is she home for good (line 1). Speaker A gives a minimal response, nope. This particular lexical item, ending with a (bilabial) closure, projects no more talk to come. Speaker B pursues his inquiry in line 3 with a 'guess' as to why she is not home for good, which Speaker A again refutes. She then launches a story sequence about the woman, which also provides an account for her negative answers (lines 5-9, no; he didn't take her back. hhhh but- his uh mom was gonna buy her a car? so that she'd stay out there and sure enough she's staying out there).

Speaker A reaches a point of possible completion of her telling at the end of line 9. Falling pitch, complete syntax, and the repetition of stay(ing) out there all mark this as a possible completion point. Speaker B does in fact come in here with an acknowledgement and assessment of the information: o:h  "yeah::"  (. )  she workin' it. This turn is subsequently treated as the trouble source turn.

This trouble source turn is produced entirely in the clear. The turn by Speaker B (o:h  "yeah::"  (. )  she workin' it) is also fitted, given the syntactic, pragmatic, and prosodic indications of turn-finality (and story completion) displayed by Speaker A in the prior turn. Speaker B uses the change-of-state token oh to display the receipt of the news-telling, and provides the assessment she workin' it to display his grasp of the import of the story – that 'she' is (undeservedly) taking advantage of the kindness of others.

Fragments 9-13 have shown the various ways in which both in-the-clear and overlapped (ABBA pattern) trouble source turns are analyzed as fitted to the prior turn and/or sequence. These turns, though treated as trouble sources by the participants, are conditionally relevant responses to the prior turn, or begin new-but-related sequences. Repetition repairs of such fitted trouble source turns have a characteristic phonetic pattern which is different from that of the repetition repairs of disjunct trouble source turns.
The following section presents the phonetic analysis of this subset of the collection.

4.2 The ‘upgraded’ phonetic pattern of repetition repairs

This section presents several fragments which exemplify the phonetic pattern of repetition repairs after fitted trouble source turns. The repetition repairs of fitted trouble source turns are produced with a ‘upgraded’ phonetic pattern. These repairs are louder than the TS turn; they have an expanded pitch range and longer durations than the TS turn, and they have long-domain articulatory resettings relative to the TS turn. This phonetic pattern is markedly different from the phonetic pattern employed for repetition repairs of disjunct trouble source turns, which are shown to be ‘non-upgraded’ (i.e., not louder than the TS turn, with non-expanded pitch ranges, durations which are not longer than the TS turn, and similar articulations) in Chapter 5.

Three fragments are presented to exemplify the phonetic characteristics of the ‘upgraded’ pattern of repetition repairs after fitted trouble source turns. Following a short description of the interactional sequence leading up to the trouble source turn and the repair initiation, the phonetic characteristics of each fragment are presented. The phonetic parameters displaying a systematic difference between the trouble source and repetition repair are loudness, represented below by intensity traces of the decibel measurements of the two utterances; pitch, measured in Hertz and converted into semitones; duration, measured in milliseconds for each word and plotted on a logarithmic scale; and aspects of place and manner of articulation, compared by inspection of impressionistic phonetic transcriptions informed and supported by waveform and spectrographic analysis.

Fragment 14 is an example of a repetition repair of an overlapped, fitted TS turn with the ‘upgraded’ phonetic pattern. The turn is analyzed as fitted because it develops the prior sequence by displaying an availability to hear more about a preferred topic. Arrows point to the repair sequence.
(14) DO 6045CHAm

1 A: how are the kids doing your children that
2 you uh [(0.7)] [work with=
3 B: [((cough)) hh] hh
4 o::h we- we have a- we had our: finale yesterday for the
5 activities from October to November
6 A: o::h you did
7 (0.5)
8 B: o::h it was so cute

--> 9 A: what did you d[o:::
10 B: [the little six an' sev-
11 (0.3)
-->12 B: what?
13 (0.5)
-->14 A: what did you do:::
15 (0.6)
16 B: well every (.) every: group like- (.) we had (.)
17 flute and- en: these (.) there were four: (0.5) that
18 completed the first book of the Suzuki method [they been]
19 A: [oh really]
20 B: goin' now for two years (0.9) four semesters (0.8) and-
21 they played four lovely songs

This fragment is from the same conversation as fragment 12. The speakers are female friends. Speaker A initiates talk about the work that Speaker B does as a music teacher (lines 1-2). Speaker B’s answer at lines 3-5 receives an enthusiastic response, o::h you did, with a sound stretch on the oh (transcribed with :), and a rising-falling intonation contour over the entire utterance. The o::h here functions as a news-receipt token, and the entire turn functions as a go-ahead response. By not taking a further, more substantial turn at talk herself, Speaker A makes it possible for Speaker B to continue talk on the topic they have established. The turn at line 6 makes a storytelling relevant from Speaker B, because both the format and content of o::h you did indicate that Speaker A did not know about, but is interested in, the finale.

Speaker B does not begin a story immediately, however. After a 0.5 second silence, she produces a pre-telling assessment, o::h it was so cute (line 8). This utterance projects a telling, but makes that telling contingent upon some (encouraging) response from Speaker A (Drew 1995). Speaker A’s next turn, what did you
do (line 9), displays her understanding that Speaker B may not go on to tell more without further encouragement. The 0.5 second gap after the go-ahead (see lines 6-7) and the falling intonation on line 8 may contribute to Speaker A's displayed understanding that no more might be said about the finale unless it is explicitly requested.

Speaker A's turn in line 9, what did you do: : : , is thus fitted to the position it occurs in. This turn occurs at the earliest possible point for Speaker A to display the understanding that, even though she has already provided an opportunity for Speaker B to tell about the finale, Speaker B is not moving to do so. This turn again displays Speaker A's willingness to listen to such a story, and in fact here asks directly for the specifics. The use of a first pair part, rather than a go-ahead (which is a second pair part), constrains the type of response that will be relevant from Speaker A.

This fragment is an example of a fitted trouble source turn in the overlapped, or ABBA, pattern. Speaker B comes in in terminal overlap with the very end of Speaker A's turn (see line 10). This type of overlap is not regularly treated as problematic (Jefferson 1983). Here, however, Speaker B – who produced the overlap – abandons her overlapping turn and produces the NTRI what after a 0.3 second silence. Speaker A then produces a repetition repair of her overlapped turn, what did you do: : : : (line 14).

Fragment 14 is an example of a repetition repair produced with the 'upgraded' phonetic pattern. This repair is louder than the TS turn; it has an expanded pitch range relative to the trouble source turn, and the repeated words have longer durations. Additionally, the repetition exhibits a long-domain articulatory resetting in the form of extreme liprounding.

The first parameter compared between the repetition and the trouble source turn is loudness. Figure 4.1 shows the intensity traces, in decibels, for the two turns.

The peaks on the first three words what, you and do are higher in the repe-
tition than in the TS turn – thus, these words are louder in the repetition. The average decibel measurements for the utterances are the same, at 67.7dB, but the repetition is perceived as louder\(^\text{13}\). This perception is most likely based on the fact that the repetition has a bigger pitch range than the TS turn. Pitch range changes can affect the percept of loudness (Baken 1987); however, a handful of repetitions in the collection do show that speakers can manipulate pitch and loudness independently. A full exploration of this phenomenon, and its use in interaction, is outside the scope of this thesis.

The second parameter compared is pitch range. The pitch of each utterance was converted to semitones, scaled relative to each speaker’s baseline. The pitch comparison for fragment 14 appears in Figure 4.2.

Figure 4.2 shows the characteristic pitch range expansion of repetition repairs after fitted TS turns. The horizontal lines on the graph correspond to the maximum and minimum pitch of each utterance. The pitch range of the repetition is 19.5 semitones, compared to a 16.5 semitone range in the TS turn.

The figure also shows that the pitch contours are similar, but the repetition reaches both a higher maximum and a lower minimum pitch. Similarity of pitch contour means

\(^{13}\text{Based not only on my own perception but also that of 3 other academic phoneticians from the University of York.}\)
similarity of intonation, and is regularly found in repetition repairs of both fitted and disjunct TS turns. Repairs of fitted TS turns, however, generally have expanded pitch ranges, while repairs of disjunct TS turns have non-expanded (compressed or very similar) pitch ranges.

Duration is the third parameter compared between the TS and repetition turns. Figure 4.3 shows the durations of the words produced in both turns plotted on a logarithmic scale. The y-axis is duration; plot points that are higher along the y-axis represent longer durations. The empty circles are the durations of the words in the TS turn, the filled circles are the measurements for the repetition.

Figure 4.3 exemplifies the durational pattern for repetitions of fitted TS turns, which is for the durations of the repeated words to be longer. The figure shows that three of the four words in the repetition have longer durations than they did in the TS turn – the plot points representing the repetition repair are higher than the respective plot points for the trouble source turn. The final two words in the utterances have the largest differences in duration: in the repetition, the words you do had durations of 18
ms and 68 ms, respectively; in the TS, these same words were produced with durations of 11 ms and 44 ms\textsuperscript{14}.

Not every word of the repetition is produced with a longer duration. The word did, which here functions as an auxiliary to the main verb do, is produced with a shorter duration in the repetition than it was in the TS turn. It is overwhelmingly the 'content' words (e.g. nouns and main verbs) which are produced with longer durations in the repetition repairs, as is shown here; in the repetitions of fitted TS turns, it is not unusual for repetitions of auxiliaries, modal verbs, and pronouns referring to the two participants (i.e. you and I) to have shorter durations\textsuperscript{15}. I can offer no explanation for this phenomenon at this time, but simply note its widespread occurrence.

The durational differences shown in Figure 4.3 do not correspond to major differences in the articulation of the words: you do is produced as $[\delta\check{a} \text{du}^{m]}$ in the TS turn and as $[w\{\delta\check{a} \text{du}^{h}]}$ in the repetition. Both phrases begin with affrication at the alveolar

\textsuperscript{14}These are the raw values of the durations of these words; in Figure 4.3, these values are normalized on the log scale. See section 3.3.3 for more information on normalization

\textsuperscript{15}In the repetitions of disjunct TS turns, these classes of lexical items are often outside the pattern as well; that is, they are longer in the repetition than in the TS turn, while the 'content' words are shorter.
ridge, with closer approximation in the repetition; both have a central vowel; both end with closure at the alveolar ridge and a release into a high back vowel with an offglide. Notice that nothing in the repetition suggests a more ‘careful’ rendering of articulatory targets (hyper-articulation); nor is there any evidence of ‘reduction’ processes at work.

The superscript [w] preceding the bracketed transcription of the repetition represents the liprounding which is evident throughout the repetition, but not in the TS turn. This is the major difference in articulation between the two productions of the words you do. The liprounding in the repetition, which is not evident in the trouble source turn, is an example of the long domain articulatory resetting that is a characteristic of repetitions of fitted TS turns.

In both utterances, what is articulated with a labiovelar approximant, which involves liprounding. In the TS, this liprounding is only maintained until the onset of the first vowel. No more liprounding is evident until the offglide of the final vowel [d̪u̯]. In the repetition, however, the liprounding is ‘turned on’ at the beginning of the utterance and maintained throughout. There is no phonetic reason for this liprounding to be maintained, and it is not maintained in the trouble source turn.

Fragment 14 thus exemplifies the systematic phonetic differences found in the repetitions of fitted TS turns: they are louder, have expanded pitch ranges, longer durations, and long-domain articulatory resettings.

Fragment 15, SORRY, is another example of a fitted TS turn with an ‘upgraded’ repetition repair.

(15) SORRY 4886CHAm

1 A: all right (.) no b'I got it now thank you very much
2 I appreciate it
3 (0.4)

4 B: (neeeoh[kay] I'm sorry I] couldn' ge' 'ny more
5 A: [and a:s o than ]
6 (.)

7 A: hmm .h

8 B: tch I'm sorry I couldn't get any [m:ore]

9 A: [n:o- cer]tain things of

10 those I didn't I- (0.2) I didn't get anywhere else
In fragment 15, Speaker A thanks his sister, Speaker B, for sending him something (see lines 1-2) from a particular store or bazaar\(^{16}\). As discussed above (section 4.1.1), thanking is akin to praising or complimenting, and invokes a complex preference structure. Some response, however, is due from Speaker B upon the completion of Speaker A’s turn.

Speaker B does not begin a response immediately, however; instead, 0.4 seconds of silence is allowed to elapse. She then produces a breathy alveolar nasal with ‘pulses’ of glottal friction; in effect it sounds like she is saying “ni” while breathing out and beginning to laugh. As she begins the syllable kay (taken together, all this vocal activity sounds like a chuckle followed by the word okay) Speaker B comes in in overlap.

His talk is an extension of his prior turn, displaying an orientation to the gap in line 3. Although he does not produce much talk before dropping out, what he does say (and also that\(^{17}\) ) indicates that he is about to add another item to the list of things he is thanking Speaker B for.

The rest of Speaker B’s turn is I’m sorry I couldn’t ge’ ny more; a rejection of the thanks offered. Unlike the thanking sequence in fragment 10, BIG GIRL, in this fragment the recipient of the thanks does not deflect it; instead, she rejects it by providing an apology in response. The apology displays her claim that thanking her is not an appropriate action by saying that whatever she has done, it wasn’t enough.

Thus, we see that this TS turn at line 4 is dispreferred in both action (what she says) and format (it incorporates delay as a marker of its dispreferred status). Nonetheless, it is fitted to its place in structure\(^ {18} \); the delay is part of its makeup, and the content of the turn is directly related to being thanked for one item (it), because she apolo-

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\(^{16}\) These speakers are also fluent Hebrew speakers and (prior to what is transcribed in this fragment) have used what appears to be a place name that I cannot identify.

\(^{17}\) The dental fricative here is voiceless and the vowel is nasal, which projects the word thanks rather than that.

\(^{18}\) See the discussion of the complex relationship between disjunct/fitted turns and affiliation/disaffiliation in section 4.1.
gizes for not getting any more. Many of the fitted TS turns that occur in the ABBA sequence are dispreferred responses to a prior first pair part, and as such incorporate an initial delay as part of their make-up (Levinson 1983: 339). This delay may 'prompt' talk from the other speaker, in an attempt to stave off the dispreferred response projected by the delay. This talk may be aiming for the inter-turn silence (Jefferson 1983), but in fact often begins slightly after the dispreferred response has begun, thus leading to the responsive, second-pair-part talk being overlapped.

The repetition in line 8 does not reproduce the neeoohkay. This is due to the role of okay when it is first produced: it functions as an acknowledgement of the thanking turn\textsuperscript{19}, and thus a ‘tie’ or link back to that turn (lines 1-2). The repetition occurs at a different place in sequence, and therefore cannot perform all the same functions that the TS turn was designed to perform. Every repetition in the collection is a second pair part to a request for repair; as such, there is nothing in the NTRI turn for a repetition of okay, and other particles like it, to tie back to.

The repetition repair in fragment 15 is louder than the TS turn, has an expanded pitch range and longer durations, and has long-domain differences in articulation. In short, it exemplifies the ‘upgraded’ phonetic pattern.

The first parameter to compare in the repetition and TS turn is that of loudness. This repetition is noticeably louder than the TS turn, as shown in the intensity trace in Figure 4.4.

Figure 4.4 shows that the repetition has several peaks of intensity above 80dB, whereas the TS has only one (on the word sorry). The repetition is louder, overall, than the trouble source turn. The average intensity of the repetition is 73.7 dB, while that of the trouble source turn is 72.8 dB.

The next parameter compared is pitch range. Figure 4.5 shows the pitch traces for the trouble source turn and the repetition, scaled in semitones relative to the speaker’s

\textsuperscript{19}It is not an agreement or acceptance of the thanks itself; recall that the rest of the turn is built to reject the thanks.
Figure 4.4: Intensity comparison of TS and Rep: SORRY 4886CHAm

baseline.\textsuperscript{20} The ranges are indicated by the horizontal lines on the graph.

Figure 4.5: Pitch of TS and Rep: SORRY 4886CHAm

Figure 4.5 shows that the repetition has a range of 6.5 semitones, compared to a range of 4.5 semitones for the trouble source turn. This pitch range expansion is characteristic of repetition repairs after fitted trouble source turns.

\textsuperscript{20}The pitch trace omits the neeoooh kay because this token is not repeated, for the reasons discussed above.
It is also characteristic of all repetition repairs (both of fitted and disjunct TS turns) to have the same intonation contour as the trouble source turns they follow. Figure 4.5 is something of an exception to that rule. There is a slight rise on the word I in the trouble source; because the duration of this word is so short in that turn, however, it is difficult to see. This rise is much more evident in the repetition. Additionally, there is a steeper fall, to a lower pitch, on the word couldn’t in the repetition, when compared to the trouble source. In the trouble source, the intonation can been seen as a fairly smooth falling contour, while in the repetition, there is a 2.5 semitone rise or reset at approximately 3.25 seconds. Finally, the end of the repetition has a rise-fall pattern, but only a fall in the TS turn.

In spite of the differences in the intonation contour, however, this repetition also shows an expansion of pitch range. The repetition reaches a higher maximum and lower minimum pitch than was reached at any point in the TS turn.

The next parameter compared is that of duration. Figure 4.6 is a plot of the durations of the words in the repetition (filled circles) and TS turn (empty circles) on a logarithmic scale. Duration is plotted along the y-axis. The higher the plot point, the longer the duration. Each plot point is labelled with the word it represents.

