

**Instant Messaging in work-based virtual teams: the
analysis of non-verbal communication used for the
contextualisation of transactional and relational
communicative goals**

by

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ABSTRACT

In this thesis, I use a multi-perspectival analytical approach to investigate the paralanguage of naturally occurring work-based Instant Message conversations. My research into the field of computer-mediated discourse analysis (CMDA) has shown that written non-verbal cues have been considered as important means of contextualising text-based computer-mediated communication (CMC), yet their scholarly treatment has been scant. Previous findings about the importance of paralanguage in CMD have been further strengthened by the findings of the field of business communication: in the virtual work environment the lack of audio-visual information has been found to contribute to miscommunication and consequently hinder cooperation. The linguistic devices and discursive strategies that are used in order to compensate for the limitations imposed by the text-based communicative channel have therefore been identified as in need of further exploration.

In this thesis, I have outlined a CMC cue system based on the previous findings of CMDA to investigate the range of cues used as non-verbal signals in workplace text-based CMC. I have also used a multi-perspectival approach based on the theoretical frameworks of interactional sociolinguistics, communities of practice, relational work and politeness and conversation analysis (CA) in order to investigate the range of interactional roles of paralanguage during computer-mediated business conversations. The interpretive CA-informed analysis I have conducted has provided evidence of the important role of non-verbal signals during the contextualisation of complex transactional and relational communicative goals in the workplace.

The analysis in this thesis has provided two significant results: firstly, by incorporating the findings of research into paralanguage of spoken as well as other written genres it resulted in a comprehensive description of the orthographic and typographic non-verbal cues used in text-based CMC and, secondly, by drawing on the multi-perspectival framework, it allowed for a description of the complex interactional functions of these cues during the contextualisation of content and relational intent and the creation of interactional coherence in IM.

Keywords: computer-mediated discourse (CMD), computer-mediated discourse analysis (CMDA), business discourse, virtual work, Instant Messaging, conversation analysis (CA), politeness, contextualisation, non-verbal communication, paralanguage.

CHAPTER 1

INTRODUCTION

It is an undeniable fact that communication is a very complex process: when people communicate, they want to get their meanings across – without miscommunication or misunderstandings – but, at the same time, they want to establish or maintain the relationship between themselves and their conversational partners. In spoken encounters, interactants have a wide range of signals at hand to aid them in these aims. As well as verbal content, both auditory and visual signals – paralinguistic cues – contribute to the disambiguation of message content and relational intent. In computer-mediated encounters, these channels are not available and people have to rely merely on their typed messages to ensure that their messages are interpreted in the intended ways. In social interactions, the stakes of misinterpretation are not necessarily high or irreversible, particularly in encounters where the interactants are unknown to each other. However, it is necessary to ask what happens in computer-mediated encounters where the success of a work project, the effective cooperation within a work team, financial risk – or at a more general level – the success of a business is at stake.

The main aim of this doctoral dissertation is, therefore, to investigate the discourse of ‘synchronous’ text-based computer-mediated interactions in the virtual workplace, focussing on the paralinguistic strategies that enable participants to effectively communicate both their work-related and relational messages in writing.

1.1 Rationale and background

To provide a rationale for this study and demonstrate its relevance for the academic fields of computer-mediated discourse analysis and business communication studies, as well as its practical usefulness for virtual workplaces, I offer below an insight into three areas that are interrelated in the communication of virtual teams: the world of virtual work itself, business communication and computer-mediated discourse.

1.1.1 The virtual workplace

As regards the first concept, it is already a truism that emerging communication technologies have changed the landscape of communication in every aspect of our lives, including how we communicate at work. Advances in communication technologies have enabled new communication modes via the internet, including audio and visual communication and voice-over protocols, and also real-time text-based interactions, both one-to-one and involving multiple users. Owing to these continuously developing new communicative modes, to increased bandwidth and to the relative ease of accessing the internet, remote study and work have become extremely popular in the last decade. Virtual teams now have an increasingly prominent role in modern organisations, and this type of work is expected to expand at an unprecedented rate in the future (Tavčar, Zavbi, Verlinder & Duhovnik, 2005, p. 557).

In spite of the wide range of highly user-friendly communication tools, however, in the virtual environment communication is still very complex. People accomplish work processes, create and maintain their interpersonal relations, negotiate their identities – both personal and professional – acquire workplace culture and negotiate the rules and norms of their immediate and wider work environments through conversation and communication practices. In addition, because participants do not share the same physical environment, all understanding must be achieved based on linguistic exchanges. At times, these processes are fostered by personal meetings and training but, at other times, team members, who have never met in person, have to

cooperate and make themselves understood in a relatively new and unconventional communicative environment.¹ The technology team members choose for communication, for example, becomes very important from the point of view of the success of cooperation. In the virtual work environment participants have many choices of different communication media to use (see for example Watson-Manheim & Belanger, 2002) and, as pointed out by Tavčar et al., these choices may have a significant impact on the effectiveness of a team (2005, p. 559). Interestingly, however, in spite of the wide scale of available audio-visual channels, one of the most popular communication technologies in the world of work is still text-based Instant Messaging (henceforth IM) (for a recent report see Hoang & Radicati, 2011 or for a summary of research on current trends on IM use see Pazos et al., 2013). The reason for this popularity is perhaps that IM in the virtual work environment has many documented benefits: firstly, it enables virtual team members to maintain an almost synchronous channel for interactions throughout the working day (Nardi, Whittaker, & Bradner, 2000), allowing colleagues to contact each other for quick questions and clarifications (Isaacs, Walendowski, Whittaker, Schiano, & Kamm, 2002) and, secondly, it contributes to the notion of a shared working environment (Cameron & Webster, 2005; Nardi et al., 2000), when the ‘line’ is left open indefinitely, allowing participants to query one another infrequently on an as-needed basis (Garrett & Danziger, 2008). What these claims suggest is that virtual teams make IM their preferred choice because it allows team members to converse in real time – in writing. However, this setup has inherent difficulties, which become salient if we consider the complexity of interactions in the workplace as well as the problematic nature of text-based computer-mediated communication (CMC). These are outlined below.

1.1.2 Business discourse

In order to appreciate why workplace or business discourse merits special attention and how it differs from ordinary interactions, it is necessary to consider the

¹ It is true that e-mail and web chat have existed for more than 30 years, but research suggests that interactional and discourse norms are still developing and are far from established (Herring, 2011).

complex and intertwining communicative goals people want to achieve when interacting in the workplace. Holmes observes that:

Individuals at work are engaged in the complex business of developing and maintaining professional and social relationships with co-workers, while also attending to the serious and overtly ratified purpose of workplace activity, the organization's explicit objectives (2006, p. 166).

This means that in order to complete work and cooperate effectively, people have to be able to communicate their transactional (work-related) messages clearly, preventing any misunderstandings about the content of messages, but also make sure that they maintain good social relations and collegial relationships. This balance, however, is not self-evident and requires significant interactional effort from the people involved, particularly in environments where interactions are often asymmetrical and professional roles are interactionally negotiated.² It is not surprising, therefore, that during the course of the communication of these varied – and often competing – goals people draw on a wide range of linguistic and discursive strategies to ensure the correct contextualisation of their messages, the disambiguation of content and the precise communication of relational intent. The high number of publications addressing how exactly this is achieved reveal the complexity of the processes involved, but also reveal that communication issues in the workplace are closely related to communicative practices, to discourse and, ultimately, to the language use of the people involved in the workplace interactions (cf. Angouri & Marra, 2011; Bargiela-Chiappini, Nickerson, & Planken, 2007; Daly, Holmes, Newton, & Stubbe, 2004; Drew & Heritage, 1992; Holmes & Stubbe, 2003; Holmes, 2000; Koester, 2006; Mullany, 2007; Stubbe et al., 2003). What is very important to note, though, is that the communicative practices and discourse the quoted scholarship addresses take place via established, familiar communicative modes, namely speech and writing. However, it is necessary to ask how the already complex issue of workplace discourse will be further complicated if repositioned into a lesser known communicative environment, namely text-based CMC.

