

# CHAPTER SIX

## SUMMARY AND CONCLUSIONS

### 6.1 Introduction

This final chapter presents the accomplishments of this thesis and their significance. First, a summary is provided (6.2), which concerns each chapter (6.2.1), the key findings (6.2.2) and the findings on clicks (6.2.3). Next, the limitations of these findings and the directions for further research are considered (6.3). Finally, the implications of the findings are discussed (6.4), and some final remarks are given (6.5).

### 6.2 Summary of Thesis and Findings

This section presents a summary of each chapter (6.2.1), a summary of the main findings (6.2.2) and a summary of the findings on clicks (6.2.3).

#### *6.2.1 Summary of Chapters*

In chapter 1, the intellectual backdrop out of which the research in this thesis arose was reviewed. First, the Firthian approach was discussed, as this school of thought has greatly influenced this thesis, and many of its ideas inhere within this research. Three of the most fundamental aspects of the Firthian school were examined: context of situation, multi-level statements of meaning, and the rejection of psychological phenomena. It was highlighted that despite the Firthian approach being popular in the early part of the twentieth century, much of this interest largely vanished with the advent of generative linguistics in the 1960s. Second, the Variationist Sociolinguistic Approach was explored. This approach was shown to challenge many of the generative ideas by placing variability at the heart of its investigations and seeking to identify patterns between a person's linguistic variation and

their social attributes. After discussing these two linguistic approaches, a comparison of the Firthian approach and Conversation Analysis (CA) was then provided. This comparison demonstrated that these two approaches (the Firthian and CA) share many striking commonalities in their views on language meaning and context including the view that: language is social action and is polysystemic; actions are context-shaped and context-renewing; and that participant orientations should be used as a basis for theorising. It was pointed out that CA has therefore been adopted as a methodological toolbox by linguists who wish to examine talk-in-interaction from a Firthian perspective, as is done in this thesis. Next, a direct comparison was drawn between the different invocations of context in Variationist and CA studies, in which it was discussed that in CA, the only context considered relevant is that which can be shown to be relevant to the participants. After, as the main thrust of the analysis in this thesis concerned the distribution of clicks in English, an overview of previous works on clicks was given. This showed that to date, clicks have only been discussed as having a paralinguistic function in English. Finally, chapter 1 outlined how the Firthian, Variationist and CA approaches have influenced the directions of and the motivations for the research in this thesis.

The data and methodology were presented in chapter 2. First, the particulars of the corpora and the transcription conventions were outlined. Second, the CA approach and its use of participant orientations for constructing arguments and measuring the significance of an observation were discussed. Finally, the phonetic techniques of impressionistic observations and instrumental analysis were presented.

In chapter 3, the sequential, interactional and phonetic properties of call closings were investigated. It showed that one device which speakers regularly deployed in order to shift the direction of the conversation from some on-topic talk into the closing section was a multi-unit first closing (F1) turn, as in *yep (.) okay then*. These F1 turns were found to shift the direction of the talk by comprising one unit which attends to the preceding sequence and functions to close it down and a following unit which initiates, offers and makes relevant the action of call closure. Moreover, the diverse actions undertaken in the different units in the F1 turns—namely that of (1) sequence closure and (2) disjunctive sequence initiation—were found to be produced with highly systematic and recurrent phonetic characteristics which functioned alongside the lexis and sequential organisation of

the talk to index its interactional structure. One of the most striking observations in chapter 3 was the routine occurrence of a click in the boundary between the two sequences of talk, specifically in the initiation of the new and disjunctive sequence of call closure, as in *yep (.) ☉ okay then*. It was therefore hypothesised that at certain locations in talk, this non-phonemic microcluster of phonetics may be systematically produced as an interactional resource in order to indicate and demarcate sequence boundaries in English talk-in-interaction.

The hypothesis (from chapter 3) that clicks may undertake interactional work by functioning to index the onset of a new sequence boundary in talk was explored in detail in chapter 4. This chapter (4) showed that, unlike the claims in the literature (which argue that clicks serve only a paralinguistic function in English), clicks can routinely indicate and demarcate the onset of new and disjunctive sequences, as in *yep ☉ anyway how are you*. This new-sequence indexing function of clicks was evidenced by the environments in which they were produced, as various sequential, interactional and phonetic properties were found to intersect in complex ways to close down the sequences of talk which preceded the clicks and to open the new and disjunctive sequences which followed the clicks. It was therefore concluded that in English talk-in-interaction, clicks can undertake interactional work, functioning to demarcate new and disjunctive sequences of talk.