Figure 4.6: Word duration comparison of TS and Rep: SORRY 4886CHAm
Figure 4.6 shows that the words in the repetition are produced with longer durations than in the TS turn, with the only exceptions being the words I’m and I. As discussed above, it is just these self-referential pronouns which are often not produced with longer durations in repetition repairs of fitted TS turns. As is characteristic of the ‘upgraded’ phonetic pattern, the other repeated words are all produced with longer durations.

The durational differences evident in the repetition relative to the TS turn are reflected in the ‘segmental’ phonetics in this case. In the repetition, comparable parts of words are produced with more and different movements of the articulators. This results in additional vowel or obstruent articulations – ‘additional’ when compared to the articulation of the TS turn, that is. I have adopted the term ‘expanded syllables’ for this phenomenon.

By using the term ‘expanded syllable’, I do not refer to some change from an imaginary canonical form for the lexical words used in the turn in question. That is, I do not mean for ‘expanded’ to be taken as the opposite of ‘reduced’, because this implies a belief in phonological processes that take place between a hypothetical citation form and the form actually attested in the data. I am concerned here only with the difference (or similarities) between a turn treated as a trouble source, and the repetition repair of that turn. What I mean by expanded, then, is simply that there is evidence of more articulatory movement in one utterance as compared to the other.

The percept of expanded syllables is another way in which the articulation of the repetitions of fitted TS turns are differentiated from the ‘original’ utterance. When syllable expansion does occur, it is usually not just one word that is affected; rather, as is the case with other phonetic differences between repetition repairs and fitted TS turns, syllable expansion will extend over most if not all of the utterance. In this sense, it can be considered a long-domain change, on a par with the articulatory (re-)settings

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21 This is of course dependent on such factors as whether a lexical item was ‘unexpanded’ in the TS turn.
that are also characteristic of this class of repetition repairs.

Syllable expansion occurs in fragment 15 in the productions of the phrase couldn't get any. In the trouble source turn these words are produced as [kwun'kin] and in the repetition, [kw'kined]22. Figures 4.7 and 4.8 below show the spectrograms and waveforms for both utterances, along with text grids showing the word boundaries.

Figure 4.7: Spectrogram and waveform of TS: SORRY 4886CHAm

The differences between the articulation of words perceived as 'the same' in two separate turns at talk demonstrate that for participants, there is more than one way to say the same thing. The 'sameness' at issue here is more than function; it is more than doing the same activity. Here, the same lexical items are subject to a massive temporal

\footnote{The two superscript [x]'s in the transcript of the TS turn represent a small amount of velar frication that occurs before the full constriction for the velar stop. The superscript [w] before the curly brackets in the repetition is used to indicate the domain of liprounding.}
reassortment of phonetic parameters (e.g., nasality, closure). There are three places in particular where this is evident. The first is at the end of the word couldn’t. What is produced in the repetition repair as a voiced alveolar stop released into a nasal, mid-high mid-front vowel [di] was produced in the trouble source turn as only an alveolar nasal in the TS [n].

The second place where syllable expansion is evident is at the end of the word get. In the repair, a front, mid-high vowel followed by a tap [ɛɾ] is the repetition of what was produced as only a nasal, mid-high, mid-front vowel [i] in the TS turn.

The third place we find syllable expansion in the repetition repair in fragment 15 is in the word any. In the repetition, a glottal stop and a creaky, front, mid-low vowel are produced before the alveolar nasal [ʔɛn]; this initial glottal constriction and vocalic

<table>
<thead>
<tr>
<th>I'm</th>
<th>sorry</th>
<th>I</th>
<th>couldn't</th>
<th>get</th>
<th>any</th>
<th>more</th>
</tr>
</thead>
</table>

Figure 4.8: Spectrogram and waveform of Rep: SORRY 4886CHAm
articulation preceding the alveolar nasal does not occur in the TS turn.

The addition of obstructant and vocalic articulations is commonly found over in the repetition repairs of fitted TS turns. It is not, however, a criterial feature of such repairs; it is simply one way in which articulatory differences between the TS turn and the repair are manifested. The discussion of fragment 15 has exemplified the characteristic phonetic pattern of repetitions of fitted TS turns as being louder, having expanded pitch and longer durations, and exhibiting long-domain articulatory differences from the TS turn.

A third example of the ‘upgraded’ phonetic pattern for repetition repairs appears below in fragment 16.

(16) OMA 4886CHAm

1  A: [Oma wasn’t (. ) wasn’t stupid when she tried to
2  B: [yeah awright   ]
3  A: always compliment her relationship with Missus Brown
4  (0.7)
5  A: hh .hh ((laugh))=
6  B: =.hh huh ((laugh))=
7  A: =.hh she was doing it cuz she thought that the Nazis
8  B: [.hhh huh          ]
9  A: come again Missus Brown will help us .hh
10 B: uh-hah ((laugh))
11 A: (en that’s [uh the   ])
12 B: [((clang))] (oof .hh) r(h) eall(h)y?
13 (.)
--->14 B: (tova/so wuh) that’s what Tova thinks? he[h ((laugh))
--->15 A: [what?                  
16 (.)
--->17 B: .hhh Tova- that’s what Tova think[s?
18 A: [no I said Oma

This fragment comes from the same conversation as fragment 15. Speaker A is Speaker B’s brother. As the fragment begins, he is beginning the telling of a story about their grandmother23. Speaker A reaches the end of his story in line 9, where he completes the utterance giving his reason for claiming Oma wasn’t (. ) wasn’t stupid when she tried to always compliment her relationship

23 ‘Oma’ is the German word for grandmother, and the speakers are brother and sister.
with Missus Brown (lines 1 and 3).

Speaker B provides minimal uptake of the story at line 10, however; she just laughs. Note however that the teller does not laugh, nor does he join in her laughter. The storyteller in this particular instance is thus displaying that laughter is not necessarily an appropriate response, even though laughter can be used to acknowledge the end of a story.

Rather than producing any laugh tokens himself, in his next turn Speaker A begins what appears to be a summation of the story, (en that's uh the) (line 11). The completion of this turn would present Speaker B with another opportunity to display an understanding of the story as complete. She does this at line 12, begun in overlap with Speaker A. The (clang) is merely a transcription of a noise coming from her side of the phone line; after it, however, Speaker A abandons his turn, and after a gasp (oof) and inbreath, Speaker B produces a really? interspersed with more laughter.

This really invites confirmation of the prior talk, and Heritage (1984b: note 13) reports that the recipients of such 'news marks' often respond by advancing the informing. Here, however, a silent beat occurs after Speaker A's production of really; that is, there is no indication from Speaker B that a confirmation, let alone an expansion, is forthcoming. Speaker B moves, accordingly, to pursue more information in the form of a direct understanding check, (tova/so wuh) that's what Tova thinks? heh ((laugh)) (line 14). This turn is subsequently treated as the trouble source turn.

In the turn at line 14, Speaker B displays that she believes Tova to be the subject of the story, and asks for Speaker B's confirmation of this understanding. Her turn is fitted to this position because Speaker A has passed on a possible opportunity, after

---

24 Inspection of the beginning of the fragment shows that Speaker A's naming of the subject of the story was overlapped by talk from Speaker B (see line 2). His recycled turn beginning only returns to the word wasn't; he does not repeat the overlapped Oma.
line 12's really, to reconfirm his story. After pursuing the more preferred route of providing a co-participant with the opportunity to offer additional information, Speaker A takes her earliest opportunity to check her understanding of the story by explicitly requesting the information.

In response to this question, Speaker B produces an NTRI in overlap with the final laugh token, displaying a treatment of line 14 as a trouble source turn. After another micropause, Speaker A produces the repetition repair in line 17.

This repetition-trouble source pair is particularly interesting because of the words beginning both utterances. In the repetition, the first word To:va- is cut off by means of a glottal stop. After this self-repair, the TS turn is repeated verbatim. In the trouble source turn as well there is an articulation before the part of the utterance that is repeated. This articulation sounds like a possible production of the word Tova before the question that's what Tova thinks. The orthographic transcription (tova/so wuh) shows the author's doubt as to the identity of this word, however.

Parametric listening techniques (Kelly & Local 1989a) combined with inspection of the waveforms for these utterances reveal certain small differences of articulation between the two utterance-initial productions. The trouble source turn begins with an interdental affricate [θs]; the repetition, however begins with a voiceless dental stop, released with aspiration [tʰ]. In the trouble source, the initial occlusion is followed by a vocalic articulation moving from central to more back, mid-high, and rounded [ɔː]; in the repetition, the vocalic articulation of a back, rounded, mid-high vowel is followed by a voiced labiodental fricative [ɑv].

The particular identity of the lexical item beginning the trouble source turn, though still in question even after close listening and instrumental analysis, is not of the utmost importance for this study. What is important is that the repair turn is begun with an articulation that is fairly similar in many respects – initial dentality, turbulent stop releases, and back, rounded vowels. Both articulations carry the percept of two
syllables, so they have a similar syllabic and rhythmical structure as well. In other words, regardless of the ‘true’ identity of the lexical item beginning the trouble source turn, the repair is produced in such a way that it comes off as a lexical repetition.

The repetition repair of the fitted trouble source turn in fragment 16 is an example of the ‘upgraded’ phonetic pattern. It is louder than the TS turn, with an expanded pitch range, longer duration, and long-domain articulatory re-setting.

The first parameter compared between the two utterances is that of loudness. Figure 4.9 shows the intensity traces in decibels for both the trouble source turn and the repetition repair.

![Intensity comparison of TS and Rep](image)

Figure 4.9: Intensity comparison of TS and Rep: OMA 4886CHAm

Figure 4.9 shows that the repetition is louder throughout than the TS turn. Every peak of intensity in the repetition is above 80dB, while in the TS turn, only an initial peak (on tova so wuh) measures above 80dB. The final two intensity peaks in the TS turn, after thinks, are caused by the speaker’s laughter.

The question remains as to whether this fragment is an example of a repetition of a self-repair, or if it is a cut-off of a turn begun as something other than a lexical repetition, followed by a self-repair that is a repetition. Since this study focuses on the phonetic aspects of repetition repairs, a full investigation of the interactional questions raised here is beyond its scope. The question of whether and how self-repairs are redone in other-initiated repairs is left for another study of repetitions.

---

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The next parameter compared is that of pitch range. The pitch of each utterance was converted to semitones scaled relative to the speaker's baseline. The pitch range comparison for fragment 16 appears in Figure 4.10. The horizontal lines indicate the maximum and minimum pitches of each turn, respectively.

Figure 4.10: Pitch of TS and Rep: OMA 4886CHAm

Figure 4.10 shows that the pitch range of the repetition is expanded relative to the pitch range of the TS turn, as is typical of repetition repairs of fitted trouble source turns. In this particular example, the range of the repetition is 8 semitones, an expansion of 3.5 semitones from the 4.5 semitone range of the trouble source turn. As is characteristic of all repetition repairs, these two intonation contours are similar in shape.

Duration is the third parameter compared. Differences in the duration of the words in the trouble source turn and the repetition are shown in Figure 4.11. The duration of each word is plotted on a logarithmic scale along the y-axis, with longer durations at the top of the scale, and shorter durations lower on the scale. The filled circles are plots of the duration of the words in the repetition, and the empty circles plot the duration of the words in the TS turn. Each plot point is labelled with the word it
represents.

Figure 4.11: Word duration comparison of TS and Rep: OMA 4886CHAm

Figure 4.11 shows that all the words in the repetition have longer durations than in the TS except the final word, *thinks*. It is not uncommon for one word (or more, depending on the length of the utterance) not to conform to the durational pattern of longer durations on the words in repetition repairs of fitted TS turns. A possible reason for the shortness of the final word in this particular repair, however, is that it is overlapped by Speaker B. One common method of overlap resolution (Schegloff 2000a) is the dropping out of one speaker - in this case, Speaker A.

Finally, the repetition repair in this fragment is an example of a change in two vocal tract settings, those of laryngeal tension and labiality (Laver 1994). The repetition in this fragment has a tense laryngeal setting, while the trouble source turn has a slightly breathy (lax) laryngeal setting. This repetition, then, exhibits an increase in the degree of muscular tension.

There is also a change in the degree of lipspreading (what is often referred to in CA literature as ‘smile voice’). The repetition has a neutral degree of lipspreading; in the trouble source turn, however, lipspreading is very pronounced. In this setting, then, we see a relaxation (toward the neutral setting) between the articulation of the TS turn.
and the repetition.

Fragment 16 thus exemplifies the phonetic pattern of repetitions of fitted TS turns: they are louder, with expanded pitch ranges, longer durations, and long-domain articulatory re-settings relative to the trouble source turn.

Fragments 14 through 16 have presented sample cases to show how repetitions of fitted TS turns exhibit a set of phonetic characteristics which are different from the phonetic characteristics of repetitions of disjunct TS turns: repetitions of fitted TS turns are louder, while repetitions of disjunct TS turns are not; repetitions of fitted TS turns have expanded pitch ranges, while repetitions of disjunct TS turns have non-expanded pitch ranges; repetitions of fitted TS turns are produced with longer durations, while repetitions of disjunct TS turns are not; repetitions of fitted TS turns show long-domain vocal tract (re-)settings of various articulatory parameters, while repetitions of disjunct TS turns have phonetically similar articulations.

4.3 Repetitions of fitted TS turns with different phonetic realizations

Not every fragment in the collection of repetitions of fitted TS turns conforms exactly to the described phonetic pattern. Most deviations, however, are small and involve only one of the four parameters of loudness, pitch range, duration, and articulatory settings. Of the twenty-five fragments in the collection analyzed as having fitted trouble source turns, five do not have expanded pitch ranges, but otherwise adhere to the phonetic pattern of other repetition repairs after fitted TS turns\(^{26}\). This section discusses these cases, showing that they are all unified by having trouble source turns that perform delicate actions.

\(^{26}\)Only one fragment in the collection deviates from the phonetic pattern of repetitions after fitted trouble source turns in more than one of the four parameters. In this fragment, the TS turn is a response to a tease. In the turn itself, the speaker laughs and responds with a tease of her own. This is a rare, and dispreferred, response (Drew 1987). The repetition repair is not louder and it has a compressed pitch range.
The five repetition repairs after fitted TS turns which have non-expanded pitch ranges all pursue particularly delicate activities: in one, a speaker makes what comes to be the final attempt, after several others, to engage his girlfriend in plans for a road trip; two attempt to mitigate a prior utterance that was receipted as inadequate, even insulting, by the other speaker; in another, a speaker inquires about whether her co-participant's daughter, a new mother, is happy?. A detailed analysis of the fifth non-expanded fragment is presented below.

The repetitions in these fragments are louder than the TS turn, have longer durations, and have various vocal tract (re-)settings evident throughout the TS turn. Their pitch ranges, however, are compressed. As noted above, all the TS turns are similar in terms of the delicate actions they perform. Such delicate actions are generally done in the guise of other actions (Sacks 1992a, Schegloff 1995b, Drew 1997); that is to say, they are performed in such a way as to not draw attention to the activity(ies) they are pursuing. A hypothesis for the use of compressed pitch range on these delicate actions, then, is that the use of an expanded pitch range is incompatible with the doing of delicate actions.

Fragment 10, discussed above, is one of the fragments which does not have an expanded pitch range on the repetition repair, and in which the TS turn performs a delicate action. A portion of the fragment is reproduced below as fragment 17, keeping the same line numbers as in the original, longer fragment.

(17) BIGGIRL 4065CHAm (short)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>B:</td>
</tr>
<tr>
<td>7</td>
<td>[a:nway thank you very much for</td>
</tr>
<tr>
<td>8</td>
<td>your (.) for your n:ote?</td>
</tr>
<tr>
<td>9</td>
<td>(0.2)</td>
</tr>
<tr>
<td>10</td>
<td>A: [o:h ]</td>
</tr>
<tr>
<td>11</td>
<td>B: [and your car]d and your and your (.) photo</td>
</tr>
<tr>
<td>12</td>
<td>--&gt;</td>
</tr>
<tr>
<td>13</td>
<td>A: .hhh ye[ah she's comin' along ]</td>
</tr>
<tr>
<td>14</td>
<td>--&gt;</td>
</tr>
<tr>
<td>15</td>
<td>B: [a couple a weeks ago (an) I'm- ]</td>
</tr>
<tr>
<td>16</td>
<td>(0.7)</td>
</tr>
<tr>
<td>17</td>
<td>--&gt;</td>
</tr>
<tr>
<td>18</td>
<td>B: what?</td>
</tr>
<tr>
<td>19</td>
<td>(.)</td>
</tr>
<tr>
<td>20</td>
<td>--&gt;</td>
</tr>
<tr>
<td>21</td>
<td>A: she's coming alon:ng (heh)</td>
</tr>
<tr>
<td>22</td>
<td>17 B: y:eah she's a big girl</td>
</tr>
</tbody>
</table>
As discussed in section 4.1.1, the thanking which Speaker B performs in lines 6-7 and 10 sets up a complex preference structure for its response. To accept the thanks is to indulge in a form of self-praise, because it ratifies the claim (inherent in the thanking) that the recipient did something praiseworthy. The rejection of an offer, in this case an offer of thanks, is also dispreferred, as was shown in the discussion of fragment 15.

Because of these constraints, the recipient of a thanks is placed in a difficult situation. In this fragment, the recipient of the thanks (Speaker A) takes another tack. She delicately balances the opposing constraints by deflecting the thanks she is being offered onto a third party, the object of the photo she is being thanked for sending. This way, she both avoids self-praise, and still displays an acceptance and understanding of the prior utterance. Speaker B, who has produced talk in overlap with this turn, initiates repair upon it in line 14.