² For a definition of the interactionally negotiated nature of workplace interactions see Drew & Heritage, (1992, p. 3).

1.1.3 Computer-mediated discourse

The history of computer-mediated communication is about 50 years old: in particular, systems that enable one person to send typed words directly to the screen of another person date back to the first time-sharing computers of the 1960s. In this regard, they were probably the oldest form of CMC, predating electronic mail (Rheingold, 1995). During this short history, technologies of CMC went through dramatic processes of change, leading to the evolution of interaction types that had never previously existed. These developments inevitably brought about changes in the rituals of social interactions and the practices used for communication. Academic scholarship soon realised that previous levels of communicative competence might not be sufficient for the new communicative situations and modes (for example Erickson, 2000). Crystal notes that:

People seem to have begun to sense that they are dealing with something new, as far as their linguistic intuitions are concerned. They are realizing that their established knowledge, which has enabled them to survive and succeed in spoken and written linguistic encounters hitherto, is no longer enough to guarantee survival and success on the Internet (Crystal, 2001, p. 62).

These observations foreshadow the need for users of CMC technologies to develop a unique language variety that is able to adapt to the new communicative modes, so that people could “survive and succeed” (Crystal, 2001, p. 62) on the Internet. The examination and description of this new language variety has been a major agenda item for computer-mediated discourse analysis (as detailed in Chapter 2). The identification of the linguistic strategies that distinguish computer-mediated discourse (CMD) from the language use of other communicative modes and enable users to achieve their interactional goals has been a major focal concern (cf. Herring, in press; Thurlow, 2001). However, in spite of the burgeoning literature addressing these issues, Herring notes that the description is far from complete (2011, p. 342). The reason is simple: the discourse is still new and emergent, not necessarily conventionalised and formalised in ‘rules’ (Herring, in press, p.1). What this means, in light of the topic of this thesis, is that virtual team members have to “survive” in a communicative environment, in which the rules are not yet conventionalised and

normalised, to achieve the highly complex communicative goals typical of the workplace environment, through a channel that does not allow audio and visual cues that would help in the fine-tuning of messages and interpretations.

Some argue that this “survival” requires a new set of skills (for example Simpson, 2005b; Tavčar et al., 2005), the most important of which is the awareness and effective use of the ‘tool’ that allows both the communication of transactional as well as relational messages: language. The concept of ‘electronic communicative competence’ was established by Simpson (2005b), who drew primarily on Hymes’ framework of communicative competence (1972) to account for the knowledge individuals have and use when communicating online. Simpson maintained that in order to participate effectively in CMC discourse one has to master the following competencies: *the linguistic system, the discourse patterns, the technology, the sociocultural rules of the particular virtual community*. The above mentioned linguistic system includes the knowledge of a new linguistic skill set, the mastery of *e-grammar* (Herring, in press): the medium-specific features, such as micro-level linguistic strategies, for example linguistic devices used in text-based CMC that compensate for the limitations imposed by communication technologies, the utilisation of “language play” (Danet, Ruedenberg-Wright, & Rosenbaum-Tamari, 1997) or the creative means to convey elements of spoken discourse in writing (cf. Greenfield & Subrahmanyam, 2003). The main aim of this thesis is the examination and systematic description of these micro-level phenomena – paralanguage and its role in the negotiation of content and relational work in work-related IM.

1.2 The outline of the thesis

In this thesis, as pointed out above, I address how people achieve the complex communicative goals typical of a virtual work environment, particularly through the employment of linguistic devices and strategies primarily used to compensate for the limitations imposed by the lack of audio and visual information in text-based computer-

mediated interactions. As the first stage of my enquiry, in Chapter 2 I review the literature of computer-mediated discourse analysis in order to establish what is currently known about paralanguage in CMC. The review explores how the changing focal theoretical concerns of the various stages of CMD research affect the academic approach to non-verbal signalling in text-based CMC (sections 2.1- 2.4) and establishes the need for a systematic description of the paralanguage of CMC, particularly from the point of view of the interactional functions these cues achieve (section 2.5). In Chapter 3, I explore the literature on the communication in the virtual work environment – firstly, by establishing the role of IM in the virtual workplace (section 3.2.1) and, secondly, by describing the new communicative situations resulting from the use of new communicative technology (section 3.2.2). The review in section 3.2.4 establishes that discourse, and paralinguistic signalling in particular, have been found to be important aspects of communication in virtual teams, and goes on to demonstrate that the majority of claims made about language use in text-based CMC are based on theoretical considerations, interviews, experience reports and case studies, rather than empirical findings (Berry, 2011; Fagan & Desai, 2003; Lam & Mackiewicz, 2007; Nardi et al., 2000; Reinsch, Turner, & Tinsley, 2008; Woerner, Yates, & Orlikowski, 2007). The research questions articulated as a result of the findings of the review in section 3.3 therefore address this issue and set out to explore the empirical evidence of how virtual team members utilise non-verbal signalling for the achievement of their communicative goals.

In order to be able to meaningfully combine the theoretical approaches of both CMDA and business communication research, and in order to provide an analytical-methodological framework that enables me to address the complexities of the computer-mediated discourse of virtual teams and the functions of paralanguage during text-based CMC workplace interactions, I propose in Chapter 4 a multi-perspectival analytical framework (section 4.1). In section 4.2.1 in particular, I explore the aspects of interpersonal interaction for which the frameworks of interactional sociolinguistics, communities of practice and linguistic politeness can account, and formulate a set of questions these theoretical frameworks raise about the use of paralanguage in IM. I then set out the method of analysis, firstly by providing evidence for a need to examine naturally occurring data from the virtual environment, and then by outlining a bottom-

up, interpretative analytical method informed by the methods of conversation analysis and Interactional sociolinguistic (section 4.2.2). Finally, in section 4.2.3, drawing on the findings of previous scholarship on paralanguage in CMC, I propose an analytical framework for the identification of non-verbal signalling in IM. Section 4.3 provides a description of the data sources, including an account of the wider socio-cultural context of the specific workplace where the data was collected and a summary of the data collection and data processing, as well as the ethical considerations.

Chapter 5 presents the data analysis. The structure of this chapter reflects the outline of the CMC cue framework proposed in Chapter 4: section 5.1 examines the orthographic and section 5.2 explores the typographic non-verbal cues. The analysis of the individual cue groups starts with the introduction of the findings of previous scholarship. This part presents the findings of the research into the non-verbal devices in question from the academic fields of spoken, written and computer-mediated interactions. In the individual subsections, guided by the analytical perspective established in Chapter 4, I then conduct turn-by-turn interpretative analyses of written conversational encounters to explore the functional roles of non-verbal cues during the interactions. These analyses provide evidence of the significance and complexity of the interactional work accomplished by written non-verbal cues during the contextualisation of message content and relational intent, during the enactment of relational work and the performance of linguistic politeness, during the negotiation of professional identities and power differences and during interactional management and the creation of interactional coherence. A summary of the resulting findings is offered in section 6.1, followed by a discussion of the findings in section 6.2. In this latter section, I provide evidence of the usefulness of the systematic analytical approach taken in this thesis to non-verbal cues in text-based CMC, and demonstrate the advantage of the multi-perspectival theoretical framework for the usage-centred exploration of paralanguage in workplace IM.