In Chapter 5 it was shown that new sequence initiations are not the only locations in which clicks are produced in English talk-in-interaction. This chapter (5) highlighted that an additional sequential environment in which clicks frequently occur is in word searches, such as *Ann's got a young man called uhm ! Brendan*. The interplay of a combination of sequential, interactional and phonetic characteristics provided evidence that in these locations, the speaker is indeed searching for a word and does indeed produce a click when doing so. Not only were the clicks found to systematically distribute in specific sequential locations in the word search stretch but their occurrence was also evidenced as having significant interactional implications: in the word searches in which a speaker produced a click, the recipient never collaborated in the search (and this was not oriented to as being problematic by either party); whereas when a speaker did *not* produce a click when searching for a word, the recipient often collaborated. It was therefore concluded that in

word search stretches, clicks can undertake a turn-holding function, indicating that the search is not a shared project and that recipient collaboration is thus not a relevant action.<sup>1</sup>

### ***6.2.2 Summary of Main Findings***

The main findings in this thesis can be grouped into two main categories: those that support previous, similar claims in the literature and those that do not or have not been previously mentioned. Regarding the findings which support previous claims, this thesis has identified that:

- 1 the closing down of sequences is typically undertaken with talk which is placed low in a speaker's pitch range, has a narrow pitch span and has a relatively low amplitude (Goldberg 1978, 2002; Couper-Kuhlen 2001, 2003a, 2003b, 2004; Local & Walker 2005);
- 2 new and disjunctive sequences are typically produced with speech which is located high in a speaker's pitch range, has a noticeable upstep in pitch in its onset, has a wide pitch span and a relatively high amplitude (Goldberg 1978, 2002; Couper-Kuhlen 2001, 2003a, 2003b, 2004; Local & Walker 2005);
- 3 maintained portions of glottal and supralaryngeal closures can undertake turn-holding functions throughout stretches of 'silence' (Local & Kelly 1986; Kelly & Local 1989a; Ogden 2001);
- 4 word searches are routinely initiated with the particle *uhm* (Schegloff 1979; Jasperson 2002);
- 5 glottalisation can demarcate phrasal boundaries (Dilley et al. 1996);
- 6 the production of *yep* can project that a speaker will not elaborate their response with regard to the preceding talk (Heritage & Sorojonen 1994; Raymond 2000).

The findings in this thesis which have not been previously mentioned or which do not support previous claims comprise the observations that:

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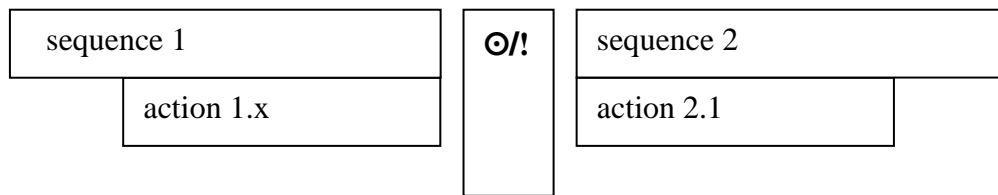
<sup>1</sup> Note that the author is not claiming that is the case for all word searches produced in English talk-in-interaction (although it might be); rather, she is claiming that this is how word searches are organised in the data set used in this thesis. Further work needs to be done in order to establish whether this finding holds across word searches in general or whether it is specific to the data used.

- 1 clicks can engage in interactional work: in sequence boundaries they can index the onset of a new and disjunctive sequence of talk while in word search stretches, they can maintain the speaker's turn, indicating to the recipient not to aid the speaker in their search;
- 2 glottalisation can mark the onsets of new sequences and actions in talk-in-interaction;
- 3 speakers regularly move into call closing sequences by producing multi-unit, multi-action turns;
- 4 the *yep* variant of *yes* not only projects no elaboration but it is routinely produced as a minimal, sequence-closing token and in this location it can serve alongside the phonetic and sequential organisation to close down large sequences of talk;
- 5 when the particle *uhm* is produced in sequence junctures and word search stretches, it is *always* produced with particle-final complete bilabial closure;
- 6 with-click word searches are always initiated with the particle *uhm* (with particle-final complete closure);
- 7 wh-questions are routinely produced as parenthetical stretches of talk in with-click word searches;
- 8 the searched-for items in with-click word searches are routinely produced as a continuation of the talk which precedes the word search initiation: they lack marked upsteps in pitch and amplitude, and do not have restarts.