The repetition repair of fragment 17 is louder than the TS turn, with longer durations on 2 of the 3 repeated words, and the vowels are more peripheral. The pitch range, however, is compressed. Figure 4.12 shows the parameters of pitch, intensity, and duration.

![Figure 4.12: Pitch and intensity of TS and Rep: BIGGIRL 4065CHAm](image)

The lighter lines are the intensity trace, showing that the repetition is slightly louder than the TS turn throughout. The vertical lines beginning and ending each word
indicate its duration, as measured from the waveform and spectrogram. The words she's and along are longer in the repetition repair than in the TS turn. The dark dots make up the pitch trace, which although following the same contour in both utterances, is compressed in the repetition relative to the TS turn. That is, the pitch of the repetition clearly has a higher minimum, and a lower maximum, than the trouble source turn.

In this and four other cases, pitch range compression marks the repetitions as deviations from the usual phonetic pattern of repairs of fitted trouble source turns. An interactional similarity among these sequences is that all the TS turns are involved in delicate actions. More research is needed to discover the motivation for the use of this compressed pitch range along with the other parameters (e.g., loudness, longer duration) that generally occur on repetitions of fitted TS turns.

4.4 Summary

This chapter has described the phonetic pattern of repetition repairs after fitted TS turns. These phonetic characteristics are unlike those of repetitions after disjunct TS turns, described in Chapter 5. Compared to the TS turn, repetitions after fitted TS turns are

- Louder
- Have longer durations
- Have expanded pitch ranges
- Exhibit long-domain articulatory (re-)settings

Various examples of overlapped and non-overlapped fitted TS turns were described, all of which were shown to continue a sequence in progress, or begin a new sequence after the collaborative closing of a prior sequence. Several fragments were considered in detail, to exemplify the phonetic pattern (described above) evident in this
subset of the collection of repetition repairs. These clear case fragments, along with the analysis of seemingly deviant cases, provide evidence of the speakers' own orientation to a phonetic norm for fitted repetition repairs.
Chapter 5

Repetition repairs after disjunct trouble source turns

This chapter presents the analysis of repetitions of disjunct trouble source turns. The term ‘disjunct’ covers problematic incursion into the turn space of another speaker, that is, overlapping talk (Jefferson 1983), and/or an observable lack of conditional relevance on the part of the trouble source turn (i.e., ‘appropriateness’ of the turn in relation to the prior; Drew 1997). All turns subsequently treated as trouble sources which began in overlap\(^1\) with a prior, ongoing utterance are categorized as disjunct. Turns which did not perform a relevant action such as made relevant by the context created by the prior turn, whether produced in the clear or overlapped by the other participant, are also analyzed as disjunct.

Repetition repairs of disjunct trouble source turns have the following systematic phonetic relationship to the TS turn:

- They are not louder
- They do not have expanded pitch ranges (pitch ranges are either similar or compressed)
- They do not have longer durations

\(^{1}\)These turns could be described as ‘interruptive’; however, this term implies that the interruptive speaker is pursuing a particular activity with the incoming talk. See also the discussion in section 5.2. A full investigation and explication of the differences between overlap and interruptions is beyond the scope of this study.
They have similar articulatory and phonatory settings, voice qualities, and vowel and consonant qualities

Overall, the phonetics of repetition repairs of disjunct trouble source turns could be described as 'non-upgraded' relative to the trouble source turn. Chapter 4 presented a set of phonetic characteristics which could be characterized as 'upgraded' from the TS turn which are used on repetition repairs of fitted trouble source turns. Thus, taken together, these chapters show that speakers display their own analysis of a trouble source turn as disjunct (or fitted) in the choice of phonetic parameters they manipulate when producing a repetition repair.

The chapter is organized as follows: Section 5.1 discusses how disjunction is analyzed, and provides examples of the different sequential environments in which disjunct TS turns were produced: overlapping turns, in-the-clear turns, and overlapped turns. This section focuses on the interactional analysis, with section 5.2 presenting the phonetic analysis of the 'non-upgraded' phonetic pattern found on the repetitions of disjunct TS turns. Section 5.3 looks at four cases of repetitions of disjunct (overlapping) TS turns which do not display the characteristic phonetic pattern. Based on an analysis of the common interactional environment in which all these TS turns occur, possible reasons for their 'deviant' phonetics are discussed.

5.1 Types of disjunction displayed in the trouble source turn

This section presents the ways in which a trouble source turn can be disjunct from the prior turn. It focuses on the sequential analysis of the fragments composing this subset of the collection, with presentation and discussion of the phonetic properties of the repetition repairs reserved until section 5.2.

The most common form of disjunction found in the collection is exemplified by the fragments in section 5.1.1. In these fragments, the speaker who begins talking in overlap is not the same person who initiates repair. These overlapping TS turns
comprise part of the ABAB other-initiated repair sequence. While Speaker A is talking, Speaker B produces an overlapping turn; Speaker A then initiates repair (e.g., says what?), and Speaker B repeats the talk he or she began in overlap. This section shows how the turn subsequently treated as the trouble source intrudes into the talk of another speaker, either in the middle of a word or the middle of a larger unit, i.e., a turn-in-progress.

Examples of disjunct turns produced in the clear, but lacking a displayed link to the prior turn, are discussed in section 5.1.2. Analyses are presented showing how these TS turns are not relevant next actions in the sequence-so-far. Speakers do have ways of displaying a turn’s non-relatedness to the prior, but these TS turns are shown to display a noticeable absence of these lexical, syntactic, and prosodic devices.

Finally, section 5.1.3 discusses disjunct TS turns which are overlapped. These TS turns comprise part of the ABBA pattern of other-initiated repair sequences, in which the speaker beginning to talk in overlap is the same speaker who initiates repair. In these sequences, Speaker A is talking, and Speaker B begins to speak in overlap. This same Speaker B then initiates repair, and Speaker A repeats her/his prior, overlapped turn. These TS turns, like those produced in the clear, are shown to be variously problematic in terms of their displayed relationship to the immediately preceding turn.

5.1.1 Overlapping trouble source turns: the ABAB pattern

This section explains and exemplifies the interactional analysis of overlapping, or ABAB pattern, trouble source turns. In these sequences, the speaker who begins talk in overlap is asked to repair that talk.

Research on naturally-occurring English conversation has shown that overwhelmingly, one speaker speaks at a time (Sacks et al. 1974: 700). In their seminal paper on turn-taking, Sacks, Schegloff and Jefferson describe a set of practices which govern the orderly exchange of turns. In short, they found that each speaker is initially allotted only one turn-constructional unit (TCU). The ends of these units are projectable, such that
participants know when the end of a TCU is approaching. The ends of TCUs are known as transition relevance places, where speaker change may (but need not) occur. It is by projecting an upcoming place of completion that speakers can time their utterances to come in as early as possible (and thus win rights to the floor). Extensive overlap, however, is not tolerated by the system, and Sacks et al. (1974) and Schegloff (2000a) show that violations of the turn-taking norms – overlapping talk – can be resolved by various means, including self- or other-initiated repair.

Even though talk by one person at a time is a basic design feature of conversation (Sacks et al. 1974, Jefferson & Schegloff 1975, Schegloff 2000a), speakers are of course not prohibited from overlapping one another. In fact, a good deal of research has investigated the different interactional practices instantiated by various types of overlap (Jefferson 1973, Jefferson 1983, French & Local 1983, Lerner 1996, Schegloff 2000a). These studies show that overlapping talk is not automatically, or mechanistically, treated as problematic.

In the collection of repetition repairs gathered for this study, however, more than half the turns treated as problematic (as displayed by one speaker’s production of an NTRI) have some form of overlapping talk (see Schegloff 2000a for a similar finding). The first type of overlap considered is the ABAB pattern of overlap, in which the speaker who initiates repair is the speaker whose talk is overlapped; that is, A is speaking, B begins speaking in overlap, A initiates repair on B’s talk, and B repeats the overlapping turn. There are 24 cases of overlapping, disjunct TS turns in the collection.

All overlapping TS turns were treated as disjunct because of the ‘one speaker speaks at a time’ constraint (Schegloff 2000a); that is, the producer of the overlapping talk did not wait for an appropriate place (i.e., a transition relevance place) to begin speaking. Even though some of the overlapping TS turns could be attempting to provide the projected, relevant next action, this action is done by an overlapping turn. Given the variations in the placement of the overlapping talk, it is not always possible to tell what the projected next action (of the overlapped talk) would be; therefore, in all instances
I cannot analyze the sequential fittedness of the overlapping TS turns. In all but four cases where such an analysis can be done (that is, there is enough talk produced before the overlapping TS turn to project a relevant next action), the 'violative' turn-taking status of the overlapping TS turns appears to override any consideration of the possible fittedness of content of the turns. These four cases are described in section 5.3.

Furthermore, these turns are treated as problematic by the speaker whose talk was overlapped – this speaker initiates repair on the overlapping talk, displaying a claim that none of this talk could be grasped enough to formulate a possible understanding (Sche-gloff 2000a: 37). Thus, I have followed the participants' own analysis in categorizing these turns as disjunct.

Examples of overlapping TS turns from the collection are given below, in fragments 18 and 19. Arrows point to the relevant turns. Only the interactional analyses of these fragments are presented here; the characteristic phonetic pattern of repetition repairs of all disjunct TS turns, of which overlapping TS turns are but one subset, is presented below in section 5.2.

(18) HER 4887CHAm

```
1 A: Elliott went to - go get his: u:mhh .hhhhhhhh whatcha call
2   it (0.6) Barr:on's whatever (0.4) .hhhh (0.3) and I'm like
3   [OH DO THEY HAVE PLAYBOY HERE LET'S G(H)ET (H)I(H)T
4 B: [(yeah)]
5 A: [eh heh ((laugh))] 
6 B: [(mmm)]
7 A: eh eh eh [eh eh eh eh ] EHEH ((laugh))
8 C: [nhhh ehh hu hu] ((laugh))
 --> 9 A: .hhh en (h)eve(h)ry(h)od[y's (h)loo(h)king at] me
 -->10 C: [d'you know her? ]
11 (0.2)
 -->12 A: what?
13 (0.8)
 -->14 C: do you know her?=
15 A: =yeah
16 (1.3)
17 A: I know her well
18 (1.3)
```

2There may be other reasons that the speaker whose talk was overlapped initiates repair; see Drew (1997) for some investigation of this question.
Three speakers are on the phone in this conversation. Speaker C is Speaker A’s mother; Speaker B’s relationship to the two of them is unclear, but he is probably Speaker A’s brother. During this fragment he plays a minimal role, with contributions only at lines 4 and 6, both in overlap with Speaker A.

As the fragment begins, Speaker A is nearing the end of a story about a fellow medical student who has posed in *Playboy* magazine. The ‘punchline’ of her story concerns her efforts to purchase a copy of the magazine at her local newsstand (line 3). The capital letters in the transcript represent the high volume at which the speaker produces this talk. Note also that she is quoting herself, as shown by the use of *I’m like* at the end of line 2. In short, she is reporting that she shouted *oh do they have Playboy here let’s get it*. After this, she dissolves into laughter (lines 5 and 7).

Speaker C only minimally joins in Speaker A’s laughter. The production of laughter invites others to orient to the end of a (humorous) story, and to display a shared intimacy with the speaker/laugher by joining in (Jefferson 1979). Speaker C’s laughter, however, is shorter and quieter than Speaker A’s.

Speaker A then produces *everyone’s looking at me* (line 9), during which she is still laughing (indicated by the *(h)*). These intra-word laugh tokens again invite recipient laughter to display affiliation and understanding (Jefferson 1979), but none is forthcoming. Furthermore, in this turn Speaker A explicitly characterizes her behavior (in asking about *Playboy*) as unusual, again displaying the conclusion of her story and providing another place for appreciation and/or acknowledgement from the co-participant(s).

Rather than any of these displays, however, Speaker C overlaps Speaker A’s turn in line 9 with the question *d’you know her?* Because the recordings were made in two channels, is it easy to pinpoint the moment of overlap; here it is 24 ms into
the final vowel of everybody (the entire vowel lasts 52 ms); i.e., halfway through. Even though the completion of this word could be projected when the overlapping talk begins, the utterance itself is not recognizably complete here.

In addition to being placed in overlap and thus disjunct from a turn-taking standpoint, the content of the turn displays a lack of understanding of the very basis of the story. The turn do you know her? at line 10 is similar to those described in Drew (1997) as not taking cognizance of what was said in the prior sequence. Speaker A has begun this story (prior to what appears in the transcript) by saying that a girl she knows has recently posed for Playboy; the story is predicated on her acquaintance with this girl. The question do you know her? not only fails to provide uptake at the end of a humorous story, but also may display a failure to understand the grounds for telling the story.

The trouble source turn in fragment 18 is disjunct based on the turn-taking organization – it overlaps an ongoing turn in the middle of a vowel in a word which is not the projectable end of the utterance. In addition, the overlapping, TS turn fails to display an orientation to the end of the story, even though enough of the prior turn (and sequence) has been produced when the overlap occurs to project a sequentially relevant next action. That is, it is clear from the sequence-so-far that the overlapped turn projects appreciation or acknowledgement of the story’s completion and the TS turn’s failure to perform this activity also marks it as disjunct. Furthermore, the TS turn displays a lack of understanding of the story’s reason-for-telling which, if not disingenuous, would more felicitously have been placed before the story is complete.

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3This, of course, is the ‘literal’ interpretation of do you know her. Given that Speaker C is Speaker A’s mother, we may also hypothesize that the question has another function: establishing the nature of her daughter’s relationship with a girl who posed in Playboy. Speaker A herself orients to this potential understanding of the question by distancing herself somewhat from the girl in line 19, but only after initial resistance (evidenced by the silences in lines 16 and 18, and claiming to know her well in line 17).
The next fragment presents a trouble source turn which also occurs in overlap, but within a turn-in-progress rather than within a word. Arrows point to the ABAB sequence (here begun by Speaker B, so this particular example is BABA).

(19) CAR 4431CHAm

1 A: (been) good then
2  (0.3)
3 A: give you a nice break
4  (0.4)
5 B: we: - no I miss the hell out of 'em
6 A: [do y(h)a
7 (0.2)
8 A: .hhhh [that's good]
9 B: [I was read-
10 (0.4)
11 B: I was ready (...) [that's sum-
12 A: [go get ] 'em
13 (0.8)
--->14 B: y:eah I wasn't (0.3) it's just that uh (0.9) [you know I
--->15 A: what[4 kind of
--->16 car do you have]
--->17 B: was gone- ] huh?
--->18 A: w'kind of car do you have now
19 B: same car

The speakers in this fragment are a sister (Speaker A) and brother (Speaker B). In the talk before the transcript begins, Speaker A has been asking after Speaker B’s children, who have been visiting their mother for the summer but are due back soon. At the beginning of the fragment, Speaker A is commenting that Speaker B must have enjoyed the break (lines 1-3).

Speaker B, however, disagrees with this assessment of the situation; after a pause of 0.4 seconds, he responds we: - no I miss the hell out of 'em (line 5). This dispreferred response follows the typical format of delay (the 0.4 seconds in line 4) plus hesitation marker (we: - is hearable as the word well with a glottal cut off), before the outright disagreement no, followed by an account, I miss the hell out of 'em.

4This placement of this line of transcript is explained in the accompanying text.
Speaker A responds to this turn in terminal overlap (Jefferson 1983) with the final bilabial closure on the prior utterance, the word *them*. This slightly overlapping utterance, *do y (h) a*, provides an opportunity for Speaker B to say more by treating the turn in line 5 as news (Heritage 1984a: fn13).

After no immediate uptake by Speaker B (note the 0.2 second silence at line 7), Speaker A begins an assessment (*that's good*) of Speaker B’s utterance. Speaker B however, is already responding to the newsmark *do y (h) a* and advancing the informing with *I was ready* (line 9). Thus Speaker B’s turn is produced in overlap with talk from Speaker A. To remedy this occurrence of overlap, Speaker B cuts off and recycles his turn beginning in the clear (line 11).

In line 12, Speaker A attempts what Lerner (1996) calls an ‘opportunistic completion’ of Speaker B’s turn after a momentary intra-turn silence, shown in the transcript by the (. ). After this beat of silence, Speaker A has a chance to contribute talk without it occurring in overlap. Her utterance *go get 'em* offers a possible completion of Speaker B’s turn (see also work on collaborative completions in Local 2000, Lerner & Takagi 1999); however, Speaker B continues with his own, projectably unfinished turn, so that Speaker A’s contribution is, in fact, overlapping.

After a 0.8 second silence (line 13), Speaker B displays affiliation or agreement with Speaker A’s possible completion of his prior turn with *yeah* (line 14). That is, he does not treat this instance of overlapping talk as problematic. Rather,

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5The use of the term ‘beat’ here and throughout the thesis refers to the normative organization for turn-taking in which one turn immediately follows the next, i.e., *without* a beat of silence. ‘Beat’ is not used here in a technical phonetic sense; it does not refer to the rhythmic organization of the talk. For an investigation of rhythm in other-initiated repair sequences, see Couper-Kuhlen (1992). Differences were not found between the rhythm of the trouble source turn and repetition repair in this study, and thus rhythm is not discussed as part of the phonetic pattern differentiating repairs of fitted and disjunct TS turns.

6Note that it is again Speaker B who moves to resolve the overlap by dropping out of his turn with a glottal cut-off.
he responds, and begins another TCU, I wasn't (0.3) it's just that uh (0.9) you know I. This TCU is again overlapped by Speaker A (see line 15, what kind of car do you have). Although it is difficult at this point in Speaker B's turn-so-far to project what he is going to say, it is clear that this TCU has not reached any point of possible completion – that is, what he does say projects that he is going to say more.