In Chapter 7, I present a summary of the research I have conducted, and demonstrate how the findings of the research allowed me to address the questions set out as a result of the literature review in Chapters 2 and 3. I also demonstrate how these findings further debates within the fields of CMDA and business communication studies, and how the combination of the theoretical approaches facilitates discussion

between the two. I then discuss the limitations of this study and provide directions for future research. I conclude the thesis by pointing out the practical significance of the findings of the thesis for practitioners and businesses, particularly when they prepare professionals for IM encounters in a virtual work environment.

CHAPTER 2

LITERATURE REVIEW OF COMPUTER-MEDIATED COMMUNICATION STUDIES

2.1 Overview of areas of enquiry

In the previous chapter I have stated that the main aim of this thesis is to shed new light on the paralanguage of text-based computer-mediated interactions and investigate what functions non-verbal strategies fulfil in workplace IM interactions. In order to achieve this goal, in Chapters 2 and 3 I provide a critical analysis of the research on CMD and on IM communication in virtual work teams, with two main aims in mind: firstly, to contextualise the present study and introduce the key concepts the thesis draws on; and secondly to critically evaluate previous scholarship, and identify the issues that lead to the formulation of research questions. As a first stage of this process, in this section I provide a rationale for the choice of the research strands to be reviewed, and demonstrate that due to the lack of specialised studies of mediated business discourse it is necessary to combine the field of CMC and computer-mediated discourse analysis with business communication studies to provide a comprehensive background for the research on computer-mediated workplace interactions.

As will be shown in the forthcoming sections in more detail, since the inception of the Internet, mediated communication has become an extensively researched construct for various disciplines interested in sociological, psychological or linguistic aspects of the medium. In discourse and language studies (as will be demonstrated in sections 2.2-2.4) the previously existing premises and methods that stem from research on spoken and written communicative encounters have been greatly challenged by the

new media and the new communicative situations it has created. Research has therefore set out to understand how language functions in this new environment (for a research agenda see Georgakopoulou, 2006), and explore, for instance, the relationship between discourse and the various computer-mediated communication modes. The resulting discipline that became primarily concerned with language and language use in the computer-mediated environment is computer-mediated discourse analysis (CMDA) (established by Herring, 2001). The literature of CMDA makes an important contribution to our knowledge of how language is used in the virtual realm. However, as I show in the following review of scholarship, language use in specific non-social environments, for instance in the workplace environment, has been greatly neglected by this academic discipline (also pointed out by Baron, 2010). The review of the field of CMDA presented in Chapter 2 therefore provides a comprehensive overview of the focal concerns and the development of the research on discourse and language use in text-based CMC modes and establishes the position of this study in the newest research strand on CMD. In the evaluation particular attention is paid to strands of enquiry dealing with synchronous text-based interactions and the main focus of the review is directed towards the creative use of linguistic devices and discursive strategies applied in text-based CMC with an aim to inscribe non-verbal information in the written text. Guided by this focus the literature review aims to establish what is known so far about the use and functionality of paralanguage in CMD, and through the findings of this evaluation aims to demonstrate that non-verbal cues in written CMC represent a relatively under-researched area, in particular due to the lack of systematic approaches to the identification and description of the function of these cues.

In order to link the results of this review to the context of the virtual workplace, to workplace specific communicative situations and to the complex communicative goals virtual workers aim to achieve during the course of their interactions, in Chapter 3 I introduce the scholarship on the communication of virtual work teams, addressing studies related to communication in the virtual workplace and Instant Messaging (henceforth IM) at work. The high number of studies discussed in Chapter 3 demonstrates that the academic field of business communication – similarly to the field of CMDA discussed above – has also become greatly interested in CMC, mainly owing to the recent rapid spread of virtual working. However, as will be shown later in more

detail, the discipline is mostly concerned with practical issues, such as effectiveness of the team or management issues, and very little attention is paid to empirical research about what actually happens when people communicate via IM in a virtual work environment. The focus of the studies discussed in Chapter 3 therefore covers a wider range of perspectives, and is not exclusively language-oriented. The review of these studies, however, will provide a backdrop against which the linguistic approach of the present study and its theoretical findings could be positioned. The aim of Chapter 3 is thus twofold: firstly to establish how much is known so far about the communicative practices of the virtual workplace and show that previous findings have been predominantly based on personal accounts, case studies and interview data rather than empirical evidence and, secondly, based on findings from previous scholarship demonstrate the important role of paralanguage in the virtual environment and highlight the lack of empirical research to describe and explore the functions that non-verbal cues accomplish.

The synthesis of the findings from the review of the two seemingly distant fields of CMDA and business communication studies results in the articulation of the research questions, but also serves as the first stage of the process of bridging the gap between the two disciplines. This effort is in line with the agenda of business discourse researchers who advocate the incorporation of the findings of other disciplines into the field of business communication with the aim of providing practical knowledge that can enhance the communication effectiveness of business interactions (Bargiela-Chiappini et al., 2007, p. 58). As a first stage in this process, in the following sections I offer a review of findings in the field of CMDA, based on the developmental approach outlined by Androutsopoulos (2006). What is important to note here is that although I adhere to the metaphor of “wave” from Androutsopoulos’s study, which implies that the stages in the development of research were historically discrete, in the following description these stages in the development of the discipline refer to the development of the main perspectives and focal concerns, and chronologically are often overlapping or ongoing.

2.2 The first wave. The “language of CMC”

The linguistic study of computer-mediated communication (CMC) has a short but varied history – during its existence since the 1980s the main assumptions and paradigms have changed dramatically (for a summary see Androutsopoulos, 2006). Although the early research has been the centre of scrutiny in recent years and has been criticised for its theoretical and methodological insufficiency, its contribution to the description of the language of CMC is invaluable because some of the findings still serve as starting points for current research. In what follows, therefore, I give a short account of the main findings of the early descriptors of CMC in order to establish knowledge of the key concepts this thesis draws on. In this section particular attention is paid to what the descriptors, influenced by the analytical perspectives of the first wave of CMC research, established about the use of non-verbal devices in writing. My aim is to show that these attempts at describing paralanguage in CMC were not systematic, lacked depth and did not account for the situational uses, context or conventionality of non-verbal cues. My secondary aim is to point out some of the controversies resulting from the main focal concerns of the early research stages and show how the change in focus led to the advancement of the field in general and to a different orientation to non-verbal cues in particular.

I have mentioned above that the study of the language use of the internet dates back to the early stages of computer-mediated communication itself. Communication and early forms of text-based synchronous and asynchronous computer-mediated genres have intrigued scholars due to their novelty, and besides the popular claims of this new type of communication being “fragmented” and “impersonal” (Herring, 2001, p. 613), others, such as Rheingold (1995) and Reid (1991) have maintained that text-based computer-mediated communication channels constitute an intellectual playground where people are free to experiment with different forms of communication and self-representation. In particular, the strategies to overcome the constraints and exploit the facilities provided by the new medium have been the focus of numerous studies describing the “playful” medium and its linguistic features (Danet, 2001; Danet

et al., 1997; Herring, 1999; Reid, 1991). Herring has pointed out that the “fascination” of the mid to late 1990s was highly influenced by the novelty of the medium and the limited access by the general public (2004b, pp. 27-29), and resulted in a generalising analytical perspective based on the tenet that the language of the Internet was “distinct, homogenous and indecipherable to others” (Androutsopoulos, 2006, p. 420). Examples of this homogenising approach are Crystal’s identification of *Netspeak* (2001), Collot & Belmore’s description of *electronic language* (1993) or a more recent account of *digitality* (Zitzen & Stein, 2004). Below, I show how this homogenising approach influenced the research of creative strategies aimed at inscribing paralinguistic information into writing.