### ***6.2.3 Summary of Findings on Clicks***

The most striking and significant new finding in this thesis is that clicks can undertake interactional work. Moreover, the work they perform can differ depending on the sequential locations and the interactional structures in which they are produced. To the best of the author's knowledge, this is the first piece of research to identify a relationship between clicks and interactional structures in English talk-in-interaction. In sequence junctures, clicks are situated in the onsets of new sequences and in this structural location they can serve to demarcate the initiation of a new and disjunctive sequence of talk from a preceding closed down sequence. By comparison, when clicks are situated in word search stretches, they are produced in the middle of an ongoing action which occurs in the middle of an

ongoing sequence of talk; in this sequential location the clicks can perform a turn-holding function, signalling to the recipient not to collaborate in the search. These different locations of clicks in the sequential and interactional structure of talk are illustrated in figures 6.1 and 6.2 below. Observe in figure 6.1 that on either side of the sequence demarcating click there are different actions and sequences. Sequence 1 can contain any number of actions, the last of which is 1.x. Common actions found to comprise 1.x are assessments and figurative expressions, which function to close down sequence 1. Subsequently, a click occurs after which a new and disjunctive sequence is produced. Common initial actions comprising 2.1 of sequence 2 can be offers of call closure and news tellings.



*Figure 6.1: Representation of new sequence indexing clicks and their sequential environment*

In contrast to the sequential environments of the new sequence indexing clicks, in word searching environments there is only one sequence, as shown in figure 6.2. Observe in this figure that the word search click is part of that sequence and its actions. Within sequence 1, there is an action 1.x, in which the action of word searching (1.x.y) occurs; that is to say, the click is embedded within this action in an ongoing action (1.x) and sequence (1). Note also that, although not marked on the diagram, the distribution of clicks in word searches is not random; rather they are systematically produced in one of two locations: either before a wh-question (in the cases which contain wh-questions) or before the searched-for item (in the cases which have no wh-questions).

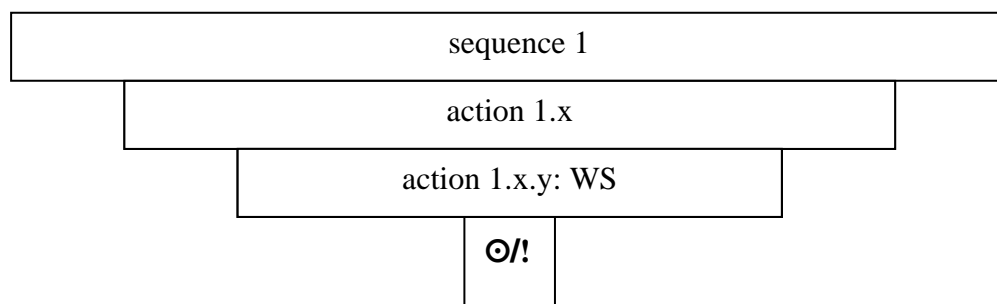


Figure 6.2: Representation of word search clicks and their sequential environment

Not only are the clicks systematically located in different structural positions but the phonetic properties of these structural positions exhibit systematic and recurrent patterns which map onto the actions being undertaken. In the sequence juncture piece, the clicks are situated in a phonetically *disjunctive* stretch; that is, the talk which follows the clicks is phonetically marked as being different from and disjunctive to the talk which preceded it by the manipulation of a range of phonetic parameters such as an increase in pitch and loudness, and glottalisation. The click in the word search piece, by comparison, is produced in a phonetically *conjunctive* stretch: in other words, there is a relative matching in the parameters of pitch height and loudness between the pre and post click word search stretch. These disjunctive and conjunctive stretches are illustrated in figure 6.3 respectively. Importantly, then, it is a combination of clusters of phonetic parameters at specific sequential locations in talk which gives rise to the contextually embedded meaning/function of clicks. To the best of the author's knowledge, this is the first piece of research to identify a systematic and recurrent mapping between the meaning/function of clicks and the sequential design of talk-in-interaction.