The pause of 0.9 seconds after the uh at the end of line 14 is included as part of Speaker B’s turn for the precise reason that it's just that uh projects more-to-come. Lerner (1996) finds, “One cannot stop talking and maintain silence indefinitely in the course of a turn or otherwise retard the turn’s progressivity indefinitely. A speaker is entitled to produce a complete turn, but he or she is also obliged to continue the turn’s talk to that completion.” (p. 267, emphasis in original.)

Speaker B attempts to fulfill this obligation by saying you know I was gone- (end of line 14, line 17), but Speaker A has started a turn of her own within the intra-turn pause. The transcript attempts to capture this timing by placing the beginning of the word what before the word you (line 14), and indicating by use of the left-hand brace that the closure part at the end of the word what is the only part of that word produced in overlap with Speaker B.

Unlike the earlier opportunistic completion (see line 12), this turn by Speaker A displays no relationship to the prior, halted turn-in-progress: What kind of car do you have is not a possible completion of it’s just that uh. Syntactically, this what phrase cannot follow the construction it’s just that; pragmatically, the question does not provide the account that it’s just that projects. Speaker B is still involved in the activity of providing the account (or reason) of why and how he missed his children while they were away; he has not yet been able to explain what it was he was ready to do. Yet the question produced by Speaker A at line 15 does not further this incomplete activity; instead, it begins a new sequence about his car.

In terms of both turn-taking and conditional relevance, the turn What kind of
car do you have is disjunct. It is begun during an intra-turn pause, intruding into Speaker B's turn space and failing to provide a recognizable completion of the turn-in-progress. In fact, it fails to display any relationship to the prior talk at all; nor does it use a 'misplacement marker' (Schegloff & Sacks 1973) such as by the way to indicate its unrelatedness to the prior talk.

This subsection has presented examples of the most common form of disjunct TS turns – those which overlap ongoing talk by the other participant. These turns have been shown to be disjunct based on their intrusion into the turn space already occupied by a speaker in the middle of a word, or in the middle of a turn. The TS turns in fragments 18-19 are also shown to lack a displayed relationship to the prior talk. As discussed above, such sequential disjunction is not a necessary criterion (or always analyzable) for categorizing overlapping turns as disjunct (but see section 5.3). The next section provides examples of disjunct turns produced in the clear.

5.1.2 Non-overlapping trouble source turns

This section presents the interactional analysis of disjunct in-the-clear turns treated as trouble sources. Even when turn transition does proceed in an orderly fashion, i.e., with no overlap, repair may still be initiated by either participant (see Sacks et al. 1974, Schegloff et al. 1977, Schegloff 1993, Schegloff 2000b on the placement of repair initiators). Repair may, in principle, be initiated after any turn.

A subset\(^7\) of the collection of in-the-clear turns after which repair is initiated is observably disjunct. These turns are not relevant next actions in the sequence-so-far; furthermore, speakers fail to use available devices such as misplacement markers (e.g., by the way) to set off these turns as nonrelated talk. Repetition repairs of these disjunct, in-the-clear TS turns share the phonetic characteristics of repairs of overlapping (and overlapped, see section 5.1.3) TS turns. A complete presentation of the phonetic

\(^7\)The other subset of in-the-clear trouble source turns are fitted to the turns before them, and were described in section 4.1.2.
characteristics of the repetition repairs of disjunct TS turns appears in section 5.2.

The examples which follow (fragments 20 and 21) illustrate the disjunct characteristics displayed by some of the non-overlapping TS turns. Arrows point to the repair sequences.

(20) ROBIN 4624CHAm

1 A: f'you want I can send this to you
2 (0.7)
3 A: "I have a copy of it"
4 (0.6)
5 A: [I- u-]
--- 6 B: [hnchu] do you get to see Robin much?
7 (0.4)
--- 8 A: what?
9 (0.2)
--- 10 B: do you get to see Robin much?
11 A: yeah once in a while cuz she lives pretty near me
12 (0.4)
13 B: mm-hm
14 A: although um (...) y'know (...) she works all day and I go to
15 school so w-e- we don't we don't (...) hang out like every
16 day but
17 (0.3)
18 B: oh
19 A: um I-
20 (0.3)
21 A: but
22 (0.2)
23 B: maybe you [could give it] to her:: or something
24 A: [she's like ]
25 A: huh
26 B: hhh maybe you could give it to her

The speakers in this fragment are female acquaintances. Just before the transcript begins, Speaker A has offered to send Speaker B a brochure about classes in Arabic. Speaker A has framed the discussion of the brochure as responsive to Speaker B's prior (before this phone call) inquiries about learning Arabic.

Speaker A's offer in line 1, f'you want I can send this to you, receives no uptake from Speaker B. After 0.7 seconds of silence, Speaker A displays her ability to follow through on the offer by saying "I have a copy of it". In this turn Speaker A claims that sending the brochure will not inconvenience her by indicat-
ing she has a copy available to send, and also that accepting the offer will not (overly) indebt Speaker B to her in any way.

Speaker B still does not accept the offer, however, and another silence ensues (line 4). After this, both speakers begin simultaneously (lines 5-6). Speaker A produces two very short vowel sounds, both of which are glottalized (creaky), while Speaker B produces a turbulent alveolar nasal outbreak followed by a nasalized, mid-central vowel [ɪh̩].

This vocalization by Speaker B does not provide a recognizable second pair part to Speaker A’s offer in lines 1 and 3. In other words, the adjacency pair is not complete when Speaker B launches a new sequence with the first pair part do you get to see Robin much? (line 6). Note that this part of the utterance is produced in the clear; Speaker A drops out after one beat (Schegloff 2000a: 22).

The utterance do you get to see Robin much? provides no account for not responding to the offer, and does not establish a link between the offered brochure and Robin. With the benefit of post hoc analysis, we can see that this utterance at line 6 functions as the beginning of an insert sequence which tests the possibility of Speaker A performing an alternative action to sending the brochure (see line 23, maybe you could give it to her: or something). For the participants in the conversation, however, the events are occurring in real time; they cannot look forward in the transcript to see what happens next. They must identify insert sequences from the sequence’s displayed relationship to the ‘suspended’ adjacency pair.

Insert sequences are commonly used to defer the production of a second pair part until some other, preliminary work can be done (Schegloff 1995b). Regularly, however, the first pair parts of insert sequences (of which this TS turn is an example) are ‘specialized as preparation for the particular type of second pair part made relevant for the base sequence which the insert expansion inhabits’ (Schegloff 1995b:103). One of the forms of specialized work which insert sequences can do is exemplified in this fragment taken from Schegloff (1995b).
A: I don’t know just where the- uh- this address is
B: well where do- which part of town do you live
A: I live at four ten east lowden
B: well, you don’t live very far from me. If you go on the State
(1.0) High-no if you go out past the courthouse to Elmhurst

Here, in line 2, B begins an insert sequence after A’s thinly veiled request for directions in line 1 (this comes after a get-together between the speakers has been agreed to). This insert sequence is type-specific to direction-giving, in that it seeks out where A will be coming from, so that B can begin the directions from that place. The insert exemplified in the trouble source turn in fragment 20 does not give any such indication that a particular problem is being worked out, after which the second pair part (responding to the offer of the brochure) will be forthcoming. In this case, that work would appear to be — again, only with the benefit of post hoc analysis — discovering whether or not Speaker A sees Robin regularly enough to warrant asking Speaker A to give the offered brochure to her. The turn at line 6, however, gives no indication that it is doing any work of this sort.

Thus, Speaker B’s TS turn at line 6, do you get to see Robin much, although it occurs in the clear, is disjunct because it provides no link to the prior turn, and fails to provide a second pair part to Speaker A’s offer. Not all first pair parts of insert sequences are disjunct; but this particular instance is treated as problematic by the recipient, and is observably unrelated (at the time it is produced) to the prior turn.

Another example of a disjunct TS turn produced in the clear is given below.

Again, arrows point to the repair sequence.

(21) WATCH 4624CHAm

A: hi=
---> 2 B: =tch okay now I have [to watch ] what I sa:y
3 A:        [(((cough)))]
4 (0.6)
5 B: uh huh huh [huh ((laugh))]
---> 7 A:    [what
8 (0.4)
---> 9 B: I said now I have to watch what I say h[h
The speakers here are the same female acquaintances as in fragment 20. This fragment is from the very beginning of the recording; it begins immediately after the speakers have given their consent to be recorded, and been informed that the corpus will be publicly distributed. Speaker A greets Speaker B (the caller) in line 1.

Speaker B, however, does not respond to the greeting with a reciprocal greeting. What Speaker B appears to be responding to in line 2 is the information that the recording will be publicly distributed. Her utterance okay now I have to watch what I say displays a (humorous) understanding of the consent information as a type of warning. Speaker A does not display any uptake of this utterance, however (note the silence at line 4). Speaker B then laughs, inviting co-participant laughter and displaying that her prior utterance would have been properly receipted as humorous.

By displaying no uptake after Speaker B’s first turn (line 2), Speaker A provides an additional opportunity for Speaker B to do the reciprocal greeting made relevant by the first greeting in line 1. Speaker A’s initiation of repair on Speaker B’s in-the-clear utterance is a display of some problem with the prior turn, and a potential reason for Speaker A’s difficulty is the impossibility of understanding okay now I have to watch what I say as a reciprocal greeting (see Drew 1995 on the exchange of greeting sequences as ‘a rule of social conduct’).

Fragment 21 thus presents another example of an in-the-clear turn which is observably disjunct by virtue of not providing the projected second pair part of an adja-

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8Or re-greets; from the beginnings of other calls in the corpus it seems that the speakers greet each other initially, then are presented with the opportunity to give their consent or to hang up if they decline to be recorded. Most recordings begin with the participants receipting the consent informings with ‘okay’ and then moving directly into other talk; only a handful of the recordings begin with (another) exchange of greetings.
ency pair, in this case a greeting.

This subsection has demonstrated how turns produced in the clear can also be disjunct. Such turns fails to display a relationship to the prior, often (as shown) by failing to provide the second pair part of an adjacency pair. The following section shows that overlapped trouble source turns can also be disjunct.

5.1.3 Overlapped trouble source turns: the ABBA pattern

This section presents an example of a disjunct, overlapped TS turn. Overlapped trouble source turns occur in the ABBA pattern of other-initiated repair sequences. In these sequences, the speaker who begins to talk in overlap is the same speaker who initiates repair; that is, A is speaking and B begins in overlap; B then initiates repair, and A repeats the overlapped talk. The trouble source turn in the fragment below (and the others like it, seven in all) are produced at a place in the sequence where talk from that speaker is appropriate – that is, talk from that particular speaker may be due, or the prior sequence may be closed, providing an equal opportunity for either speaker to begin a new sequence. Like the disjunct in-the-clear TS turns, however, these overlapped turns fail to do the relevant next action in the sequence, and/or do not display appropriate sequential links to the prior turn.\footnote{The majority of overlapped TS turns in the collection were found to be fitted to the place in sequence where they occurred. They were presented in section 4.1.1.}

Fragment 22 is an example of a disjunct, overlapped (ABBA pattern) trouble source turn. Arrows point to the repair sequence.

(22) LETTERS 6825CHAm

1 B: and my essays so far haven't been that outstanding
2 so: en- >I nee:d< (0.4) at least (1.0) y'know a couple
3 good (h)o(h)n(h)e(h)s(hh) .hhh=

--> 4 A: =I hope you don't need any more recommendation letters
5 B: [I don't know (it) that doesn't make
6 any sense
7 (0.9)

--> 8 B: what?

--> 9 A: .hh said I hope you don't need any more recommendation
This fragment begins with Speaker B completing a troubles-telling to her boyfriend, Speaker A. The 'trouble' she is describing relates to deadlines she has to meet, and the fact that she needs a couple good - essays for a graduate school application she is preparing. She includes a self-deprecating comment in the conclusion to the troubles-telling, characterizing the essays she has written so far as not that outstanding.

The (h)'s in the transcript indicate laughter during the final word of the TCU in line 3. Laughter in troubles talk is often used by a speaker to display a 'resistance' to the trouble; that is, it displays that the speaker can laugh in spite of the troubles he or she is telling about (Jefferson 1984). The turns that follow laughter in troubles talk generally either join in the laughter and then move into a 'time out for pleasantries' (Jefferson 1984:351), or the recipient of the troubles talk declines to laugh, and instead produces a serious response that addresses the trouble.

In the turn following the troubles-talk, then, Speaker A has several ways of displaying uptake of Speaker B's troubles talk. Speaker A could join in Speaker B's laughter; he could produce a 'serious' response to the stated problem of writing good essays; he could acknowledge the trouble and elicit further talk (by e.g., using a newsmark, oh really); or he could display empathy (e.g., oh no) and thereby align as a troubles-recipient (Jefferson 1988: 425). Instead, he produces an utterance about another task involved in putting together graduate school applications, that of getting recommendation letters, I hope you don't need any more recommend-
Although Speaker A is not required to empathize with Speaker B, or to encourage more troubles talk from her, her talk is constructed so that the absence of a display of uptake is noticeable. Speaker A has the option of producing a minimal response, which might be treated as dispreferred (Pomerantz 1984); dispreferred responses in and of themselves, however, are not necessarily disjunct (see section 4.1.1). Therefore, although in many sequential environments including this one, 'no response' is an action in its own right, here Speaker A does something other than no response – he initiates a new sequence without collaborating in closing the prior.

Speaker B starts another TCU in overlap with *I hope you don't need any more recommendation letters* (line 8); both speakers complete their respective utterances, and after a 0.9 second pause, Speaker B – who began speaking in overlap – initiates repair.

Although produced when talk from Speaker A was relevant, the trouble source turn *I hope you don't need any more recommendation letters* is disjunct. It is produced after the completion of an extended troubles telling sequence, where a display of uptake is relevant. Rather than being responsive to the completion of the troubles telling, however, this utterance begins a new sequence – note Speaker B’s treatment of it as a first pair part, evidenced by her response *no: I don’t no* in line 11. Instead of producing a responsive turn to the troubles talk sequence as a whole (whether empathetic or not), or to the specific problem of essay writing, Speaker A introduces the issue of recommendation letters, which although related to the completion of graduate school applications, is not the trouble that Speaker B has initiated talk about.

This section has provided examples of disjunct TS turns occurring in overlap and - analysis of line 4 as a question is warranted by Speaker B’s treatment of it as such in line 11, when she responds to the repetition repair with *no I don’t no*, and as a complaint by her production of an apology at line 14.
in the clear. Turn-by-turn sequential analysis has shown that the turns are not fitted to the prior turn in various ways: some intrude into the turn-space occupied by another participant (sometimes in the middle of a word); some do not provide a relevant second pair part of an adjacency pair; some attempt to begin a new sequence but fail to mark the closing or suspension of a sequence already underway. The following section presents the phonetic pattern found to occur systematically on repetition repairs of these disjunct TS turns.

5.2 The 'non-upgraded' phonetic pattern of repetition repairs

This section presents several fragments which exemplify the phonetic pattern of repetition repairs after disjunct trouble source turns (49 cases). This pattern is defined by an absence of a particular kind of change in each parameter: they are not louder (i.e., they are quieter) than the original utterance; they have a non-expanded (i.e., similar or compressed) pitch range relative to the original utterance; they do not have a longer duration than the original utterance (i.e., they are shorter); and they have articulations similar to the original utterance (in terms of e.g., place and manner of articulation, voice quality characteristics, and vocal tract settings). In short, these repetitions can be remembered as 'non-upgraded' relative to the trouble source turn they repair. This phonetic pattern is markedly different from the phonetic pattern employed for repetition repairs of fitted trouble source turns, which in Chapter 4 was shown to be 'upgraded' from the trouble source turn.

The following three fragments provide several examples of the phonetic characteristics of repetition repairs after disjunct trouble source turns. Following a short description of the interactional sequence leading up to the trouble source turn and the repair initiation, the phonetic characteristics of each fragment are presented. The phonetic parameters displaying a systematic difference between the trouble source and repetition repair are loudness, represented below by intensity traces of the decibel mea-
surements of the two utterances; pitch, measured in Hertz and converted into semitones; duration, measured in milliseconds for each word and plotted on a logarithmic scale; and aspects of place and manner of articulation, compared by inspection of impressionistic phonetic transcriptions informed and supported by waveform and spectrographic analysis.

The first fragment, UNWIELDY, is a disjunct (overlapping) trouble source turn, after which a repetition repair is produced with the 'non-upgraded' phonetic pattern. Arrows point to the trouble source turn, NTRI, and repetition repair.

(23) UNWIELDY 4365CHA

1 B: [s'these things are sort] of spread-
2 A: [w e i r d ]
3 B: I mean they= were .hh [like the- they] were 1[oose the-]
4 A: [how would-( ) ][happen ]
5 (0.3)
6 B: they were unwieldy on my face
7 (0.8)
8 A: that's really weird
9 B: .hhh and so I was sort of (.)[(annerda)

--->10 A: [so did you go ba:ck?]
--->11 B: what's that?
--->12 A: did you go back?