2.2.1 The findings of the “first wave” about non-verbal cues

Besides the general inquisition whether computer-mediated discourse is a distinct language type, the relationship of CMC to orality and literacy has also received a great deal of attention. The discourse analytic approach of comparing the language usage of the new communication mode with existing modes has been a popular method of describing CMD. Papers on the “interactive written discourse” (Ferrara, Brunner, & Whittemore, 1991), on “uniting speaking and writing” (Simpson, 2002), “oral and written linguistic aspects of computer conferencing” (Yates, 1993), and “the relationship between writing, speech and the electronic language” (Ko, 1996) were attempts to identify the position of the language of the Internet on the same continuum as speech and writing. As a result of this approach, the devices that facilitate speed and replace paralinguistic cues in order to mimic the responsiveness of face-to-face interactions became a highly researched concepts. Consequently, as Androutsopoulos has pointed out, the three key issues that have been addressed as a result of this homogenising analytical perspective – the hybrid combination on written and spoken features, acronyms and emoticons –become the most predominantly researched areas (2006, p. 420).

In synchronous interactions, the speed-facilitating devices (such as shortenings, acronyms and lack of capital letters) and devices to represent emotions (including

emoticons) were identified as devices to convey non-verbal behaviour: Rintel and Pittam's early observation includes references to the creative use of punctuation and grammar to convey paralinguistic meaning, although the main emphasis is on their speed-facilitating nature:

The most important feature of any writing style on IRC /Internet Relay Chat/ (...) is that it must be fast to keep up with the sometimes frenetic pace of multiple interactions. Thus, particular abbreviations, personalized tropes and schemes for greeting or bidding goodbye, and use of grammar and punctuation are combined into a style that acts much like nonverbal behavior while at the same time increasing the speed of delivery (1997, p. 523).

In their study of paralanguage, Lea and Spears (1992) establish that there are some "esoteric marks" and a "range of more generalized paralinguistic codes that are used to express emotion and meaning in written text" (p. 324) but fail to provide specific examples about which 'marks' and 'codes' accomplish these functions and under what circumstances. Carey (1980), in his preliminary study about computer conferencing, provides a list of cues and identifies five distinct features that convey non-verbal information. According to his analysis *vocal spelling* brings attention to the sound qualities of the word; *lexical surrogates* (or whole words or phrases) and *vocal segregates* (or backchannel signals) are used to describe or set the tone of the utterance; *spatial arrays* (or graphic representations) can indicate pauses, quicken the tempo or achieve an onomatopoeic effect; *the manipulation of grammatical markers* such as capitalisation and punctuation is also used to indicate pauses, set the tone or signal a change of voice; and finally *the lack of features* (for example lack of correcting typos or paragraphing) can convey a relaxed tone of familiarity. However, although the aim of Carey's study has been to "isolate" paralinguistic features and "map the patterning of those features" (p. 67), the study fails to provide a systematic methodology for the identification of these features and for the contextual description of their uses. In another study Danet, Wright and Tamari (1997) point out that the usage of creative writing techniques reflects the need of the users of synchronous CMC channels to convey non-verbal signals and enact performances. Their description of a virtual party draws attention to the linguistic devices employed by the participants to represent oral features; and calls for further investigations in the field. They propose that "the need to

say in writing what we have been used to saying in speech calls attention to the communicative means employed in formulating the message.” It is thus apparent that in the mid to late 1990s in CMC research there has been an acknowledgement of the linguistic devices used in writing to convey non-verbal information, but the attention they received was scant and lacking methodological support.

As a result of the generalised view of the language of CMC, description of these non-verbal devices was often restricted to listings (see Carey, 1980; Cherny, 1999; Sanderson, 1993, p. 92); and in other cases, for instance by Crystal, the description of their usage has been overtly simplified:

These features are indeed capable of a certain expressiveness, but the range of meanings they signal is small, and restricted to gross notions such as extra emphasis, surprise, and puzzlement. Less exaggerated nuances are not capable of being handled in this way (...) (2001, p. 35).

The review of these studies also reveals that research acknowledged that representations of non-verbal signals are important tools of interaction management, impression formation and clarification of communicative intent (see Carey, 1980; Ferrara et al., 1991; Lea & Spears, 1992; Reid, 1991), however, their insight was limited in that they failed to consider the closer and wider context of use and address important questions such as when exactly these linguistic devices are used, and what interactional and discursive functions are assigned to them. Carey, for instance, sets out to “isolate some of the paralinguistic features (...) and to map the patterning of those features” (1980, p. 67), but his findings are based on unsystematic identification of isolated cues. Carey’s treatment of non-verbal cues is similar to that of Reid, who also provides a list of examples of the various strategies used to inscribe paralinguistic information into writing. Reid has argued that these cues have great importance in marking community boundaries (1991) but has not provided explanations of just how these cues are used and in what function. Ferrara et al. have taken a predominantly grammatical approach during the identification of the features of “interactive written discourse”, and although they acknowledge the use of paralanguage, their focus is on the description of the phenomena, rather than the function these cues accomplish (1991, p. 26).

What has been noted in previous research, however, is the issue of the conventionalisation of these linguistic practices. Carey (1980) and Crystal (2001) for instance, contend that most “written” paralinguistic features can have more than one meaning, and that there does not seem to be a unified and identifiable code for readers to rely upon when interpreting them. Both Paolillo (1999) and Ferrara et al. (1991) have raised questions regarding how norms of deviant grammar and spelling are established and spread. The latter study argues that any conventionalisation in CMC, as in human language in general, is a result of the development of shared norms about the language variation used within a social group (1991, p. 30). The same idea has been echoed by Reid (1991) about the Internet Relay Chat. Reid (1991) also pointed out the community-forming force of the conventionalisation process: “Textual substitution for traditionally non-verbal information is a highly stylized, even artistic, procedure that is central to the construction of an IRC community.” Despite these observations, the questions of the conventionalisation of written non-verbal cues and of how participants in text-based CMC learn to use and ascribe meaning to “written” paralinguistic cues – as pointed out in recent scholarship (Dresner & Herring, 2010; Riordan & Kreuz, 2010) – have yet to be addressed in the literature.

2.3 The second wave. Computer-mediated discourse

Although already emerging in earlier scholarship (for example Herring, 1996, p. 3), in the early 20th century criticism of the homogenising approach to the “language of CMC” and the new theoretical approach led to the development of new perspectives in CMD and consequently to the “second wave” of CMDA scholarship (Androutsopoulos, 2006, p. 421). Researchers declared that “there is no homogenous speech community on the internet: equally there is no single language of the internet” (Thurlow, 2001, p. 287). The new research perspective was influenced by the realisation that contextual factors such as the communication channel, synchronicity, the goal of interaction, and social factors such as the participants and their relations

should all be taken into consideration (Herring, 1996, p. 3; Thurlow, 2001, p. 288). Georgakopoulou and Goutsos declared that in research there is a need for “contextual analyses that shed light on how different context parameters shape and are invoked in the discourse of various types of CMC” (2004, p. 186). This move to context-centred description had important implications for the theory and methodology of CMC research: where previously the prevailing number of studies relied on descriptive linguistic approaches, the need for ethnographically informed approaches grounded in interaction became obvious (articulated by Darics, 2008; Livia, 1999). In research, for instance, the technical context has been brought to the fore, coming to be viewed as a factor that potentially influences the discourse of CMC. The physical properties of communication technologies, such as message timing, persistence of transcript, anonymity, filtering and quoting, and how these affect discourse, intrigued scholars. Cech and Condon (2004) for example systematically varied the size of the message window to test its effect on language use, and demonstrated the direct influence of the environment on the strategies adopted by participants in the interaction. Others looked at the impact caused by the systems that, for instance, enable incorporating previous messages (“quoting”) and its effect on communication (see for example Severinson, 1994; Thompsen & Foulger, 1996). Quoting has also been described as a strategy employed in synchronous CMC: Herring, for instance, found that it creates the illusion of adjacency – a feature often disrupted in synchronous CMC (Herring, 1999). Interactional coherence in general and the effect of disrupted turn adjacency on conversations has specifically captured the attention of several researchers influenced by the contextual-interactive focus of the second wave of enquiry (Berglund, 2009; Garcia & Jacobs, 1998; Hancock & Dunham, 2001; Ong, 2011). The findings from this line of research identified non-verbal cues as devices to aid the creation of interactional coherence and interaction management. In the next section, I therefore offer a more detailed review of the scholarship addressing the linguistic devices and discursive strategies used for the creation of interactional coherence, and show that the work non-verbal cues accomplish in this function has been highly neglected in research.