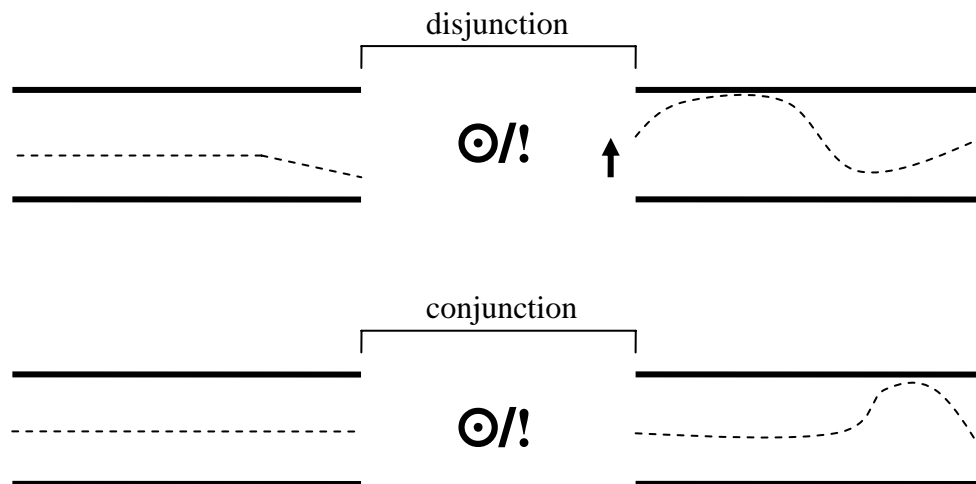


Figure 6.3: Representation of the disjunctive sequence junction piece and the conjunctive word search piece (the dotted lines roughly represent the parameter of pitch and the arrow indexes not only an upstep in pitch but also loudness)

It is important to point out that in both the disjunctive and the conjunctive cases, there are also practices which function to bind the pre and post click parts together. These practices comprise glottal and supralaryngeal holds, inbreaths and the particle *uhm*. Moreover, after a speaker has produced a click in either a disjunctive or conjunctive environment, that speaker routinely continues their turn after the click, with the click-recipient typically remaining silent. This therefore suggests that one overall function of clicks may that of turn-holding, a suggestion which is supported by the frequent taking of inbreaths and productions of *uhm* around clicks (these features being typical turn-holding devices). Further research is needed, however, as there are a few cases in the NSI click collection in which the recipient *does* uptake the turn after the speaker has produced a click. In some instances, this is accountable by the recipient's talk being produced as interruptive although this is not the case in each instance. One reason for these 'oddities' may be the way in which the data were collected as rather than obtaining the NSI collection by a process of identifying the actions, it was instead collected according to the occurrence or not of a click. In future work, it may therefore prove more fruitful to adopt a function/action first approach (i.e. one in which the collection is established according to sameness in action rather than sameness in linguistic form).

It is also important to note that although the IPA (1999) definition of clicks maintains that clicks have both a posterior *and* an anterior closure, this study found that ‘clicks’ which have only an anterior closure released with ingressive airflow (without a posterior closure) can distribute in the same sequential locations and undertake the same interactional work as the velarically-initiated clicks. This suggests that the occurrence of a velar closure may be interactionally inconsequential and that one item in system with velarically-initiated clicks in specific sequential locations is non-velarically initiated ‘clicks’ (both of which operate with ingressive air, but not by definition).

Following on from these findings, it may be asked *why* precisely these phonetic features are appropriate/adequate for the tasks they undertake. In other words, *explanations* may be sought regarding why exactly these features occur, and not others. Delving into possible explanations it becomes apparent that some features are easier to account for than others. For example, it is well known that new beginnings are often produced high in the speaker’s pitch range (see e.g. Couper-Kuhlen 2001, 2003a, 2003a, 2004; Local & Walker 2005). Thus, the high pitch placement in the beginnings of new sequences in the NSI turns can easily be explained. However, accounting for the production of other features, such as clicks is far trickier. Questions concerning, for example, why speakers produce clicks—and not other sounds such as ejectives or implosives—in new sequence beginnings and word search stretches result. One line of reasoning as to why clicks are produced in new sequence beginnings could be construed as follows: clicks often occur with inbreaths; inbreaths are disjunctive, as they change the flow of air from being egressive to ingressive; clicks are disjunctive, as they are also produced with ingressive airflow; clicks are produced in these locations as they signal disjunction (and thus mark out the following talk as being different from the preceding talk). However, this argument falls down when one examines clicks in word search stretches, as in these locations the clicks are instead doing conjunction rather than disjunction. That is, they bind the pre word search stretch with the post word search stretch. Explanations regarding ingressive airflow and disjunction are therefore not appropriate for the clicks in the word searching environments yet they fit the clicks in the NSI turns.