13 (0.3)
14 A: an: tell them: to fix it?
15 B: no we- e- d- d- the girl:1 I: dy- d'you think I want this
16 this (0.2) .hhh (0.2) you know this (0.4) dll- girl:1
17 this (.) tch twenty-two year old girl to fix em n:o: w:ay

In this fragment, Speaker B is complaining to Speaker A, his girlfriend, about some eyeglasses he purchased recently. Speaker A produces a story appreciation in the form of an assessment at line 8, that's really weird. Following this, Speaker A continues his story, as marked by the use of and so after the inbreath at line 9. After a micropause (indicated by the (.) in the transcript), Speaker A overlaps Speaker B's talk at a point at which his turn is not possibly complete – his utterance is in the middle of a verb phrase (. hhh and so I was sort of) when she comes in. Her utterance here, so did you go ba:ck?, is subsequently treated by Speaker B as a trouble source, as displayed by his production of the NTRI what's that?
Based on its turn-taking placement (in the middle of an ongoing turn by the other speaker), this TS turn is disjunct. Note, though, that the activity pursued by the TS turn, that of asking for additional information about the conclusion of the story being told (about getting Speaker B's eyeglasses fixed) seems affiliative. This underscores the fact that affiliation or disaffiliation as displayed by the TS turn is not the deciding criterion for the type of repetition repair produced.

The repetition repair of this disjunct TS turn is produced quite similarly, phonetically, to the turn it repairs. The repetition repair in fragment 23 is not louder than the TS turn; it does not have an expanded pitch range (rather, the pitch ranges of the two utterances are virtually identical); it has a shorter duration (i.e., not longer) than the TS turn. Additionally, no evident differences in articulation are found; instead, markedly similar velar stop closures and releases are described. Each of these four distinctive parameters are considered in turn below, beginning with loudness as displayed in the intensity traces in Figure 5.1.

![Intensity comparison of TS and Rep](image)

Figure 5.1: Intensity comparison of TS and Rep: UNWIELDY 4365CHAm

Figure 5.1 shows the side-by-side intensity traces for the trouble source turn and repetition repair of fragment 23. Intensity, measured in decibels, is the phonetic description of what we perceive as loudness; however, other parameters besides intensity
are known to influence the perception of loudness differences (e.g., frequency, or pitch; higher frequencies generally correspond with increases in perceived loudness, (Baken 1987)).

The difference in the intensities of the trouble source and repetition turns in this fragment is fairly small, with the repetition repair being produced somewhat quieter. This fragment thus exemplifies the negatively defined nature of the 'non-upgraded' phonetic pattern. What appears to be important for this group is that the phonetic parameters of the repairs are not changed in a particular way; for the parameter of loudness, the repetitions are not louder, or more simply put, they are quieter.

The intensity traces in Figure 5.1 show slightly different patterns of intensity changes within the TS and repetition turns; in the trouble source, the intensity falls throughout the utterance, while in the repetition, the intensity rises slightly over the first two words, then remains fairly level.

The second phonetic parameter compared between the repetition repair and the trouble source turn is pitch range. The pitch of each utterance was converted to semitones, scaled relative to the speaker's baseline. The pitch comparisons for fragment 23 appear in Figure 5.2.

The horizontal lines indicate the pitch range of the repetition repair, which is the same 8.5 semitones as that of the trouble source turn. This fragment is a most striking example of pitch range similarity. Both the shape of each contour, and the range, are virtually identical. Again, this fragment shows that a non-expanded pitch range (i.e., a negatively-defined parameter) is a characteristic of the 'non-upgraded' repetition repairs.

Duration is the third parameter compared. The duration of each word in the trouble source and repetition repair turns was measured and plotted together on a loga-

Note that the fall in pitch on the word so (which is omitted in the repair, see section 3.2) is 'condensed' into the steeper fall of the word did in the repair than in the trouble source turn.
rithmic scale$^{12}$. Duration is plotted along the y-axis, such that the higher the plot point, the longer the duration of the word. Each word appears as a pair of plot points, with the words in the TS turn plotted as empty circles, and the words in the repetition as filled circles. The points are also labelled with the word they represent$^{13}$. The duration graph for fragment 23 appears in Figure 5.3.

Figure 5.3 shows that three of the four plot points for the repetition (did, go and back) are lower than the corresponding plot points for the TS turn, representing the fact that these words have a shorter duration in the repetition. Although the word you has a slightly longer duration in the repetition than in the TS turn, the duration of three of the four words in the repetition are in fact not longer than in the trouble source turn. Repairs after disjunct trouble source turns show this durational pattern of

$^{12}$A logarithmic scale normalizes the magnitude of difference between, e.g., a decrease of 0.1 ms on a repetition of a word with a 1.0 ms duration and a decrease of 0.2 ms on a word with a 2.0 ms duration. While the difference between the two words would appear larger for the second pair of words on a linear scale, a logarithmic scale represents the differences equally.

$^{13}$The duration of the word so, which is not repeated in the repair, is not plotted.
not being longer than the trouble source turns (i.e., there are shorter durations on the repeated words).

Finally, no striking articulatory differences are evident between the repetition and the trouble source turn. In fact, the similarity between the two articulations is their most striking feature. This is shown in Figure 5.4.

The arrows in Figure 5.4 point to the ‘spike’ of energy that marks the release of voiceless velar closure in both the trouble source and the repetition. In each production, the speaker raises the back of her tongue to make a complete closure at the velum and releases the closure suddenly, allowing the rapid outflow of the air built up behind the occlusion. The spectrogram also shows the similarity of the formant structures of the vowels in the two utterances, as well as the voicing and releases of stops.

From a basic, lay perspective the phonetic similarities described for the repetition repair in fragment 23 may not seem unusual. That is, we might expect repetitions to be, by their very nature as repetitions, maximally phonetically similar to the original utterance. According to the main phonetic and phonological theories and analyses of repetition described in Chapter 2, however, repetitions are either markedly reduced or hypo-articulated (Fowler & Housum 1987, Fowler 1988, Bard et al. 1989), or markedly
Figure 5.4: Spectrograms of TS and Rep: UNWIELDY 4365CHAm

hyper-articulated (Lindblom 1990), compared to the first production.

In contrast to these experimental studies, however, Fragment 23 represents a particular kind of repetition found in naturally-occurring conversation. It exemplifies the 'non-upgraded' phonetic pattern of repetitions after disjunct TS turns: the repetition is not louder, it has a non-expanded pitch range (but the same intonation contour), the repeated words do not have longer durations, and it has similar articulations to the trouble source turn. These phonetic properties do not match the description(s) of repetitions or of 'clear speech' found in the phonetic and phonological literature; the repetition is not 'reduced' compared to the original utterance, nor does it match the phonetic correlates of utterances rated as highly intelligible.

One explanation for the phonetic realization of the repetition repair may be that it represents a return to default articulatory settings after an occurrence of overlapping talk. Remember that in this subset of disjunct trouble source turns, exemplified here by fragment 23, the trouble source turn is produced in overlap with other talk – that is, it is intrusive into the turn space already occupied by the other participant. French &
Local (1983) and Schegloff (2000a) both note that speakers may phonetically 'emphasize' talk which is produced in overlap. French & Local (1983) in particular describe increases in loudness and pitch as the practices employed to display one's turn as competitive with the ongoing turn (see also section 2.3); if these resources are used on the trouble source turn, it would not be surprising to find that the repetitions of these turns were quieter, and/or had non-expanded pitch ranges compared to the TS turn.

The 49 trouble source turns which are repaired with the 'non-upgraded' phonetic pattern were checked for evidence of the phonetic features of $h + f$ as described in French & Local (1983); only four were found to (marginally) display these characteristics. Additionally, none of the trouble source turns in the collection exhibit lexical recycling, i.e., repetition of turn-initial words or phrases until one's turn emerges in the clear (Schegloff 1987a, Schegloff 2000a). This is another piece of evidence that the trouble source turns are not produced as turn-competitive incomings.

In summary, although produced in overlap with ongoing talk by the other participant, none of the overlapping TS turns in this collection exhibit the features associated with a 'fight for the floor' (Schegloff 2000a: 21); therefore, the corresponding repetition repairs do not merely display the phonetic exponents of a return to 'normal', default settings.

The next fragment provides another example of the 'non-upgraded' phonetic pattern of repetitions after disjunct trouble source turns, and is another repetition which is neither hyper- nor hypo-articulated. A short discussion of the disjunct character of this in-the-clear TS turn is followed by an explication of the phonetics of the repetition repair. The repair sequence is marked with arrows.

(24) BATHROOM 4431CHAm

1 A: yer- you know you said a lot of hurtful things too
2 well god damn it
3  (1.0)
4 A: I'm sick of gettin' trounced on
5  (0.7)
--- 6 B: you inna bathroom?
As this fragment begins, Speaker A is telling her brother, Speaker B, of an argument she recently had with their parents. In line 1, she is speaking in 'another's voice'; you said a lot of hurtful things too recounts something that was said to her. Following this, she returns to her own voice, well god damn it (see Klewitz & Couper-Kuhlen 1999 on the phonetic properties of reported speech). After the pause in line 3, Speaker A summarizes her story with an account for her prior reported actions, I'm sick of gettin' trounced on (line 4).

After this utterance, Speaker A has reached a recognizable endpoint in her report of an argument between her and a third party(ies). Some form of affiliation, or at least uptake, is warranted (Levinson 1983:331ff), but Speaker B remains silent. His next turn shows no display of empathy with nor understanding of the prior troubles telling, instead asking where Speaker A is talking from (you inna bathroom?). This turn is subsequently treated as the trouble source, with Speaker A initiating repair in the following turn (line 8).

Speaker B’s trouble source turn is disjunct, even though it occurs completely in the clear (in fact, it is bounded on either side by silences – see lines 5 and 7). You inna bathroom? displays no uptake of Speaker A’s troubles telling, and in fact

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14 Although this pause is rather lengthy, extended talk from Speaker B does not seem particularly appropriate here. It may be instead that Speaker A is pausing for emphasis, cf. Lerner (1996)

15 Note that she proceeds to answer the question after the repair is complete (no. I'm just cookin' (.) dinner, line 10). This answer is interesting in that it displays Speaker A's analysis of 'why that now' in relation to Speaker B's disjunct turn. The sound of running water is coming from Speaker A's end of the phone line, and by mentioning that she is cookin' dinner she informs Speaker B of where she is, and simultaneously provides an explanation for the (unasked) question of why he can hear water running.
trivializes Speaker A’s telling by displaying more interest in where she is making the call from than in what she is saying. Asking if she is in the bathroom is probably based on the sound of running water which is intermittently audible. It is, however, also something of an accusation. The very act of asking if she is in the bathroom displays his understanding that she is, or that she could be, even though the bathroom is not an acceptable place from which to make a phone call.

The trouble source turn in fragment 24 is disjunct because it does not provide a sequentially relevant response to the prior turn. Instead, it begins a new, unrelated sequence, with no display of a link to the prior nor any marker of its unrelated status. Since each turn in a sequence is assumed to coherently continue the sequence in progress (Sacks 1992a), special devices need to be employed to mark out disjunct sequences (Schegloff & Sacks 1973). No such markers are employed here.

The repair is an example of a repetition which is not louder than the trouble source turn, has a non-expanded pitch range (the repair has the same pitch range as the trouble source turn, but is lower in the speaker’s overall range), does not have longer durations on the repeated words, and has similar vowel and consonant articulations; the characteristic ‘non-upgraded’ pattern found on repetitions of disjunct TS turns.

The first parameter compared between the two utterances is loudness. Figure 5.5 shows intensity traces, in decibels, for both the trouble source and repetition repair.

Figure 5.5 shows that the intensity of the repetition repair is lower throughout, corresponding to the perception of a quieter utterance than the trouble source turn. The peaks on the words you and inna\textsuperscript{16} have considerably lower intensities in the repetition than in the trouble source.

Pitch range is the second parameter compared. Figure 5.6 shows the pitch of both

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\textsuperscript{16}When segmenting the utterances into words, there were often problems in reconciling orthographic or so-called lexical words with the sounds actually produced by speakers. The use of speaker-constructed contractions such as ‘gonna’ and in this case ‘inna’ were measured as ‘words’ when it was deemed prudent, i.e., if they were produced similarly in the TS and repair turns.
Figure 5.5: Intensity comparison of TS and Rep: BATHROOM 4431CHAm

the trouble source and the repetition turns in semitones, scaled to the speaker’s baseline.

Figure 5.6: Pitch of TS and Rep: BATHROOM 4431CHAm

As shown in the pitch trace of UNWIELDY, in Figure 5.2, both utterances in Figure 5.6 also have similar pitch contours. The steep rise-fall of you inna is compressed, but still evident in the repair. The first syllable of bathroom rises in both utterances, and in the second syllable it falls slightly in the TS, with an even slighter fall (i.e., a compressed fall) in the repair.

The horizontal lines on the graph mark the high and low pitches of each utterance.
Note that, again, the pitch range of the repetition repair is not expanded relative to the trouble source turn – each has a 4.5 semitone range.

Figure 5.6 also shows that the repetition is placed lower within the speaker’s range, another typical feature of repetition repairs of disjunct trouble source turns. That is, although the repetition is not expanded, and has the same 4.5 semitone range as the trouble source turn, the maximum and minimum pitches reached in the repetition are both lower than in the trouble source turn.

This fragment exemplifies the negatively-defined character of the ‘non-upgraded’ phonetic pattern, especially regarding pitch. The pitch ranges of both utterances in the fragment are the same, with the repair occurring at a lower overall pitch. Additionally, the pitch contour shows evidence of compression when compared syllable-by-syllable to the trouble source turn; in other words, the pitch range is the same for each utterance, but the pitch excursion on each syllable of the repetition is less than that of the trouble source turn.

Fragment 23 presented an example of the non-expanded pitch pattern (Figure 5.2) in which the ranges of the TS and repair were the same, and at the same place in the speaker’s range; this fragment, and Figure 5.6, give an example of another kind of non-expansion, in which the range is the same, but moved 1-2 semitones lower in the speaker’s overall pitch range. No difference in function was found among the different ways that non-expansion of pitch range could be realized, providing additional evidence that compressed, as well as similar pitch ranges, could (and should) be grouped together.

The third phonetic parameter compared is duration. The duration of each word in the trouble source and repetition turns was plotted together on a logarithmic scale, with duration on the y-axis. The higher the plot point on the graph, the longer the duration of the word it represents. The words in the TS turn are plotted as empty circles, those in the repetition as filled circles. The duration graph for fragment 24 appears in Figure 5.7.
Figure 5.7 shows that, as for the previous fragment, the durations of the words in the repetition are not longer than those in the trouble source turn. The words inna and bathroom have shorter durations in the repetition than in the trouble source turn.

In Figure 5.7, we can see that the duration of the word you is slightly longer in the repetition than in the trouble source turn, unlike the other words in the utterance. The same was seen in Figure 5.3. That is, in repetitions produced by different speakers, the word you is produced with a longer duration in the repetition than in the trouble source turn, while the other words in the utterances have shorter durations in the repetition. These self-referential pronouns (referring to either of the two participants, i.e., you and I) also behave differently from the other words in the repetition repairs of fitted trouble source turns (described in Chapter 4). In repetitions of disjunct TS turns, where the phonetic pattern is for the repeated words to have shorter (not longer) durations, these pronouns are in fact often longer. In repairs of fitted TS turns, where the phonetic pattern is for longer durations on the repeated words, the same pronouns are often shorter. I can only point out this pattern here; further investigation of the phenomenon is left for future research.

Finally, the articulation of the repetition repair is not markedly different from
the trouble source turn. The bilabial stops do not differ in the degree or duration of occlusion; the middle, consonantal portions of both productions of bathroom show similar types and durations of frication; nor are there notable spectral differences found in the vowels (i.e., they are the same quality).

Fragment 24 is thus another example of a repetition repair of a disjunct trouble source turn with the 'non-upgraded' phonetic pattern. Although this trouble source turn is not overlapping, it is not a sequentially relevant next action, and therefore disjunct. The phonetics of this particular repetition repair exemplify the pattern found for all repetitions after disjunct TS turns: it is not louder, has a non-expanded pitch range, the durations of the repeated words are not longer, and the repetition has no marked differences in articulation relative to the trouble source turn.

DATING, fragment 25, is the final example of this phonetic pattern. The repetition is a repair of a disjunct TS turn; the trouble source, NTRI, and repair are all marked with arrows.

(25) DATING 6067CHAm

A: [like (0.2) ] it’s nothing like (. ) we’re just (.)
2  B: [so much fun]
3  A: amazing (. ) amazingly close friends "and [ts- just"
--- 4 B: [is he
--- 5 dating at all?=
--- 6 A: = what?
7 (0.4)
--- 8 B: is he dating at all?
9 A: I don’t think so
10 (0.4)
11 A: like it’d be one thing like if he was dating other people
12 then like that d- n- th’ n: there’s no way I’d like ever
13 do this but like he’s n:ot
14 (0.2)
15 .hhhh a 1[east as] far as I know but like; (0.2) I could
16 B: [right ]
17 A: be wrong

Fragment 25 is from a conversation between two female friends of university age. This fragment occurs about 28 minutes into the call, nearly at the end. Most of the

\[17\text{In every case the callers both know the calls last only 30 minutes; several participants discuss the} \]
talk in this call has concerned Speaker A and her on-again, off-again boyfriend. In lines 1-3, Speaker A provides a summary and possible sequence closing to the just prior discussion of how much time she and the boy have been spending together, like (0.2)

it’s nothing like (. ) we’re just (. ) amazing (. ) amazingly close friends ° and ts- just°.