2.3.1 Conversational coherence

As indicated above, the shift in the focus from the homogenised language view of the first wave to the contextual, locally-situated language view of the second wave resulted in heightened interest in how technology affects computer-mediated interactions. As a result, issues such as turn-taking and adjacency, gaps and overlaps, and interactional management have become the centre of attention (as in Berglund, 2009; Garcia & Jacobs, 1998; Herring, 1999; Ling & Baron, 2007; Markman, 2005; Simpson, 2005a). These studies focus on describing the effects of the technical aspects of the medium, and identify two main sources for problems in the creation of interactional coherence and interaction management in synchronous CMC: the lack of simultaneous feedback and the partly system-controlled nature of the communication medium. Some of the researchers adopted a conversation analytic approach based on the analysis of spoken interactions to examine how users adapt to these constraints to achieve conversational coherence. In their early study, Garcia and Jacobs found evidence that interaction via text-based synchronous communication channels may lead to “the misinterpretation of adjacency, the misinterpretation of silence, the production of phantom responsiveness, and other problems” (1998, p. 310). They emphasised that if participants attempt to import procedures from spoken interactions, communication breakdown and misunderstanding might occur. A similar concept is expressed by Simpson (2005b) in his analysis of coherence of “written interactions”, where he argues that it is not profitable to apply models of turn-taking in spoken conversation directly to synchronous CMC (p. 344). Somewhat contradictory to these views of the uselessness of relying on discursive strategies from spoken interactions are the viewpoints of Herring (1999) and Greenfield and Subrahmanyam (2003). They maintain that users of synchronous text-based CMC employ communication strategies *adapted to the medium* in order to avoid confusion and misunderstanding. They argue that users do, in fact, draw on their previous knowledge of verbal interactions and use, for instance, repetition as a cohesive device. In their discussion, the new aspects of creating coherence and negotiating turn-taking include the identification of the *persistent transcript* and the ability to scroll and refer back to previous information, as well as *visual cues* and the written representation of *backchannel signals*. The studies focusing on interactional

coherence in two-party interactions (Baron, 2010; Berglund, 2009; Hancock & Dunham, 2001; Woerner et al., 2007) confirm that disrupted turn adjacency and the problematic nature of the lack of backchannel signals in turn-organisation occur even in dyadic exchanges. The above studies identify strategies that correlate with the ones described in research on multi-party interactions: users employ *lexical repetition* to create coherence and *utterance chunking* to coordinate turn-taking. In addition to the above, Woerner et al. (2007) have identified the usage of *parentheses* as a visual technique to indicate that an utterance was misplaced in a given context; and Berglund (2009) as well as Simpson (2005b) examined *multiple dots/suspension dots* functioning as a non-verbal linking sequence.

It is clear from the review above that the focus of the attention regarding interactional coherence in text-based synchronous CMC has been the turn-negotiation and structure of the interactions: researchers examined the strategies adopted by the participants to establish a seamless conversational flow without lags or disruption, and overcome the problems caused by disrupted turn adjacency. However, my review of the literature reveals two relatively under-researched areas. Firstly, the studies quoted above neglect a wide range of non-verbal cues, despite the fact that the textual representation of these could have a crucial role in the creation of interactional coherence similarly to their audio and visual counterparts in spoken interactions. Apart from reference to *written backchannel signals* (Herring 1999) and a more detailed account of *ellipsis mark* (Berglund, 2009; Ong, 2011; Simpson, 2005a), other paralinguistic cues to aid the creation of coherence during the course of the interaction have not been aptly and systematically addressed. Secondly, very little has been said about the strategies people use to manage – without disruption – the flow of conversation: how they, for example, signal listenership or how they indicate their intention to take over the floor or hold the floor. There are, though, some notable exceptions: Rintel and Pittam (1997), for example, examined interactional strategies used as strategies of interaction management during the opening and closing section of the CMC conversation and found that several of the strategies used by the interactants have been adopted from face-to-face interactions. They point out in particular the role of non-verbal cues in the creation of coherence, but fail to provide details about the type of cues involved and the actual work they accomplish. Cherny, in her monograph,

provides a detailed account of backchannel signals, and suggests that these cues are used as means of listenership signalling (1999, pp. 185-196). However, in spite of highlighting the highly situated nature of these signals in spoken interaction (p. 193), the functions she assigns to the identified cues are categorical and lack a contextual interpretation (p. 195). Finally, other studies (for example those of Baron, 2010 and Woerner et al., 2007) have identified chunking strategies as a way for interactants in IM to signal the holding of the floor. Baron (2010) provides a detailed examination of the break points, where utterance breaks are likely to occur and concludes that they coincide with the hypothetical intonation pattern of the spoken version of the typed message. However, when examining pauses, she excludes punctuation and other non-verbal signals from the analysis, hypothesising that these cues function as grammatical markers to link clauses rather than indicating pauses (p. 23).

The evaluation of the above studies shows that in spite of the fact that in spoken interactions cues such as interjections, nods, laughter and other body movements are important means of communicating and monitoring communicative cooperation (Gumperz, 1982, p. 163) research on interactional coherence and interaction management has neglected to identify the scale of written non-verbal cues that could potentially accomplish these functions. The two areas identified as under-researched indicate that research on interactional coherence and interaction management in text-based CMC should extend its scope to a wider range of cues: firstly to identify how audio and visual cues used for the management of spoken interactions are substituted in writing and, secondly, to account for the role these 'written' non-verbal cues play in the creation of coherence and conversational cooperation. This question will be re-visited in section 2.5. However, before summing up the interactional role of paralanguage in CMC, in the following section I will shortly introduce the third wave of CMD research and the implications of focal concerns with the research of written non-verbal cues.

2.4 The third wave. Social factors

My aim with the discussion of the latest shift in the theory and methodology of CMD is to provide a basis for the description of recent attempts to identify the linguistic devices and discursive strategies of participants using text-based CMC channels that contribute to impression formation and the negotiation of identity. The “third wave”, the most recent line of enquiry in CMC, reflects the realisation worded by Georgakopoulou:

...links between language and social and cultural processes tend to be mediated, indirect, variably salient and more or less subtle; that one-dimensional typologies of a textual kind hardly ever work as they are conspired against by interacting and intersecting contextual variables (2006, p.549)