What this discussion intends to highlight, then, is that seeking *explanations* of why particular phonetic features do and do not occur at specific locations in sequence can prove

difficult. Certainly, it is difficult to do with the clicks discussed in this thesis, as their systematic occurrence is still little understood. Moreover, such explanations can sometimes assume that one particular phonetic feature can undertake a specific function and can forget that the relationship between form and function in talk-in-interaction is a complex array of phonetic parameters and location in sequence. In addition, the distinction between an objective account of a particular feature, and a discussion of why the feature is produced, can sometimes be blurred – luring the CA researcher into the murky waters of speculation. Such waters will therefore be avoided in this thesis, and no explanations concerning why speakers produce clicks in word searches and new sequence beginnings will be presented. Future work may shed more light on these matters.

### **6.3 Limitations of Study and Directions for Further Research**

The research in this thesis is subject to a number of limitations which, in turn, inform the directions for further research. These are outlined under the following headings: call closings; new sequences; word searches; modes of interaction; other languages and functions of clicks.

Call closings: this study has so far documented only one way in which speakers move into the closing section of a call: namely, with a multi-unit, multi-action first-closing (F1) turn. Further work aims to detail other interactional and phonetic resources which speakers employ in this same structural location to manage call closure. For example, previous research has claimed that one way in which speakers move into call closure is by the production of lexical items such as *well* and *okay* which stand alone in their own turn and which are produced with a downwards intonation contour (Schegloff & Sacks 1973; Button 1990a). It would therefore prove fruitful to examine other items that occur in first closing turns (and their phonetic properties) in order to identify what components are in system with multi-unit F1 turns.

New Sequences: this thesis has focused exclusively on new sequences of talk which are initiated with clicks. In future work, the author intends to compare the design of these click-initiated new sequences with those which are not prefaced with clicks in order to establish

if click and non-click prefaced new sequences have differences in their sequential, interactional and phonetic makeup (cf. Couper-Kuhlen 2004b). It may be the case, for example, that clicks only initiate certain types of sequences, such as disjunctive and/or delicate ones.

Word searches: although this study has identified one significant difference regarding the interactional organisation of with-click and without-click word searches—that the recipients of the with-click word searches do not collaborate in the search—further work remains to be done on whether and how these searches may differ. For example, their phonetic and lexical designs may differ according to who has epistemic access to the searched-for item. Moreover, it remains to be seen if the turn-holding function of clicks in word searches applies only to the data set examined in this thesis or whether it is a commonality in word searches in general.

Modes of interaction: the claims made in this thesis about the phonetics-interaction interface are based only on telephone interactions. In future work, the author would like to examine whether the patterns identified in the organisation of call closings, new sequences and word searches also hold in face-to-face interactions. Initial investigations of clicks used in other situational contexts, such as in television (and radio) news and weather reports and classroom interactions, suggests that clicks are used in NSI and word searching environments in similar ways. In addition, clicks often appear to be used in system with particular gestures such as hand claps and finger-thumb clicks. Future work therefore aims to look at video data of talk-in-interaction in different situated contexts.

Other Languages: in this thesis only one language has been examined – English. It may prove highly beneficial to explore whether other languages use clicks in a similar way (i.e. in new sequences and word searches), as preliminary observations of Finnish, Portuguese, Spanish and Greek suggests that they may.<sup>2</sup> Fragment 1 provides an example of a click used to initiate a new sequence in Finnish talk-in-interaction. This click is produced at the beginning of Line 4 in which speaker S initiates a shift from the opening identification

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<sup>2</sup> Thanks to Richard Ogden for bringing my attention to the use of some clicks in Finnish (and for the example in fragment 1) and to Tiago Freitas for doing the same in Portuguese.

sequence (L1-3) into a greeting sequence: [!] no mitä kuuluu ([!] how are you) (see also Helasvuo 2004: 17f, for clicks used in Finnish word searches).