The word friends (line 3) is produced with falling pitch and focal accent, and as a point of syntactic and pragmatic completion, it also provides a point of possible completion for the turn construction unit (Ford & Thompson 1996, Wells & Macfarlane 1998). The talk after the word friends is produced at a low volume and with breathy voice, giving it a trail-off or turn-exiting quality. Thus it provides a space for Speaker B to come in in what Jefferson (1983) calls terminal overlap — that is, speakers may ‘legally’ begin a new turn in overlap with the prior when the final word of the prior turn can be projected. This slight overlap is generally seen as a form of alignment, as it (can) indicate involvement by displaying understanding at the earliest point possible (without intruding into the other speaker’s turn).

Speaker B does in fact produce a turn in terminal overlap here, is he dating at all? This turn, however, does not display understanding or awareness of most of what has transpired in the preceding talk. The conversation opened with Speaker A’s ‘confession’ of having slept over at the boyfriend’s apartment the night before; she has described several long, late-night telephone calls to him, visits beginning at 2am, how he has comforted her — in short, Speaker A has spent most of the 28 minutes of the conversation so far characterizing her relationship with the boy as that of a romantic couple. Speaker B has displayed previous understanding of this, and has suggested that Speaker A just (. ) propose already approximately two minutes before this fragment begins.

Yet here, after a summarizing (and self-deprecatingly dismissive) utterance by fact that they will soon be ‘cut off’ as the end of the time nears.
Speaker A, Speaker B asks a basic question about the possible status of the relationship.
If the person in question is dating at all, Speaker A’s claims to intimacy with him are undermined. Such an inquiry is misplaced at this point in the sequence (and indeed in the entire conversation), given the character of the preceding talk\textsuperscript{18}.

Speaker A initiates repair (line 6) on this utterance, displaying a trouble in understanding it. After the repetition (line 8), Speaker A herself points out the misplacement of the question in lines 11-13, like it’d be one thing like if he was dating other people then like that d-n-th’n: there’s no way I’d like ever do this but like he’s n:ot. This turn displays that if the answer to is he dating at all were yes, none of the activities she has been describing to Speaker B throughout the course of the call would have transpired.

This TS turn is disjunct because it asks for information more properly requested before, rather than after, the extensive discussion of a (possible) relationship between Speaker A and a third party. Placed where it is, it displays a (perhaps deliberate) misunderstanding of Speaker A’s prior talk, and no cognizance, let alone support, of Speaker A’s characterization of the relationship.

The repetition repair of this trouble source turn is not louder than the trouble source turn; it has a non-expanded pitch range and the durations of the repeated words are not longer than in the original utterance. The vowel qualities and the place and manner of articulation of the stops is also quite similar between the two utterances; in other words, the repetition is another example of the ‘non-upgraded’ phonetic pattern.

The first parameter compared between the repetition and trouble source turn is

\textsuperscript{18}Interpreting the question as misplaced does, in some sense, require looking at it from a ‘literal’ point of view. That is, it may not be merely an innocent, information-gathering question – it may serve to point out to Speaker A that she may be being taken advantage of, if the boy she thinks might think of her as a girlfriend is in fact also dating others. After the resolution of the repair sequence, however, Speaker A treats it at its ‘official’ level (Drew 1995, Drew 1997).
that of loudness. Figure 5.8 shows the intensity traces for both turns, measured in decibels.

Figure 5.8: Intensity comparison of TS and Rep: DATING 6067CHAm

Figure 5.8 shows that the intensity peaks of both utterances are similar, and generally reach approximately 80dB. The repetition is not, however, louder than the TS turn. In the TS turn, the intensity rises from the beginning of the word *dating* till the middle of the word *all*, possibly influenced by the speaker’s rise into falsetto pitch at the same time. The repetition, in contrast, falls approximately 3dB from the beginning of the word *dating* to the end of the utterance. The use of falsetto at the end of the trouble source, but not in the repetition, contributes to the perception of the repetition as quieter.

The speaker’s use of falsetto is shown in the comparison of the pitch ranges of the two utterances. Figure 5.9 shows the pitch of the trouble source and the repetition in semitones, scaled relative to the speaker’s baseline.

Figure 5.9 exemplifies a common feature of the repairs of disjunct TS turns – not only are they non-expanded, but they often have compressed pitch ranges relative to the turn they repeat. In the trouble source turn, the speaker goes up from the bottom of her range by approximately 21 semitones. At the beginning of the word *all*, around 15 semitones, she moves into falsetto. The repetition, on the other hand, has a range
of 13.5 semitones, and never moves into falsetto. The maximum pitch employed in the repetition is lower than that of the TS turn, and the minimum pitch is higher than the TS turn; that is, the range is compressed from both the bottom and the top relative to the TS turn.

Duration is the third parameter compared. The duration of each word in the TS and repetition repair is represented as a set of two plot points on the graph in Figure 5.10, labelled with the corresponding word. The filled circles represent the durations in the repetition, and the empty circles the durations in the TS turn. The higher the plot point, the longer the duration.

Figure 5.10 shows the pattern of shorter durations in the repetition evidenced by many of the repairs of disjunct TS turns. The durations of the words he, at and all are shorter in the repetition (as shown by the plot points for the repetition being below those for the TS turn). The duration of the word dating is the same; the plot points fall on top of each other. Only the first word of the utterances, is, is produced with a longer duration in the repetition than it was in the TS turn.
Finally, the repetition repair is produced with similar articulations to the TS turn, as is the common pattern for repetitions of disjunct TS turns. Both of the productions of stops at the beginning of the word dating are alveolar and voiceless; both have taps in middle of the word dating, and both have velar nasals to end the word. There is creak evident throughout both productions. Neither turn has a lateral articulation at the end of the word all; rather, both employ a fronted and raised mid-low back rounded vowel [ɔ].

The fragments presented above exemplify the 'non-upgraded' phonetic pattern found in repetition repairs of disjunct trouble source turns. This pattern is clearly evident in this subset of the collection, although a certain degree of variability is to be expected, and is found, in any collection of naturally-occurring speech. For example, as was shown in fragment 25, it is not unusual for repairs to have a word (sometimes more than one, in longer utterances) that deviates from the regularly observed durational pattern. It is the patterning of a cluster of phonetic parameters, observed over the aggregate of cases, that is described here, which attempts neither to discount nor overemphasize the variability encountered (see the discussion in section 6.4).

Comparison with the repetition repairs of fitted trouble source turns (Chapter 4)
shows that in spite of some intra-category variation in both sets, the two categories are differentiated by their use of systematically different phonetic patterns\textsuperscript{19}. This systematic production of different clusters of phonetic events on repetitions of sequentially dissimilar trouble source turns provides evidence of the speakers’ own analysis of their turns as either disjunct or fitted.

The example fragments discussed in this section are prototypical (Rosch & Mervis 1975, Rosch 1978) members of the category ‘disjunct’; they are near-perfect exemplars of the changes in the values for each of the four parameters described (loudness, pitch range, duration, articulation). A handful of trouble source turns were found, however, which displayed major deviations from this phonetic pattern; in fact, they displayed the phonetic pattern found on repetition repairs of fitted trouble source turns. An analysis of these cases is presented in the following section.

5.3 Deviant case analysis

This section discusses four cases of overlapping, and thus disjunct, trouble source turns that are not repaired with the ‘non-upgraded’ phonetic pattern. An interactional analysis of these cases shows that rather than providing counterexamples, these cases in fact provide supporting evidence of speakers’ orientation to the normative use of different phonetic patterns on repetitions of disjunct and fitted TS turns.

\textsuperscript{19}Additional research is needed to investigate why one group (‘upgraded’) is positively defined, and one group (‘non-upgraded’) negatively defined. One might speculate that the occurrence of other-initiated repair ‘blames’ the recipient for causing a problem of understanding. Acceptance of this blame can be done in a multitude of ways, while there is only one way to argue against this accusation – with the ‘upgraded’ pattern. In other words, a speaker must do something ‘positive’ to claim innocence; accepting blame is accomplished by not doing the positive thing(s).
5.3.1 Repetitions of disjunct TS turns with deviant phonetic realizations

Four cases were found in which the repetition repairs of disjunct TS turns are done with the ‘upgraded’ phonetic pattern characteristic of repetitions of fitted TS turns (discussed in Chapter 4). I argue that this ‘deviant’ phonetic pattern is used to display the speakers’ analysis of their own turn – which overlaps ongoing talk, and thus could be treated as disjunct – as in fact fitted when (if not where) it occurs.

Nearly all the repetitions of overlapping TS turns (those produced in the ABAB sequence) are produced with the same, ‘non-upgraded’ phonetic pattern discussed above. In many cases, it is not possible to analyze the sequential fittedness of the overlapping turn; that is, not enough of the prior turn has been produced to tell what the projected next action is. In the very few cases where the overlapping TS turn does appear to be a sequentially relevant next action, the repetition repairs are still done with the same phonetic pattern as repetitions of other overlapping turns (and of disjunct in-the-clear turns). In fact, in all but four cases, the ‘violative’ turn-taking status of overlapping TS turns appears to override the consideration of any fittedness of content they might display.

In those four cases, however, the possible sequential fittedness of overlapping TS turns does play a role, in spite of what appears to be their disjunct turn-taking placement. In these four deviant cases, speakers do not use a random phonetic pattern; they use the ‘upgraded’ phonetic pattern of repetition repairs of fitted TS turns. A close analysis of the placement of these deviantly repaired overlapping TS turns reveals that they all occur at possible completion points of multi-unit turns – at the possible ends of stories. Through both the sequential placement and the lexico-syntactic make-up of these overlapping TS turns, the speakers display an understanding of the story-so-far; by the phonetic pattern produced with the repetition, they display an understanding of the fittedness of the turn itself.

Analysis of the ‘fittedness’ of the content of these overlapping TS turns is aided
by their placement in these fragments. They all four occur after quite lengthy turns by the other speaker (ranging from 27 to 34 seconds in length); thus, the analysis of what would constitute a sequentially relevant response is not difficult. Each of the turns subsequently treated as a trouble source provides an appropriate response to the talk it overlaps; two are affiliative assessments of the other speaker’s description of a person or thing (sounds nice and silly Katherine); one does an understanding-check using a collective anaphor for the items listed in the prior turn (do you just miss those things); one displays understanding by providing a potential example of the cause of a described problem (and the windows are still open).

These TS turns are placed within ongoing multi-unit turns. Within such turns, the speaker transition places (TRPs) that are normally relevant are suspended until completion of the larger unit in progress. The affiliation and understanding displayed by the TS turns can be appropriately done within an ongoing multi-unit turn; I propose that these trouble source turns show the problems participants encounter in producing responses in relevant sequential positions within multi-unit turns (cf. Schegloff 2000b).

The TS turns in these four fragments are placed just beyond points of possible syntactic, pragmatic, and prosodic completion for smaller units within the larger unit of the turn-in-progress. Given the structure of such multi-unit turns, however, more talk is projected beyond the point at which the TS turn is produced. Thus, the talk comprising the TS turn is produced in overlap with the continuation of the multi-unit turn.

Overlapping TS turns produced within these structures are repaired with the ‘upgraded’ phonetic pattern characteristic of fitted TS turns, rather than the ‘non-graded’ pattern found on repetitions of overlapping – disjunct – TS turns. The use of this particular phonetic pattern within turns with complex transition places displays the speakers’ orientation to the normative use of the two phonetic patterns. The turns are fitted in every sense but that of the turn-taking organization, which is displayed by the speakers’ use of the ‘upgraded’ phonetic pattern on these repetition repairs, in a sense arguing for an understanding of the turns as appropriate, fitted responses.
Thus, the four fragments in which repetitions of overlapping TS turns are produced with the 'upgraded' phonetic pattern all share a set of sequential and lexico-syntactic features:

- They all occur within ongoing multi-unit turns (storytellings)

- They occur at points of possible completion of a smaller unit within the larger, ongoing multi-unit turn; a place where a display of understanding and/or affiliation with the story-so-far is warranted and appropriate

- They are ‘fitted’ in the sense of being appropriate, and affiliative, responses to the prior talk

Fragments 26 and 27 exemplify the structure of the four fragments. Arrows point to the repair sequences.

(26) WINDOWS 4623CHAm

As fragment 26 begins, Speaker D is telling a story about a headmistress at a school which is near her home. Speaker C's daughter will soon be attending this school.
It is common for stories to begin with a statement of what the story will be about – the story preface. In this way, listeners can monitor for the end of the story in order to provide a timely appreciation or assessment of it (Sacks 1992a). Line 3 completes one such statement, she has a very nice way of solving problems. This utterance projects that when a nice way of solving problems is described, the end of the story will have been reached.

In lines 5-7 Speaker D goes on to describe a particular problem the woman faced: she wanted to .hhhhh tell the (0.2) girls that when they come they should be careful of the noise the first night. By introducing a problem that the woman under discussion solved, this utterance and projects another point to monitor for in the story’s development – how she told the girls to be careful of the noise the first night.

After explaining why the girls are not quiet, and why they need to be, Speaker D produces what is possibly an end to an episode within the story (Schegloff 2000b) in lines 11 and 13 (but you get sent a letter you know you gotta be quiet the first night;). This utterance fulfills some – but not all – of the expectations provided for at the beginning of the story. You get sent a letter addresses how the girls were told (she wanted to tell the girls). It is upon completion of this TCU that Speaker C begins the overlapping talk in line 15. Speaker D, however, has not relinquished the multi-unit turn she claimed for herself by use of the story preface in lines 1-3. She continues with an inbreath and so she wrote a letter. The talk by Speaker C is treated as the trouble source turn.

Speaker C displays her understanding of the story-so-far by the content of the TS turn. Her utterance and the windows are still open displays her understanding that the ‘point’ of the story is the girls needing to be quiet. It also attempts alignment with Speaker D, by displaying that Speaker C has understood the story so fully that she can provide a reason that the neighbors might be upset by the noise (see
line 10) – after all, the windows are still open 20.

Speaker C’s turn in line 15 is not randomly placed within the multi-unit turn under construction by Speaker D. Rather, it is placed at a place of possible syntactic and pragmatic completion, and at a point where Speaker D takes an in-breath before producing more talk. Its placement is similar to that of line 12, a similarly affiliative utterance ah how they really (feel). Although this turn from Speaker C is also produced in overlap, Speaker D does not initiate repair on it. All four of the overlapping trouble-source turns in this group are placed in similar positions within ongoing multi-unit turns: after a place of possible completion of a smaller unit comprising an episode within the larger turn. If it were not for their placement within an ongoing multi-unit turn, these turns treated as trouble sources may not have been overlapped at all.

Fragment 27 provides another example of an overlapping turn treated as a trouble source which is produced slightly beyond a place of possible syntactic, pragmatic, and prosodic completion of a unit within an ongoing multi-unit turn.

(27) NICE 5712CHAm

1 A: and then go on: (. ) to: (. ) Jordan . hhh and then we’ll
2 take a little trip for maybe a week before we come
3 back something like um . hhh going on a barge
4 (0.3) along the canals in either France or Germany or:
5 Holland? (0.3) . hhhhh en ‘e [says ]
6 --> B: [ooh (that) sounds] nice
7 (0.3)
8 --> A: huh?
9 (0.8)
10 --> B: that sounds nice hh
11 A: one of those countries I said (. ) I h: eard about these
12 trips (0.4) a: nd- and the barges go so slowly that like
13 you can get off at a bridge

In fragment 27, Speaker A is describing a possible upcoming trip to her friend

20This fragment was included in the collection in spite of the change from the to your because in this instance, the change did not seem to stem from the initiation of repair. Both words are produced with the same volume and the same pitch (10 ST). In other words, there is no phonetic marking of the word substitution, nor do the participants appear to orient to it in any way.
Speaker B. She is also recounting how she (Speaker A) has convinced her husband to go on the trip; at the end of line 5, she is beginning to tell what he said (. hhhhh en 'e says).

Speaker B comes in in overlap at this point (line 6) with an assessment of the hypothetical trip, ooh sounds nice. This assessment is produced just beyond a point where Speaker A seems to be soliciting a display of understanding. At the beginning of line 5, Speaker A produces the word Holland with rising intonation (transcribed with the question mark), and then pauses for 0.3 seconds. Speaker B, however, does not begin an utterance until Speaker A has continued with her telling.

In spite of being produced in overlap with Speaker A’s extended telling, Speaker B’s turn displays an understanding of the prior talk by assessing it. Speaker A drops out of her turn (thus resolving the overlap) and then initiates repair (line 8).

In the two fragments given above, and in the other two in this sub-group, the speakers of the turns treated as trouble sources display their understanding of the talk as fitted by the type of repetition repairs they produce – with the ‘upgraded’ phonetic pattern.

In spite of the fact that these four turns are produced in overlap – and thus are possibly disjunct – the repetition repairs are louder than the TS turn, with expanded pitch ranges, longer durations, and long-domain vocal tract resettings. These are the characteristics of the ‘upgraded’ phonetic pattern. As Chapter 4 showed, this is the phonetic pattern employed on repetition repairs of fitted TS turns. The following figures present the measurements of the phonetic parameters of loudness, pitch range, and duration, as well as discussing the changes in articulation between the trouble source turn and the repetition in WINDOWS, fragment 26. The remaining three fragments displaying this ‘deviant’, upgraded phonetic pattern share the same characteristics.

Loudness is the first parameter compared. Figure 5.11 shows the intensity traces for the trouble source and the repetition repair; the repetition repair has consistently higher peaks of intensity than the TS turn, corresponding to a perceived increase in
loudness relative to the TS turn.