As a result of the change in the theoretical view of CMC, prominent scholars in the field have declared the need to shift from medium-related to more ethnographically grounded, “user-related” approaches (Androutsopoulos, 2006; Georgakopoulou, 2006; Thurlow & Mroczek, 2011). On a practical level this means the shifting of focus to individuals and communities using CMC. Online communities have become the centre of attention in a wide range of disciplines after the realisation that not only do they (and their norms and conventions) have a direct effect on language use within one particular community, but also of the fact that discourse has a major effect on the formation of online communities, in that these communities are “largely constructed of textual, linguistic interactions” (Cherny, 1999, p. 21). Since the early occurrences of the concept of virtual communities (Rheingold, 1995) there have been several attempts to criticise the concept or refine its definition (Androutsopoulos, 2006; Driskell & Lyon, 2002; Herring, 2004; Paolillo, 1999; Reid, 1991; Stommel, 2008; Tosca, 2002). As early as 1991 in her study of Internet Relay Chat, Reid (1991) emphasised that common language is the feature that enables definition of online communities: “Users of IRC share a vocabulary and a system of understanding that is unique and therefore defines them as constituting a distinct culture.” Her findings were confirmed by Paolillo (1999) in his study of a “virtual speech community”, in which he applied a social network

approach to investigate online language variation and found a close relationship between the social position of the participants and the language variation they used. Influenced by the pronounced ethnographically grounded view of the latest line of CMC enquiry, Tosca (2002) took an essentially ethnographic approach to define online communities and argues that the concept of speech community used in social sciences is also applicable to online environments. However, Driskell and Lyon (2002) in their conceptual study of online communities conclude that in spite of shared interests and regular interactions within groups, “the environment of cyberspace is less likely to support true community” (p. 387) and that in their understanding virtual communities are not true communities. Herring, in her seminal study synthesises previous findings in the field and identifies six sets of criteria that indicate an online community ((1) active, self-sustaining participation and a core of regular participants; (2) shared history, purpose, culture, norms and values; (3) solidarity, support, reciprocity; (4) criticism, conflict, means of conflict resolution; (5) self-awareness of group as an entity distinct from other groups; (6) emergence of roles, hierarchy, governance, rituals), although she acknowledges that the occurrence of these features is not necessarily even (Herring, 2004).

As a result of the above described uncertainty about the definition and criteria of online communities, linguists of the newest strand of enquiry in CMC have begun to explore what linguistic approaches can reveal about online communities. Earlier research (Cicognani 1998; Cherny 2001; Herring 2004) has already emphasised that communities are brought to existence through interaction and consequently language use. Recent discussions have set out to explore how exactly linguistic practices constitute a community: Stommel (2008) explored the use of the conversation analytic paradigm applied in a discussion board setting to prove that “through the enactment of discursive practices community may be attended and invoked” (p. 16); Graham (2007) drew on recent developments in politeness research to approach a similar interactional environment, and argues that the negotiation of norms of interaction is a tool for establishing and formulating group identity. In an earlier study (Darics, 2008) I maintain that by drawing on a hypothesised shared knowledge from non-virtual communicative contexts, the members of a virtual team establish and re-affirm their shared repertoire, thus facilitating the formation and maintenance of the virtual team.

These findings are of particular importance for two reasons: firstly, in order to understand the discourse of virtual teams it is essential to have an understanding of the developments in the communication of online communities, as will be explained in more general terms in the next chapter (3) and more precisely in 3.1. Secondly, these findings further our understanding of the creation of the community-specific linguistic repertoire, which is particularly important considering the unconventional nature of CMD-specific linguistic devices, as explained in section 2.2.

Parallel and similarly to the concept of interactively constructed online communities, the concept of performatively constructed identity has also received a great deal of attention. In social sciences and psychology, considerable attention has been paid to the fact that cyberspace allows for fundamentally new construction of identity, and that this construction is closely linked to how we use language (Cicognani, 1998). However, reflecting the technological and social constraints of CMC in the late 1990s and early 2000s, previous research has mostly been preoccupied with anonymous interactional environments in publicly available virtual spaces, and has found that the negotiated nature of identity is more pronounced online: “due to anonymity, freedoms of time and space, and the absence of audio-visual context in cyberspace, identity is deemed to be *more* unstable, *more* performed, *more* fluid” (Benwell & Stokoe, 2006, p. 243). As a result of this realisation, linguists have been motivated to identify the discursive practices that allow the participants to perform or “do” social identities online. Although the studies contextualise identity in various ways and draw on different theoretical backgrounds, there exists a clear objective to identify the linguistic resources and strategies that contribute to the performed nature of identity. Spelling, for example, has been found to be such a resource for representing identity (Sebba, 2003; Shaw, 2008). The author of the latter paper for instance argues that spelling is a linguistic resource used as “inclusive assertion of multiple identities”. Other studies focus on paralanguage and emoticons, and their usage in relation to impression formation (Derks, Bos, & von Grumbkow, 2008; Fullwood & Orsolina, 2007; Lea & Spears, 1992).

As it has been pointed out above, hitherto the focus of the enquiry about interactionally constructed identities has predominantly been on communicative environments, where participants do not (necessarily) know each other. In a

professional work environment, however, participants are aware of who their communicative partners are: even if no personal encounter had taken place prior to the online interaction, they are usually familiar with each others' position, role, and perhaps other factors such as age, gender and time at the company. In spite of the environment not being anonymous, roles and work identities have been found to be performed in virtual teams, too³. For instance, *leadership*, a key aspect of virtual work, has been found to be primarily accomplished through communication (Skovolt, 2009). In their business-focussed study as early as 1995, Adkins and Brashers found that in text-based CMC the primary basis for impression formation and maintenance is the text produced by communicative partners. The conclusion of their findings and a resulting recommendation for the organisational members had been that they have to become aware of the effects of communication and language choices, as these play an important role in how they are perceived (Adkins & Brashers, 1995, p. 315). The same idea is emphasised by Switzer (2008), who points out the fact that the non-verbal cues that normally aid communicators in identity negotiation and impression formation are absent, so verbal and linguistic devices receive greater emphasis. Slightly contradictory to the findings of Switzer are those of Lea and Spears (1992) who conducted research on non-verbal cues that exist in the workplace CMC environment and found that even a limited number of non-verbal cues had a considerable effect on the impressions the interactants formed about each other. Based on these claims from the business discourse literature, it is arguable that linguistic and discursive practices play a significant role in both the creation of online communities and the negotiation of professional and personal identities in the realm of virtual work. It is not surprising, therefore, that the importance of language and language use is acknowledged as a key element in virtual team dynamics and role-negotiation, and is well-researched from a business-managerial point of view in particular (see section 3.1 for a detailed review). However, research on communication within a virtual team, particularly focussing on real-life data from a discourse or conversation analytic viewpoint is less well-documented (see Handel & Herbsleb, 2002; Lam & Mackiewicz, 2007; Woerner et al.,

³ A seminal piece of work on the interactional construction of identity is the 2005 study of Bucholtz and Hall, in which they argue that "identity is a discursive construct and emerges in interaction" (p. 587). For a comprehensive account see for instance de Fina, Schiffrin & Bamberg (2006), or for a more workplace-oriented application of the theory see Angouri & Marra (2011).

2007). The greatest paucity in this field of enquiry is the focus on the specific ways in which people construct their workplace identities and negotiate their hierarchical positions, drawing on the discursive and linguistic devices allowed by the communication channel, for instance CMD-specific paralinguistic cues. This paucity in research, alongside the previously identified shortcomings of research on non-verbal cues in CMC, will be re-visited below.

2.5 Summary of the findings of the CMDA literature review

In the previous sections my aim was to provide a comprehensive review of the three “waves” of CMD research in order to (a) introduce the key concepts and findings the present thesis builds on or employs; and (b) to identify the areas of non-verbal cue research that have only been touched upon briefly in previous discussions of CMD. The review was carried out with a strong focus on the virtual work environment, focussing on studies about synchronous communication channels, dyadic exchanges and/or task-related interactions. One major concern about the current state of literature has been that the description of various mediated environments is not even, and that the re-situation of the current – typologising – focal issues is still met with reluctance (Georgakopoulou, 2006). Herring, in her methodological study about a classification scheme for CMDA proposes that:

Properties of the medium that predict language variation must be identified; CMD modes must be characterized, and novel CMD situations call for etic description. These needs are compounded by the rapid pace with which new computer-mediated communication technologies (...) have emerged into popular use over the past decade. Other technologies will inevitably follow, placing a continuing demand on linguists to provide systematic, meaningful characterizations of discourse in emergent mediated environments (2007, p. 7).