Fragment 1: PP1988.2I.10/kantamaa/

01: V: Jarmo Hovila  
Jarmo Hovila

02: S: no Ar:ja tässä he:i  
well Arja here hi

03: V: t'rve  
hello

04: → S: [!] no mitä kuuluu  
→ [!] how are you

05: V: .hhh ihan hyvää <Kiitos muuten> viimeisestä  
.hhh fine thanks for last time by the way

06: S: e:ipä kestä toivottavasti oli mukavaa=  
you're welcome hopefully you had a nice time

07: V: =o:li  
I/we did

Functions of Clicks: this thesis has identified and elucidated two sequential environments in which clicks are routinely produced in English talk-in-interaction. It has shown that in these environments, clicks can undertake different functions. In future work, the sequential distributions, structural locations and interactional embeddings of clicks will be examined in more detail in order to identify other orderly patterns in the use of clicks in English talk-in-interaction. Given the preliminary observations on clicks presented in this thesis, future research on clicks promises to be an exciting area of investigation.

## 6.4 Implications of Study

Despite the above outlined limitations, the findings in this study have a number of implications for linguists—particularly for phoneticians—and for conversation analysts. They question the claims that clicks function only paralinguistically in English (6.4.1) and highlight the need for polysystemic approaches to language (6.4.2). In addition, they also demonstrate the profitability of implementing context-embedded, multi-level investigations of talk-in-interaction (6.4.3) and show the fruitfulness of conducting analyses of the

phonetics-interaction interface from both form and function (6.4.4). Finally, they have applications for speech technology and speech therapy (6.4.5)

### ***6.4.1 Clicks and Paralinguistics***

Previous research has claimed that clicks function only paralinguistically in English, signalling various emotional and attitudinal states of the speaker, such as disapproval (Ladefoged 1982: 124; Crystal 1987: 126; Ward forthcoming: 22), annoyance (Abercrombie 1967: 31; Ball 1989: 10) and irritation (Gimson 1970: 34). In this thesis, no evidence was found of clicks indexing such speaker states. Instead, this study has demonstrated that clicks have an orderly, sequential distribution which can be mapped onto the interactional structure of talk. Moreover, it has shown that clicks can have different functions according to their location in the sequential and interactional organisation of conversation. It therefore follows that if clicks can undertake different interactional functions, and if one notion of meaning is function in context—a Firthian view which is espoused in this thesis (Firth 1935a)—then clicks can be regarded as functioning linguistically, as they are part of the meaning of talk; that is, as being part of the linguistic system of English rather than only the ‘paralinguistic’ (see Curl 2002, 2004 for similar claims regarding pitch). This finding therefore challenges the traditional view of clicks, embodied in the following quote by Gimson (1970: 35; emphasis added):

‘clicks, extralinguistic in English, ...occur as *significant* sounds in a number of languages’.

Thus, following Gimson’s quote, if one type of ‘significance’ is measurable by the demonstrable orientations of participants, a measure which is empirically grounded rather than intuited, clicks are not only extralinguistic in English but rather are significant in that they engage in interactional work in talk-in-interaction.

### ***6.4.2 Polysystemic Approaches to Language are Needed***

Establishing and accounting for the observation that clicks can have different interactional functions at different locations in the structural and interactional organisation of talk

necessitates a polysystemic approach to language. This is because, unlike monosystemic approaches in which language is regarded as comprising one overall system, polysystemicity considers language as being a system of systems. It therefore allows language to be examined on its own terms and contextually determined meanings at different points in structure to be excavated. By upholding the Firthian view that language is polysystemic, this thesis has successfully identified the different contextually determined meanings of one phonetically ‘identical’ component of speech: that of clicks. Were a monosystemic approach to have been adopted, in which language is considered to operate as one system and ‘identical’ items are typically thought to have one overall function, these differences in the interactional functions of clicks would not have been uncovered. Such an approach is evident in recent works on clicks in which it has been claimed that (a) ‘the meaning of tongue clicks can be subsumed under the term personal dissatisfaction’ (Ward forthcoming: 22) and that (b) clicks are used ‘for self-repair, to express a negative reaction to the previous or current statement, and as a general hesitation marker’ (Benor 2004: 189). These works share in common the fact that they are based on analyst intuitions and assume that clicks undertake one general function in talk, an assumption not borne out by the participant-validated analyses undertaken in this thesis. The research in this thesis contributes to other polysystemically-oriented interactionally-governed linguistic research which has evidenced that certain identical ‘linguistic’ items can have different interactional interpretations according to their sequential placement in talk-in-interaction (see e.g. Wright 2001; Clift 2001; Heritage 1984b; Local 1996, 2004; Hakulinen, 2001; Couper-Kuhlen 2004a).