Figure 5.11: Intensity comparison of TS and Rep: WINDOWS 4623CHAm

The next parameter compared is that of pitch. The pitch of each utterance was converted to semitones, scaled relative to the speaker’s baseline. The pitch comparison for fragment 26 is shown in Figure 5.12. The horizontal lines indicate the maximum and minimum pitch for each utterance.

Figure 5.12: Pitch of TS and Rep: WINDOWS 4623CHAm
As shown in Figure 5.12, the repetition repair has an expanded pitch range relative to the TS turn. The repair has a 9-semitone pitch range, compared to a 7-semitone pitch range for the trouble source turn. The repetition has both a higher maximum and a lower minimum pitch than the TS turn. Aside from the difference in pitch range, the two utterances have similar intonation contours, of rise-fall-rise.

Next, we compare the duration of the two utterances. The duration of each word in the TS and repair turns is plotted together on a logarithmic scale (Figure 5.13). Each plot point is labelled with the word it represents; filled circles plot the values of the words in the repetition, and empty circles plot the values of the words in the TS turn. The higher the plot point, the longer the word’s duration.

Figure 5.13: Word duration comparison of TS and Rep: WINDOWS 4623CHAm

Figure 5.13 shows that the durations of the words in the repetition repair in fragment 26 also do not conform to the ‘non-upgraded’ phonetic pattern usually found on repairs of disjunct TS turns. Although the graph shows that the durational values are rather similar (notice the closeness of the two plot points for each word) those for which any difference is measurable are longer in the repair turn, rather than shorter. That is, while section 5.2 shows that durations for repairs of disjunct TS turns are generally shorter, this example shows that the durations for this repetition repair, though quite
similar, are in fact a bit longer\textsuperscript{21}.

In terms of the articulation of the two utterances, one major difference is evident. The secondary resonances of the repetition are markedly ‘clear’, while the TS turn is ‘dark’. That is, the articulations involved in the repetition are all accompanied by overall fronter tongue body postures compared to the TS turn (especially in the second half of the utterance, from are to the end).

The values for the phonetic parameters described above – increase in loudness, increase in pitch range, increase in duration, and long-domain changes to the vocal tract settings – are all characteristic of the ‘upgraded’ phonetic pattern generally found on repetitions of fitted TS turns, but also on four repetitions of disjunct TS turns. An explanation for the use of this ‘deviant’ phonetic pattern is that it displays the speakers’ understanding of their turns as fitted – in spite of overlapping the next unit of a multi-unit turn. As was explained in section 3.2, not only does the context of a particular utterance influence how it is said, but also, simultaneously, how something is said can influence the understanding of the context. Rather than a one-way set of selection rules, such that Activity Type 1 selects Phonetic Pattern Q, the use of Phonetic Pattern Q can create the understanding that Activity Type 1 is being done (Heritage 1984a, Fox 1987).

While perhaps technically disjunct from a turn-taking perspective, these TS turns are produced in a distinctly different environment from the other overlapping TS turns: within a multi-unit turn-in-progress. These speakers appear to be attempting retroactive constructions of their TS turns as fitted by using the phonetic pattern generally found on repetitions after fitted turns. Whether or not the other participant joins in this construction needs to be investigated by comparing the sequences following repairs of

\textsuperscript{21}The exception to this of course is the second word in each turn, the and your, respectively. In this particular example, I did not judge the change from the definite article to the pronoun to be significant, and included it in the collection of repetitions. As noted in footnote 20, both words are produced with the same volume and same pitch, and neither speaker seems to orient to the substitution. I cannot at this time speak to the difference in duration evident between the two words.
this type to those following other cases of repetitions after fitted and disjunct TS turns. Unfortunately, such an investigation is outside the scope of this study.

5.4 Summary

This chapter has shown that speakers repair trouble source turns that are analyzably disjunct with repetitions that are quieter, have a similar or compressed pitch range, similar or shorter durations, and no markedly evident differences in articulation from the original utterance. The disjunct nature of the turns treated as trouble sources was shown either in terms of their unreasonable incursion into the turn space of another speaker (Jefferson 1983) or in terms of their lack of fit with the next action projected by the prior turn. The previous chapter showed that the same phonetic parameters of loudness, pitch range, duration and articulatory settings are manipulated in a systematically different way on repetition repairs of fitted trouble source turns; thus speakers display their own analysis of a turn as fitted or disjunct by the type of phonetic pattern they employ in the repetition repair.
Chapter 6  

Discussion and conclusion

This chapter summarizes the analysis, and discusses the import for future research in CA and phonetics. In section 6.1 the motivation for and the main findings of the study are presented. In section 6.2, I consider how the phonetic form of the repair, corresponding as it does with the fittedness or disjunct nature of the trouble source turns, appears to be a display of speakers' acceptance or rejection of 'guilt' for having caused a problem in understanding. In section 6.3, the import of these findings for research in phonetics and conversation analysis are discussed, along with suggestions for future research on the questions raised. In section 6.4, the limitations of the current study are discussed, as well as ways in which the research could be extended.

6.1 Main findings

This thesis was motivated by a lack of knowledge about the phonetic form of repetitions produced in naturally-occurring conversation; previous work that demonstrates a relationship between the phonetic form of an utterance and its interactional function; and experimental work on the phonetics of repetition and the phonetics of more intelligible, or 'clear' speech. The context of other-initiated repair provides a way of investigating claims about sequence organization and the phonetic organization of particular activities.

The findings of this research:
• Provide a comprehensive, detailed phonetic description of the differences between repeated utterances in other-initiated repair sequences

• Provide additional evidence of the relationship between phonetic forms and interactional functions

• Highlight the problems of applying findings from laboratory analysis of speech to real events occurring in talk-in-interaction

The combination of sequential and phonetic analysis led to the discovery of a relationship between the phonetic realization of the repetition, and the trouble source turn it repairs. Trouble source turns which are fitted to the prior turn are repaired with repetitions that are louder, have expanded pitch ranges, longer durations, and long-domain changes to the articulatory settings (compared to the trouble source turns). Trouble source turns which are disjunct at the place in structure where they occur are repaired with repetitions that are not louder, not longer (i.e., shorter durations), have non-expanded pitch ranges, and no major differences in articulation when compared to the trouble source turns.

By employing different phonetic patterns on repetition repairs, speakers display an understanding of a difference in the structure of the sequence leading up to the other-initiation of repair. Some of the phonetic parameters manipulated in the two patterns are continuous or gradient variables, and as such have previously been described as ‘paralinguistic’. This study shows that the manipulation of continuous variables is oriented to in talk-in-interaction as a display of understanding in the same manner as categorical variables. If one sense of ‘meaning’ is what function or activity an utterance accomplishes – a view supported by this work – rather than only its lexical or propositional meaning, then the manipulation of so-called paralinguistic parameters can and does change the meaning of an utterance.

Additionally, this study exemplifies an empirical approach to studying the communication of attitudes (Laver 1994: 425) or emotions, activities also relegated to the
realm of paralinguistic behavior. Rather than rely on analyst-driven, intuitive categories of ‘anger’, ‘sadness’, or ‘guilt’, this study demonstrates that displays of such behaviors by participants can be grounded in and warranted by a sequential analysis of conversation. Then, the phonetic exponents of these categories can be described, renewing the connection (Firth 1957) between the analysis and the participants’ co-constructed interaction.

The analysis presented here does not entirely support published work on repetition. That work (discussed in section 2.2.1) has shown that repeated words are likely to undergo durational shortening, and to be rated less intelligible than first mentions of the same words. This loss of intelligibility is sometimes reported as an effect of phonological reduction processes, but studies aimed at discovering the exact reduction processes at work have not been successful. The collection of repetition repairs analyzed here are not (all) shorter than the turns they repeat, nor do repetition repairs systematically show evidence of reduction processes or other phonetic exponents of unintelligibility. Thus, they are unlike the repetitions previously studied.

One reason for this finding is that prior work on repetition considered it a homogeneous category; that is, all second mentions of words, regardless of that repetition’s function within the talk, were considered to be ‘the same’. Clearly, repetitions can serve different functions: as in this study, they can be employed as repairs; they can be used to demonstrate affiliation and display agreement (Schegloff 1996); they can show appreciation for the humor of the repeated utterance. By demonstrating a phonetic difference between self-repetitions produced in response to the other-initiation of repair, this study shows that not all repetitions can be considered ‘the same’ without careful analysis of the sequential structure they are produced in. This study argues that rather than considering phenomena as organized by reference to outside, analyst-imposed categories (e.g., ‘repetition’), we must consider the social actions that utterances perform (e.g., repair), because the phonetics almost certainly match the social actions rather than the lexical or syntactic items.
One of the activities that repetition in other-initiated repair sequences has been claimed to perform is that of clarifying the prior turn. The phonetic forms of the repetitions were compared to published reports of the phonetic correlates of ‘clear’ speech (as described in section 2.2.2). Again, not all repetition repairs showed evidence of the phonetic exponents of clear speech. This finding suggests that repetition repairs are not only, and perhaps not at all, employed to produce clearer or clarifying utterances. As suggested below, the function of repetition repairs may be concerned more with accepting or rejecting a display of trouble in understanding the fittedness of a prior utterance.

However, this finding also highlights the problems inherent in comparing phonetic analyses of talk produced in laboratory settings to talk produced in everyday conversation. It may be the case that speaking clearly in one setting (the lab) is a different, and incomparable, activity to speaking clearly in another setting (i.e., ‘real life’).

In the following section, I offer some thoughts on the function, or ‘purpose’ of the use of the two different phonetic patterns on repetition repairs.

6.2 Speculations on the ‘purpose’ of non-upgraded or upgraded repetition repairs

This study describes a systematic difference in the use of clusters of phonetic parameters in the production of repetition repairs. Aside from the descriptive value of the findings, however, this research allows us to begin to describe the function of these patterns. The speculations about the ‘meaning’ of the phonetic patterns described in this thesis are currently only speculations, and warrant empirical testing. That is, although the hypotheses offered below are based on the data, they are not (as yet) supported by a thorough analysis of the outcome of the repair sequences.

A good deal of research has linked the manipulation of phonetic parameters (usually intonation, but also others) with certain meanings (e.g., Cruttenden 1986, Bolinger 1989, Pierrehumbert & Hirschberg 1990, Laver 1994: 419ff, Ladd 1996). These works
and others rely on a belief, rarely backed up by anything but intuition, of a certain degree of iconicity between phonetic form and function. Analysts working in a CA framework are not free from such assumptions, but CA methodology provides a means for grounding such claims in the data (cf. Schegloff 2000a: 8, 12). Using CA, researchers can show that the participants regularly treat a particular cluster of phonetic events as performing a particular action.

In this study, one cluster of phonetic events was found to occur on repairs of turns which were fitted to their place in structure, while another cluster was found to occur on repairs of turns that were disjunct where they occurred. This finding suggests that a particular phonetic pattern is used by speakers to display an understanding that the trouble source turn being repaired was ill-fitted, or that it was appropriately fitted. This research, then, is a first step toward establishing a connection between certain phonetic practices and particular meanings – never losing sight of the fact that these ‘meanings’ may vary when the same clusters of phonetic parameters are employed at different places in conversational structure.

In the environment of repetitions deployed in other-initiated self-repairs, quieter utterances with compressed pitch ranges, shorter durations, and similar articulations to the trouble source turns may be displays by speakers of the understanding that their prior turns (treated as trouble sources) were indeed disjunct and problematic for the sequence-so-far. Conversely, louder repetitions with expanded pitch ranges, longer durations, and articulatory resettings may be displays by speakers that their prior turns were in fact appropriate next actions, fitted to their place in the sequence-so-far, and thus did not warrant treatment as a problem.

One hypothesis about the value of such displays by speakers may be, as suggested by Couper-Kuhlen (1992: 361), the acceptance or rejection of the social roles of offender and offended. The assignment of these roles is implicit in the production of the request for repair (Schegloff 2000a: 36ff), because this activity calls attention to the problematicity of a particular turn in the sequence. The accused producer of the trouble
source turn can display, by his/her choice of phonetic pattern, to accept or to reject the proposed role of 'troublemaker'. The deviant case analysis presented in section 5.3 shows that speakers orient to the normative use of the 'non-upgraded' and 'upgraded' phonetic patterns to in effect argue for the fittedness of their trouble source turns in sequential environments where that fittedness is at issue. Thus, this research shows the indispensable role of the phonetic level of organization in the collaborative resolution of (putatively) problematic sequences of talk.

6.3 Implications of the study, and directions for future research

This section points to some of the problems raised by this study, for both phonetic and conversation analytic research. In each subsection, I highlight the issues raised by the current work, and suggest how they might be approached.

6.3.1 Clarification

This research was conceived with a goal of investigating the phonetic and interactional evidence of clarification. Repetitions in other-initiated repair sequences were chosen for analysis partly because repetition repairs have been claimed to indicate that the speaker is treating the request for repair as a marker of a hearing problem; that the repair is doing clarification (Couper-Kuhlen 1992, Schegloff 1995b: 148). One reason repetition can be said to be displaying this understanding of the request for repair is that it passes on the opportunity to do anything else. In other words, although any request for repair might be heard as a harbinger of an upcoming dispreferred second pair part (Schegloff 1979, Schegloff 1995b, Schegloff 2000b), by not changing the lexical content of the trouble source turn the speaker is making no attempt to 'head off' this possibility. The only contingency that repetition appears to be built to handle is a mishearing.

The existence of experimental work into the phonetic correlates of clear speech
offers a way to test the phonetic structure of repetition repairs. If the phonetics of repetitions matched that of so-called clear speech (which is generally presented in opposition to conversational speech), this would be additional evidence that repetition repairs were involved in doing clarification.

However, the differences between the predictions of what clear speech is from laboratory research, and what people do in naturally-occurring conversations after requests for repair, suggest two things. Either the main function of (repetition) repairs is not 'doing being clearer'; or, speaking clearly when reading sentences in a laboratory setting is a different exercise from being clearer in a conversation. The problem of investigating what it means to be clearer in a conversation remains.

One way of approaching the problem would be to find participant orientation to someone being clearer. What such a display would consist of, however, could be as simple as accepting the repair. In fact, all the repetition repairs in the collection would be intelligible enough to engender a display of understanding from the recipient of the repair. Thus, the research reported here may show that clear speech produced under experimental conditions, and judged to be clear under experimental conditions, may not be an appropriate yardstick against which to measure clarity in conversational interaction.

Alternatively, this research may instead show that other-initiation of repair is not, at its base, concerned with clarification, or with getting a repair done. The existence of several fragments in the collection in which a response is produced simultaneously with the repair certainly seems to support this hypothesis, at least for these cases. Repair initiation may indeed be used to foreshadow an upcoming disagreement, or simply to stall for time (see also Drew 1997: 96). Since the corresponding repairs are shown, at least in this collection, to respond to the type of trouble source turn produced, it may be inappropriate to claim that these turns are responsible for doing clarification.

\footnote{See footnote 5 on page 33.}
6.3.2 NTRIs

All the repair initiators in the collection are of the open class variety (Drew 1997). The collection was not built only to examine repairs after this type of NTRI; it is simply that repetition repairs were only found after this type. Further research is needed to see if this is indeed the only type of NTRI after which repetition repairs occur.

Aside from what and huh, a handful of 'other' NTRIs were found. These are: I beg your pardon, what's that (three productions from one speaker, two productions from another), is the what, and what did you just say.

The remaining NTRIs did not pattern according to the type of trouble source turn they requested repair for; that is, what and huh were distributed fairly evenly between the sequences beginning with disjunct and fitted trouble source turns. The distribution of the NTRIs in the collection is shown in the table below.

<table>
<thead>
<tr>
<th></th>
<th>Fitted TS</th>
<th>Disjunct TS</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>what</td>
<td>16</td>
<td>23</td>
<td>39</td>
</tr>
<tr>
<td>huh</td>
<td>7</td>
<td>22</td>
<td>29</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>TOTAL</td>
<td>25</td>
<td>53</td>
<td>78</td>
</tr>
</tbody>
</table>

Table 6.1: Distribution of open-class NTRIs following fitted and disjunct TS turns

Although what is more than twice as common as huh after fitted trouble source turns, this difference is not significant. Furthermore, if it were, it is not clear what conclusions could be drawn, since no internal divisions within the class of fitted trouble source turns are apparent at this time. A difference in the distribution of NTRI types, however, might be a display of different understandings of what is problematic about the TS turn.

The findings of this study support the claim by Schegloff (1987b), reiterated in

2Except one fragment, SING (fragment 12), where the NTRI is is the what.
Drew (1997), that the form of repair initiation has no determinate relationship with the 
source or kind of trouble. Appendix A contains the phonetic transcriptions of all the 
NTRIs in the collection, and a short discussion of the similarities found among all of 
them. Unlike the systematic difference found in the phonetic realization of repetition 
repairs, the phonetic form of the repair initiator does not appear to display a speakers’ 
understanding of who is at fault for the trouble source turn. Because the NTRI could be 
used to display the speaker’s problem with the TS turn, it is interesting that no differ­ 
ences could be found in the distribution or phonetic realization of the repair initiators. 
Although the participant who initiates repair can give an indication of the source of the 
trouble by the class of NTRI produced, she/he is under no obligation to do so. That is, a 
more powerful NTRI (Schegloff et al. 1977) such as by the way you what3 can 
be used to locate the source of the trouble syntactically, clearly displaying the source of 
the trouble in a way that the open class repair initiators do not. However, less specific 
repair initiators may also be used for the same trouble.