In spite of this articulate need for the linguistic description of various CMC environments, the empirical analysis of IM messages has only received scant attention (also pointed out by Baron, 2010). This issue is further aggravated by the fact that the majority of existing research focuses on either multi-party social exchanges; or the data set for the observation of task-oriented exchanges comes from an educational, and often “laboratory setting” (Martins et al., 2004). There is therefore an apparent need for conducting empirical research on dyadic, naturally occurring data from “real life” settings as Martins et al. have pointed out: “in order to advance the literature through the asking and answering of questions that cannot be adequately tested in a laboratory setting” (2004, p. 823; see also Harris & Paradice, 2007). To answer this call, therefore, it is important to break away from the theorising-typologising tradition of CMC research and turn our attention to instances of actual language use, in order to gain an insight into the communicative practices of adults using text-based communication technologies for non-social purposes (agenda also set out by Baron, 2010).

In terms of the focus of research, in the previous sections I have pointed out that the linguistic devices used to convey non-verbal information in writing represent a relatively under-researched area within the study of CMD, in particular due to the lack of systematic approaches in the identification of these cues. Section 2.2 gave an account of the early attempts to describe the use of creative, non-conventional writing in text-based CMC, and concluded that due to the generalised view of CMC the descriptions lacked depth and did not account for situational uses, context or conventionality. The review in section 2.3 revealed that when interactional organisation became the centre of attention in CMD research, the discursive strategies that enable and aid smooth turn-organisation have been systematically described, yet the written representation of non-verbal cues with the same role have been neglected by research. Finally, in section 2.4, I described the change in the focus of CMD research, and introduced the recent attempts to identify the linguistic devices and discursive strategies of participants using text-based CMC channels that contribute to impression formation and the negotiation of identity. My review of scholarship in the field has shown that a considerable body of research is concerned with various aspects of written non-verbal cues mainly due to their prevalent importance in various functions: the disambiguation

of message content, the contribution to impression formation and the maintenance of interpersonal relationships, management of interactions and affective communication. However, as I have also argued, the analysis and systematic description of these cues is far from complete. In particular, I have shown that there is a need for a comprehensive system that enables the identification of the strategies used for inscribing paralinguistic information into writing, and a theory that accounts for the range of communicative functions they accomplish during interaction.

Regarding the description of various types of non-verbal cue, research is similarly unbalanced. The early approaches to non-verbal cues concentrated primarily on the emotional aspects of discourse and research was mostly concerned with the functions that determine or change the “tone of voice” (Carey, 1980; Thompsen & Foulger, 1996). The dimension of affect in communication has been so predominant that in spite of the acknowledgement of numerous occurrences of linguistic creativity serving as non-verbal cues, a prevalent number of studies focuses on one particular type of non-verbal sign: the emoticon (for a review see section 5.2.2, on critique of this approach see for example Hancock, Landrigan, & Silver, 2007; Harris & Paradice, 2007). Kalman and Gergle (2010) speculate that the possible reason behind the seeming lack of attention towards other manifestations of non-verbal cues in writing lies in the difficulty of identifying and interpreting them in naturally occurring data, in particular, because the cues are highly variable and subtle. The most recent attempts to systematically describe linguistic devices that serve as non-verbal cues reflect the need to expand the research agenda beyond emotions and emoticons. Both Riordan and Kreutz (2010) and Haas, Takayoshi, Carr, Hudson and Pollock (2011) attempt to provide taxonomies of written non-verbal cues, including non-standard typography and non-standard punctuation. There is an inevitable usefulness in these taxonomies as they could serve as a starting point for future analyses of the non-verbal aspect of CMC. However, both studies fail to account for two important issues. Firstly, due to the essentially corpus analytic approach they follow, they do not account for the complex, and highly context-dependent nature of these cues (an aspect that has been pointed out by Thompsen & Foulger, 1996 for example). Secondly, both lists are limited to cues that are relatively easy to identify, and do not take into consideration examples where, for instance, the *lack of* certain features have communicative functions (as pointed out

by Darics, 2010b) or cues not necessarily present in the printout of the transcripts. In a previous study I have argued that time-related cues, for example ‘chronemic cues’ can also function as signals that affect message interpretation (Darics, in press), or the presence of features, for instance capital letters, can function as paralinguistic signs if they are contrasted with language samples lacking these features (Darics, 2010b, p. 139). This paucity in the description of the repertoire of non-verbal cues in text-based CMC, along with the previously reasoned need for a thorough analysis of their functions, requires an approach which takes into consideration linguistic devices or discursive strategies that enable the communication of functions which – in spoken language – are traditionally communicated through the use of auditory or visual non-verbal cues. This “set of resources” that are afforded by the medium (as pointed out by Ledbetter, 2008) contribute to the contextualisation of the interactions, and include cues represented by creative or non-standard writing techniques ⁴.

Consequently, based on the findings of the previous review, the following questions have yet to be addressed in the literature:

- 1.) *In naturally occurring, text-based workplace interactions, do interactants employ cues designed to communicate the non-verbal information that is traditionally used in spoken interactions? If so, what forms do these cues take? What range of functions do they fulfil?*
- 2.) *Is there evidence that these cues contribute to the achievement of the communicative goals of the participants, to impression formation, and to the creation of coherence?*

This study sets out to provide answers to these questions and explore paralinguistic cues with special attention to their usage in the closer as well as wider context, and their function in discourse. The next chapter, therefore, will focus on the description of the context of workplace, and provide a review of the research on communication and IM in the virtual work environment.

⁴ see section 4.2.2

CHAPTER 3

LITERATURE REVIEW OF ORGANISATIONAL AND BUSINESS COMMUNICATION

3.1 Virtual work and the challenges of the mediated communicative environment

It is not surprising that virtual teams and virtual work are intensively researched topics in the literature on business communication, global organisations and management. Virtual work with spatially unrestrained cooperation between organisations, teams and individuals has already become a commonplace, a “must rather than an alternative” (Tavčar et al., 2005). The growing success of virtual teams is due to the confluence of organisational and technological factors, as well as financial benefits. At the organisational level, companies can utilise the expertise and experience of specialists and the most appropriate individuals can be selected for tasks without the constraints of location or permanent work contracts, either from within or outside organisations (Martins et al., 2004). At the technological level, the constantly developing computer-mediated communication technologies encourage remote work, as they enable team members to work independently across time and space (see for example Berry, 2011). At the business/financial level companies make considerable savings on the relocation costs of employees, or even brick-and-mortar office costs (Solomon, 2001).

In spite of the apparent and ever-growing popularity of virtual teams, it has proven to be a difficult concept to define in academic terms (cf. Martins et al., 2004). Generally, virtual work encompasses work environments where team members might be physically and/or temporally separated for some or all of the time, and work processes are mostly accomplished through communication (Watson-Manheim & Belanger, 2002). In the present thesis I define virtual teams in the broadest sense, which means that there is no significant distinction between virtual teams where participants are in close physical proximity or geographically dispersed (Olaniran, 2007) as long as they predominantly rely on computer-mediated communication rather than face-to-face communication. What is important, however, is that in these virtual environments work fundamentally takes place through communication. This means that the interaction between the team members is the actual means of accomplishing tasks: negotiations, information exchange, requests, giving orders, brainstorming, and even social interactions take place via various mediated channels (cf. Isaacs et al., 2002). These computer-mediated, communication-based work processes that are essential to the functioning of a team bring to the foreground issues about communicative practices used in technologically mediated environments, as well as the language use of the virtual team members (also pointed out by Watson-Manheim & Belanger, 2002). According to Bargiela-Chiappini et al. (2007, p. 178), these issues are greatly unexplored in the organisational discourse literature, and more studies are required to examine the discourse and communicative practices employed in virtual teams. In the existing scholarship there is unanimous agreement about the heightened importance of communication and language use in virtual teams. Research is divided into different strands, each of which identifies a different factor that accounts for the unique features and possible issues regarding communication processes, communicative practices and interaction.