#### ***6.4.3 Context-Embedded, Multi-Level Investigations of Talk are Profitable***

The research in this thesis was grounded in the Firthian notion that ‘no study of meaning apart from a complete context can be taken seriously’ (Firth 1935: 7). It therefore conducted all its investigations of the phonetics-interaction interface on talk-in-interaction embedded in its context of production in social interaction. This approach proved to be particularly fruitful, since it enabled previously unobserved, contextually-determined patterns in the phonetic-linguistic properties of talk to be uncovered. Particularly interesting is the finding that clicks, which have until now been regarded as functioning only

paralinguistically, can undertake interactional work and may be part of speakers' linguistic systems. Were these investigations to have examined experimental speech data, it is doubtful whether such patterns would have occurred as being artificially constructed, lab speech typically does not serve any real and procedurally consequential interactive purpose for the participants and interactive sequences, such as those identified in this thesis (e.g. call closings), cannot, by definition, occur (cf. Schegloff 1998).

A further outcome of implementing context-bound investigations of naturally-occurring talk-in-interaction, as was done in this thesis, is that the traditional divisions between 'linguistic and paralinguistic', and 'prosodic and articulatory' features of speech become somewhat blurred (Local 2004). This is because interactants can be seen to employ various clusters of 'linguistic', 'paralinguistic', 'prosodic', and 'articulatory' phonetic parameters at the same time in different ways at certain locations in talk. For example, in the disjunctive sequence boundaries (see figure 6.3), a combination of pitch, amplitude and articulatory configurations all work together, along with the lexis and sequential organisation, to close down and initiate a new sequence of talk. These findings therefore suggest that the traditional divisions between 'linguistic' and 'paralinguistic' features, and 'prosodic' and 'articulatory' components may not be particularly relevant in the design of talk-in-interaction and that, as argued by Local (2004: 396), 'phonetic parameters are best treated as falling into functional bundles or clusters... on the basis of how speakers deploy them to achieve particular interactional goals'.

The investigations conducted in this thesis were also rooted in the Firthian concept of the 'spectrum' method of analysis (Firth 1935a). This analysis technique insists that statements of meaning should be produced at various inter-linked levels of analysis rather than at one exclusive level. The latter type of investigation is commonplace in many modern linguistic investigations, particularly in the fields of phonetics and phonology. One field of notable exception is variationist sociolinguistics, as in this field, mappings are sought between a person's linguistic choices and their social attributes. In this thesis, a congruent level analysis was conducted between the levels of interaction and phonetics. This research has demonstrated that by adopting the CA method of setting up and warranting the categories of analysis in accordance with the orientations of the participants, many profitable observations can be made about the linguistic-phonetic exponents of these categories and

thus of the organisation of naturally-occurring talk-in-interaction in general. This thesis therefore supports Allen's argument that:

'it is only when we analyse phonic material by reference to its contextual function that those peculiarly systematic statements become possible'

(Allen 1957: 23).

#### ***6.4.4 Both Form-First and Function-First Analyses are Fruitful***

Investigations of the properties of naturally-occurring talk-in-interaction routinely employ one of two modes of analysis: they begin either from a linguistic form, such as a lexical item or a particular component of grammar, or from an interactional function, such as an offer or an assessment. One of the benefits of form-first analyses is that large data collections can typically be obtained relatively easily as the item under investigation, such as the particle *oh*, can be easily identified in the data. However, difficulties can sometimes be encountered when attempts are made to relate the form to the function, as was the case in preliminary research for this thesis on the chunk *I mean* (Wright 2002b; but see Imo 2005). These difficulties can be caused by the speech being segmented into pre-determined linguistic categories which at best bear little—and more typically no—relevance to the emergent categories of interaction. However, the fruitfulness of the form-first approach does appear to depend on the form being investigated, as there have been a number of studies which have successfully unpicked various interactional functions of certain linguistic objects in talk-in-interaction (Heritage 1984b; Wootton 1997; Wright 2001; Clift 2001; Local 1996, 2003, 2004; Hakulinen 2001; Couper-Kuhlen 2004a). Importantly, in form-first analysis, as outlined by Ford & Couper-Kuhlen (2004: 6), the analytic categories picked for analysis 'demand scepticism and resistance until the grounds for their meaningfulness to humans in interaction have been demonstrated'. Function-first analyses typically avoid some of the potential pitfalls in the relating of form and function as once a function is identified, the documenting of its various exponents is generally unproblematic. Such an approach, however, particularly if adopted exclusively, bears the consequence of disregarding various 'widespread and cross-cultural incidence(s)' of certain grammatical and linguistic items, such as imperative constructions (Wootton 1997: 16).