6.3.3 Phonetics and conversation

Although it may be the case that the form of the NTRI does not systematically 
correspond with the type of trouble source to be repaired, this study does show a re­ 
relationship between the sequential environment in which the trouble source turn was 
produced and the phonetic realization of the repetition repair. One of the ways in which 
the difference between repairs of disjunct and fitted trouble source turns is realized is 
in the manipulation of vocal tract settings, e.g., pitch, loudness, tempo (here measured 
simply as duration), and also voice quality and degrees of approximation of articulators. 

These settings are manipulated differently according to the sequential location 
and placement of the turn treated as a trouble source. The combination of the tech­

iques of CA and phonetic analysis thus allows us a way to follow the suggestion of

3 This NTRI was found during the initial stages of data collection for this project, but the fragment 
was excluded from the analysis because the repair is a repetition plus expansion of the TS turn.
(Laver 1994: 425), that a closer examination of vocal tract settings might bring about a better understanding of what is meant by ‘tone of voice’, and the use of what he calls “communicative paralinguistic behavior in socially conditioned activities”.

This thesis enters the debate about which aspects of the speech stream are paralinguistic and which are linguistic by challenging standard assumptions about the phonetic realization of repetitions, and by showing that the phonetic patterning of repetition repairs is organized by reference to sequential organization. The work reported here suggests that decisions about what is linguistic and what is paralinguistic should not be made before examining the data and seeing what parameters are relevant for and oriented to by the participants themselves.

The difficulty, and possible futility, of maintaining a distinction between the paralinguistic and linguistic manipulation of certain phonetic parameters is highlighted by the collection of fragments discussed in this thesis. Instead of providing transcripts of the intonation contours of the trouble source and repetition turns, their pitch traces were presented instead (see section 3.1.1). This allowed us to see that in spite of similarities of intonation, the systematically manipulated parameter was that of pitch range. An increase or decrease in pitch range is often dismissed as paralinguistic (Ladd 1996: 39); that is, a ‘higher high’ is said to possibly convey greater emphasis, but not to affect the identity of the contour.

In this study, however, the change in pitch range is shown to be conditioned by the turn-taking organization and sequential placement of the trouble source turn. ToBI transcriptions of the intonation of the trouble source and repetition repair turns would have shown in nearly all cases that the contour of both utterances was the same. This would have been interpreted as indicating no phonological difference – no difference in the sound-meaning relationship – among the utterances. There is, however, an interactional difference among the fragments, reflected in the categories ‘disjunct’ and ‘fitted’.

Although the intonation contour of the trouble source turn is preserved in the
repetition repair, the range spanned by that contour is systematically different, and corresponds to the interactional, sequential division found between the trouble source turns. In other words, the same intonational contour has different $F_0$ exponents in different sequential environments. An example of this is provided by Figure 6.1 below.

![Figure 6.1: Pitch of TS and Rep: DATING 6067CHAm](image)

As can clearly be seen in this figure, the intonation contours are the same, but the range of the repetition is smaller than the range of the trouble source turn. This is a repair of a disjunct trouble source turn, as discussed on page 136; repairs of fitted trouble source turns also have the same intonation contour, but an expanded range (cf. fragment 14, page 81).

The interactional function performed by these repetition repairs corresponds to the identity of the contour, as expressed not by a categorical (and therefore classed as linguistic) manipulation of high and low tones, but by the gradient (and therefore classed as paralinguistic) manipulation of pitch range. Thus, the level at which difference is expressed is one that would be missed by adhering too strongly to current notions of the divide between linguistic and paralinguistic behavior. This thesis shows
that the level on which there is a phonetic difference can be demonstrated analytically by an empirical technique (CA) which does not rely on the analyst’s intuitions; instead, the claims about utterance meaning or function are grounded in participant displays of understanding.

Laver’s suggestion that the investigation of the details of vocal tract settings might be helpful in understanding the mechanisms of social communication is very similar to the approach advocated by Kelly & Local (1989b). In this paper, as in Kelly & Local (1989a), cross-parametric techniques for analyzing the phonetics of conversational speech are described. This thesis, along with other studies preceding it (see section 2.3), shows that phonetic analysis can “throw light in places till now unlit, particularly in the treatment of conversation” (Kelly & Local 1989b: 202).

The combination of CA with phonetic analysis can show participant orientation to the attitudes that Laver (1994) claims are communicated by tone of voice, rather than relying on analyst intuitions. Utterances which are treated similarly can then be subject to phonetic analysis to discern the relationship between their articulation and their treatment. Instead of saying an utterance simply sounds angry, CA gives us a methodology for showing an utterance’s treatment as angry. More work remains to be done on integrating such analyses with careful phonetic descriptions.

6.3.4 The nature of repetition

This thesis investigates the changes in phonetic production which accompany sequential differences in conversation, rather than focusing on the exact specifications of the phonetic parameters which differ between two utterances of the same words. The findings speak to work on repetition in laboratory speech, however, because they show how different repetitions produced in naturally-occurring talk can be.

Although a body of published research indicates that repetition leads to reduction (as reflected in the loss of intelligibility), this research shows that this is not necessarily the case. Both reduction and clarification phenomena were found side-by-side in
the collection of repetition repairs. The broader patterns, however, did not match the published reports of the phonetic characteristics of either repetitions, or of clear speech.

Based on this study, it is apparent that not all repetitions are alike. Even the collection assembled for this thesis, of repetitions occurring other-initiated repair sequences (i.e., in similar sequential environments) were found to be phonetically distinguished based on the fittedness or the trouble source turn. The sophisticated interactional differences reflected in the phonetic realizations of this collection of repetitions underscores the inadvisability of studying 'repetitions', regardless of their interactional function.

This study highlights the problems inherent in using a term such as 'repetition'. From a conversation analytic standpoint, no utterance is ever truly the same as a prior utterance, because each occurs in a different place in sequence. At such a different location, an utterance is subject to different pressures and different possible interpretations. Lexical repetition is, however, one practice speakers can use to display that what they are doing now is what they were doing before (Schegloff 1996: 199-202).

Similarly, no utterance is ever a perfect replica, phonetically, of another. An interesting question raised by this research is how close need one production be to another to 'count' as repetition? For example, in the collection, some sequences were produced with articulatory closure in the middle, then in the repetition, with no closure. Why were these sequences perceived as the same? Clearly, word uniqueness and frequency effects must play a role alongside phonetic similarity (see Laver 1994: 391ff). Investigation of such questions might benefit from experimental work, because parties to talk-in-interaction may claim (or accept) one utterance as a repetition of another when an outside analyst clearly perceives them as different (see the discussion of fragment 26, and the the-you difference).
6.4 Improving and extending the current study

This section discusses how the current study could be improved and extended. Naturally, a larger collection of repetition repairs could be gathered and analyzed. Rather than focus on only repetition repairs, however, all types of self-repair in other-initiated repair sequences should be analyzed. In this study, repetition repairs were selected for ease of comparison of phonetic parameters. The analysis of repetition repairs also made it possible to investigate claims in the phonetic literature regarding repetition.

As of now, however, this study can only make claims about the manipulation of the phonetic parameters of repetition repairs. Furthermore, all the data is drawn from telephone calls. An expanded collection should also include data from face-to-face conversation. Although no CA work to date has reported on a difference between similar actions when pursued on the phone or face-to-face, the possibility still exists. Expanding the research to consider data from a larger collection, and including non-repetition repairs, would make a stronger case for the claim that repairs bear a systematic phonetic relationship to the environment in which the trouble source turns were produced.

None of the phonetic parameters found to be relevant bear only on repetitions. That is, any of the setting changes, from pitch to articulatory settings, could easily be investigated in non-repetition repairs. The examination of the parameter of duration would have to be done differently than in this study, since it would not be possible to compare the durations of individual words. A syllabic rate comparison of the repair and trouble source turn could be done instead.

It may in fact be the case that duration is not systematically different in repairs. In the collection of repetition repairs, duration is by far the most variable parameter. Unlike the variations in pitch range discussed in section 4.3, however, there appeared to be no internal patterning among the fragments with repetitions that were either shorter or longer than the other fragments in that group. In both the fitted and disjunct trouble
source turn groups, the repetitions with ‘deviant’ durations were in the minority, comprising 36% and 17% of the total number of repetitions, respectively. This distribution is enough to warrant including, at least provisionally, the parameter of duration in the cluster of systematically different phonetic parameters.

Duration was investigated especially because of the claims in the literature regarding the durational shortening of repetitions. In the group of repetitions which were found to be regularly shorter than their corresponding trouble source turns, few (only 9 out of 53) were found to be longer than the trouble sources. In the group which were regularly longer, a higher percentage (9 out of 25) were in fact shorter in duration. Therefore, 68% of all the repetitions were shorter than the trouble source turns they repaired, which could be taken to support across-the-board durational shortening of repetitions.

What a qualitative approach such as the one taken in this thesis has to its advantage, however, is the ability to look at each case individually, and take other factors about each case into account. Therefore, I noticed that the repetitions that are longer in duration than the trouble source turns are also usually louder, and have expanded pitch ranges, and different articulatory settings (e.g., are more nasalized, or have higher and fronter vowels) than the trouble source turns. Additionally, they could all be seen to occur after a particular type of trouble source turn.

At the same time, I noticed that most of the repetitions that are not longer than the trouble source turns also are not louder, and do not have expanded pitch ranges (instead they are compressed or nearly identical), and they have similar articulations. They also generally occurred after a different type of trouble source turn than the other group of repetitions. The parameter of duration was therefore included in spite of its variability because of the role it plays in the patterning of clusters of phonetic events. This study emphasizes the importance of looking not only at trends of a statistical kind, approaching mathematical significance, but of recognizing the trends and patterns evident in the details of conversational interaction.
6.5 Summary

This thesis shows that systematic differences in the phonetic realization of repetition repairs co-occur with differences in the turn-taking properties and sequential relevance of the trouble source turn. Speakers manipulate clusters of phonetic parameters to display their understanding of who is ‘at fault’ for a conversational breakdown. This finding supports a growing body of work showing that attention to fine phonetic detail is as important as attention to sequential organization in understanding the orderliness in everyday talk-in-interaction.


Jefferson, Gail. 1981. The abominable ‘Ne?’: a working paper exploring the phenomenon of post-response pursuit of response. Occasional paper no. 6, University of Manchester, Department of Sociology.


Klewitz, Gabriele & Elizabeth Couper-Kuhlen. 1999. Quote–Unquote? the role of prosody in the contextualization of reported speech sequences. *InLiSt* 12.


Schegloff, Emanuel A. 1995b. Sequence organization. Unpublished manuscript, UCLA.


Szczep, Beatrice. 2001. Prosodic orientation in spoken interaction. *InLiSt* 27.


Appendix A

NTRI transcriptions

Following both disjunct and fitted trouble source turns, the word what was produced with variable final closures at the alveolar and glottal place of articulation, sometimes simultaneously. Some closures were full stops, others approximations. The closures were both voiced and voiceless; some were audibly released (e.g., aspirated), some were not. The placement of vowels was somewhat variable, but generally central to mid and mid-low front; if diphthongal, the vowel moved to a front, mid-high position. Very few vowels were nasalized. Modal, breathy and creaky phonation was found on the what tokens, sometimes changing from one to another on the same token.

Neither did the token huh exhibit any regular differences in articulation after disjunct or fitted trouble source turns. Nasality was often present on this type of NTRI. For this reason, I have included words transcribed orthographically as hm with those transcribed as huh. It appears that the hm orthography is a representation of bilabial closure at the end of the token, rather than an indication that one type is nasal and another type is not. In fact, such final closures are rare in tokens of this word. None of the tokens of huh had creaky phonation; most were breathy or voiceless. Vowels were generally in the mid central to mid back region.

All of the NTRI tokens exhibited a rising pitch. For that reason, no transcription of pitch is given. Symbols appearing before, above, or below curly braces indicate that that setting is present within that region.
<table>
<thead>
<tr>
<th>what</th>
<th>huh</th>
</tr>
</thead>
<tbody>
<tr>
<td>wɔd</td>
<td>BIGGIRL 4065CHAm</td>
</tr>
<tr>
<td>wɔd</td>
<td>FINE 4065CHAm</td>
</tr>
<tr>
<td>?ɛnət</td>
<td>KISS 4432CHAm</td>
</tr>
<tr>
<td>^h\wə^h</td>
<td>SICK4844CHAm</td>
</tr>
<tr>
<td>?ɛswət^b</td>
<td>SKILLS 4861CHAm</td>
</tr>
<tr>
<td>ʃɔt^b</td>
<td>OMA 4886CHAm</td>
</tr>
<tr>
<td>{ʃer^b}</td>
<td>WHALES 5242CHAm</td>
</tr>
<tr>
<td>^h\wə^l</td>
<td>TWINS 5242CHAm</td>
</tr>
<tr>
<td>ɔuʃəh</td>
<td>DO 6045CHAm</td>
</tr>
<tr>
<td>wər^b^b</td>
<td>ENGLAND 6067CHAm</td>
</tr>
<tr>
<td>{ʃər}t}</td>
<td>TALK 6067CHAm</td>
</tr>
<tr>
<td>wəl</td>
<td>DIFFICULT 6067CHAm</td>
</tr>
<tr>
<td>{wəl}</td>
<td>FLOWERS 6079CHAm</td>
</tr>
<tr>
<td>wət^b^t</td>
<td>CRUSH 6079CHAm</td>
</tr>
<tr>
<td>^h\wə^l^h</td>
<td>GRADE 6521CHAm</td>
</tr>
<tr>
<td>βɔt</td>
<td>PRACTICE 6521CHAm</td>
</tr>
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</table>

**Other**

<table>
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<th>huh</th>
</tr>
</thead>
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<td>CITIZEN 4093CHAm</td>
</tr>
<tr>
<td>izəo{wəh}</td>
<td>SING 6045CHAm</td>
</tr>
</tbody>
</table>

Table A.1: NTRIs produced after fitted trouble source turns
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<thead>
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<th>Other</th>
</tr>
</thead>
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<td>wɔfrsɑtʰ</td>
</tr>
<tr>
<td>wɛʔtʰ</td>
<td>WINDOWS 4623CHAm</td>
<td>wɔtʰɾiɛs ʰ</td>
</tr>
<tr>
<td>wɔm</td>
<td>GRAD 4624CHAm</td>
<td>{wɔʔts}sʰ ʰ</td>
</tr>
<tr>
<td>wɔʔtʰ</td>
<td>WATCH 4624CHAm</td>
<td>a³bɛɡjɑpɑɾdʰ</td>
</tr>
<tr>
<td>mwɔpʰ</td>
<td>ROBIN 4624CHAm</td>
<td>wɛtʰɾiɛs ʰ</td>
</tr>
<tr>
<td>mwɔʔm</td>
<td>LATE 4884CHAm</td>
<td></td>
</tr>
<tr>
<td>wɔʔtʰ</td>
<td>HOMEYET 4884CHAm</td>
<td></td>
</tr>
<tr>
<td>bɑʔtʰ</td>
<td>YEARS 4884CHAm</td>
<td>wɔʔtʰɾiɛs ʰ</td>
</tr>
<tr>
<td>wɔʔtʰ</td>
<td>HER 4887CHAm</td>
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</tr>
<tr>
<td>h{b³ɡ̩l}</td>
<td>FORGET 5788CHAm</td>
<td></td>
</tr>
<tr>
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<td>wɪˈʃtʰɾiɛs ʰ</td>
</tr>
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</tr>
<tr>
<td>wʌʰ</td>
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<td>wɪˈʃtʰɾiɛs ʰ</td>
</tr>
<tr>
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<td>FIND 6079CHAm</td>
<td>wɪˈʃtʰɾiɛs ʰ</td>
</tr>
<tr>
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<td>RACHEL 6079CHAm</td>
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</tr>
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<td>wɔʔtʰ</td>
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<td>wɪˈʃtʰɾiɛs ʰ</td>
</tr>
<tr>
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<td>BIRTHDAY 6079CHAm</td>
<td>wɪˈʃtʰɾiɛs ʰ</td>
</tr>
<tr>
<td>wɛʔh</td>
<td>SKIN 6521CHAm</td>
<td>wɪˈʃtʰɾiɛs ʰ</td>
</tr>
<tr>
<td>wʊʰ</td>
<td>RUN 6521CHAm</td>
<td>wɪˈʃtʰɾiɛs ʰ</td>
</tr>
<tr>
<td>wɔb̚θɛ</td>
<td>BOYFRIEND 6521CHAm</td>
<td>wɪˈʃtʰɾiɛs ʰ</td>
</tr>
<tr>
<td>weˈtʰ</td>
<td>LETTERS 6825CHAm</td>
<td>wɪˈʃtʰɾiɛs ʰ</td>
</tr>
<tr>
<td>uwɔʔʰ</td>
<td>HAPPY 6825CHAm</td>
<td>wɪˈʃtʰɾiɛs ʰ</td>
</tr>
<tr>
<td>{wɔʔts}tʰ</td>
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<td>wɪˈʃtʰɾiɛs ʰ</td>
</tr>
<tr>
<td>Other</td>
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<td></td>
</tr>
<tr>
<td>wɑʔtʰs̩</td>
<td>CAR 4093CHAm</td>
<td>wɑʔtʰs̩</td>
</tr>
<tr>
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<td>UNWIELDY 4365CHAm</td>
<td>wɑtʰsad</td>
</tr>
<tr>
<td>{wɑʔts}ʔ</td>
<td>STAYING 4365CHAm</td>
<td>{wɑʔts}ʔ</td>
</tr>
</tbody>
</table>

Table A.2: NTRIs produced after disjunct trouble source turns