In this thesis, both function-first and form-first investigations were conducted. Chapter 3 implemented a function-first analysis by examining the interactional organisation of call closing sequences. This investigation revealed the routine occurrence of multi-unit first closing turns as being a device which speakers regularly employ to move into the closing section of a call. Moreover, in addition to F1 turns being produced with an array of systematically manipulated phonetic parameters, clicks were found to routinely and systematically distribute in their sequence boundaries. In chapters 4 and 5 these observations were pursued by exploring other locations in which clicks occur. The latter investigations were therefore form-first as they began by identifying the sequential locations of clicks in the data set. Importantly, the identified clicks were not assumed to have a meaningful independent function; rather the details of their sequential and interactional environments were examined in order to establish the structures in which they occurred and the functions these structures undertook. It was only after such examinations that the new sequence initiation and word search turn-holding functions of the clicks in certain sequential locations were established (see Wootton 1997 for a discussion of beginning from imperative constructions).<sup>3</sup> Both form-first and function-first investigations therefore proved to be useful and beneficial in identifying patterns and orders of organisation in the phonetics-interaction interface.

#### ***6.4.5 Applications***

This thesis carries various widespread implications for diverse areas such as speech technology and speech therapy. The specific findings (such as the use of clicks and the different manipulations of pitch, amplitude, glottalisation and articulatory settings at different locations in sequence) are significant, but the research methods used to discover them are, perhaps, more important still. With regard to speech technology, the goal of both producing and recognising completely natural speech has still not been achieved. In particular, speech recognition has scarcely progressed beyond the stage of basic transcription and the detection of individual lexical items. It is arguable that if computers are ever to hold a natural dialogue with a human, they must be provided with a

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<sup>3</sup> Although the with-click word searches were identified through a form-first investigation of the distribution of clicks, the without-click word searches were collected through a function-first analysis in which the action of word-searching was sought for in the corpora.

(polysystemic) ‘understanding’ of the ways in which real speakers design and manipulate particular phonetic parameters for interactional purposes. Automated systems should also be able to understand chunks of talk which comprise more than a single lexeme, e.g. *hello I’d like to book an appointment with the doctor please* rather than simply *yes* or *no*. The findings in this thesis—concerning patterns of phonetic detail and their relations to sequential and interactional structures in talk-in-interaction—and the research methodology used to identify them, surely have a part to play in any future technology aimed at recognising natural speech. It is not possible at this stage to envisage what the most useful applications are likely to be but, for example, most telephone users would probably prefer to speak to Computer 2 below (which correctly interprets and is not confused by a word search click).

```
Human:      hello I’d like to book an appointment with uhm [☹] Doctor Pie please
Computer 1: I’m sorry I didn’t understand that please repeat your message after
           the tone

Human:      hello I’d like to book an appointment with uhm [☹] Doctor Pie please
Computer 2: certainly could I take your name please
```

Regarding speech therapy, the discovery of what is ‘usual’ in speakers with typical language skills can help inform the therapy of speakers with atypical language capabilities. As pointed out by Schegloff (2003: 45; emphasis not added) ‘in order to understand well the ostensibly *disordered* talk of the impacted populations, investigators need to be addressed also to the study of ordinary talk by ordinary folks in ordinary (for them) settings’. This thesis highlights new techniques for undertaking the ‘study of ordinary folk’ in order to comprehend the problems faced by those with atypical language productions.

## 6.5 Final remarks

The findings in this thesis suggest that if we are to make progress in our understanding of the linguistic-phonetic and phonological organisation of talk-in-interaction, we must:

- examine naturally-occurring talk-in-interaction embedded in its context of production rather than intuited, laboratory controlled data or decontextualised speech productions;
- extrapolate and warrant the emergent categories of analysis inductively from the observable conduct and orientations of the participants-in-talk, rather than from analyst intuitions;
- adopt a polysystemic view of language;
- extend our view of the meaning of language to include not only lexical or propositional meaning but also the function of language in context;
- pay attention to all aspects of speech production and *not* dismiss any interactional or phonetic details in talk-in-interaction as being irrelevant or insignificant.

It is only by radically reconfiguring our views and approaches to language and its analysis, that we can start to identify the systems and structures which inhere in talk-in-interaction, and hope to one day, establish a phonology for conversation.