In one of the strands, the main approach is essentially cultural: it has been noted that virtual work often involves colleagues with diverse personalities, backgrounds, expertise, and perspectives, and this diversity and the (possible) lack of “common background” might account for the issues arising from the mediated nature of communication (Hertel, Geister, & Konradt, 2005; Olaniran, 2007; Solomon, 2001; Watson-Manheim & Belanger, 2002). Although cultural issues, and lack of common

background, can be critical in terms of successful communication (Gumperz, 1982, pp. 172-186), due to space considerations this aspect is not covered to a great extent in this thesis. The other three research strands I have identified in the business and organisational communication literature, however, are taken into more consideration, as their findings point towards a need for a linguistic approach in research into the communication of virtual teams.

The first strand of enquiry highlights that in the virtual realm there is a lack of opportunities for informal occasions of talk (“corridor talk”). The reason why these instances are considered to be of high importance is that in traditional teams these occasions have been found to create a common context and, in doing so, they increase the chances of norm formation, aid group formation and consequently increase effectiveness in teams. A number of researchers therefore consider the lack of these opportunities as the main reason for communication issues hindering the accomplishment of work tasks in the virtual environment (Ale Ebrahim, Ahmed, & Taha, 2009; Handel & Herbsleb, 2002; Tavčar et al., 2005). In the second line of research, pertaining to the issues surrounding the lack of opportunities for interactions enabling norm-formation, relationship and group facilitation, is the problematic issue of creating common ground for communication and shared understanding. Such issues mostly refer to questions about the conventionality of linguistic devices and discourse strategies used by participants in the relatively new communicative environments. Several researchers have identified this as the main cause of miscommunication in virtual teams (Berry, 2011; Staples & Zhao, 2006; Thompson & Coover, 2003). Finally, the third strand of enquiry maintains that communication problems arise due to the fact that the collaboration does not occur in the same physical environment and context, and so the interactants miss out on interpersonal and situational context cues as well as non-verbal signs that would normally aid interaction and understanding (Chesin, Rafaeli, & Bos, 2011; Cornelius & Boos, 2003; CW3 Cultural Wizards, 2010; Thompson & Coover, 2003; Vroman & Kovacich, 2002). Based on the review of these three lines of enquiry it is thus clear that there is an overarching consensus about the requirements for effective communication in virtual teams; communication that does not result in breakdowns and which consequently enables successful accomplishment of work tasks. The findings indicate that team members in a virtual team need to have a

“common ground”: a shared repertoire of linguistic and discursive strategies to successfully achieve communicative and relational goals. The findings described above also confirm that the creation and negotiation of this shared repertoire are aggravated by the lack of opportunities for informal – at times non-task related – interactions, as well as by the lack of non-verbal and social cues.

In the next sections, therefore, I review the business communication literature in order to provide evidence that a discourse-centred approach to the communication of virtual work is a useful approach for exploring the creation of the “common ground” detailed above, and that such an approach provides an insight into the process of the creation of the shared repertoire, in particular in the absence of the two conditions (lack of opportunities for “corridor talk” and the lack of non-verbal cues) that would normally aid this process in face-to-face interactions. In what follows, I review to the extent to which previous business and organisational communication research has drawn on the findings of linguistic research on CMD. I then narrow my focus to IM in the workplace and by reviewing the relevant literature establish the relationship between language use and IM in a work environment, and provide a rationale for a linguistic analysis of naturally occurring IM interactions. In section 3.2.2 I review the recent findings regarding the changing uses of IM and identify the under-researched areas in the scholarship regarding the effect of newly created communicative situations on language use. In section 3.2.3 I examine in more detail the topic of non-task related talk in previous studies, in order to define its position within the context of the workplace and also its importance as a field for more concentrated non-verbal cue use. Finally, in section 3.2.4, I provide a summary of the state of literature on non-verbal cues in the virtual workplace setting and explore what previous research has established about their application and functioning. The main aim of this section, however, is the exploration of whether there is evidence in scholarship that paralanguage contributes to the achievement of the communicative goals of the participants, to impression formation, and to the creation of coherence, as proposed in RQ2 in the previous chapter.

3.2 A linguistic approach to discourse of virtual teams

Despite the apparent link between (mis)communication issues and language use in the virtual work environment, linguistic approaches to computer-mediated workplace discourse are somewhat neglected in the business and organisational discourse literature. Claims such as “virtual communication is confusing” (Thompson & Coover, 2003), “impoverished”, “more laborious and more cognitively taxing” than face-to-face communication (Cornelius & Boos, 2003; Purvanova & Bono, 2009) are made without empirical support provided by the systematic analysis of naturally occurring data. In case there is mention of linguistic or discourse analytic findings, the references are dated⁵ and do not reflect the newest findings of CMDA⁶. Therefore, this thesis aims to bring together these two seemingly unattached fields, and use the findings of the linguistic analysis of naturally occurring exchanges to inform the academic fields related to communication in the virtual work environment.

3.2.1 IM discourse in the workplace

Early descriptions of synchronous text-based CMC included observations about this communicative mode not being appropriate for the communication of relational intent (cf. Rice & Love, 1987; also highlighted in Kraut, Fish, Root, & Chalfonte, 1990). This approach, however, changed dramatically in the last decade following the spread and popularity of the IM medium in the work environment: Cameron et al. (2005) for instance found that the majority of employees in their study considered IM to be more informal than telephone. This viewpoint is mirrored and taken further in the study of Pauleen and Yoong (2001), who found that IM is in fact a preferred channel for informal, spontaneous communication between virtual team members. The question nowadays, therefore, is not whether it is possible to establish and maintain interpersonal

⁵ See Berry, 2011; Byron, 2008; Rennecker & Godwin, 2003; Vroman & Kovacich, 2002 drawing on literature from 1980s and early 1990s.

⁶ As outlined in Chapter 2.

relationships, or to create and manage virtual teams relying mostly on text-based CMC channels, but how exactly this can be achieved and, from a business point of view, in the most efficient way.⁷ The research strands to explore these issues predominantly follow an ethnographic approach, and the findings and observations are traditionally based on interview and observation data (cf. Cameron & Webster, 2005; Churchill & Bly, 1999; Handel & Herbsleb, 2002; Nardi et al., 2000; Woerner et al., 2007). However, in spite of the fact that language and language use play a crucial role when communicators use mostly text-based communication technologies, questions about *how* exactly the above functions of IM interactions are achieved have very rarely been approached from a discourse analytic or pragmatic perspective (see one attempt in Isaacs et al., 2002).

As reviewed in the previous chapter, the conversational coherence of workplace interactions has received considerable scholarly attention (Berglund, 2009; Lam & Mackiewicz, 2007; Woerner et al., 2007), but issues regarding mediated language use and its effect on the achievement of communicative intent, the interactional negotiation of professional identity, as well as on the discursive establishment of group norms (including communication norms) have been neglected by linguists. This paucity of research is even more salient considering the fact that previous business discourse research has already emphasised the importance of language use in virtual teams: Adkins and Brashers (1995) and Lea and Spears (1992) have maintained, for instance, that the linguistic choices of the members of virtual teams play an important role in impression formation. Nardi et al. (2000) have identified variables that have an influence on how the formality of workplace interactions is perceived, claiming that besides its instant responsiveness and ability to indicate availability, the language use in IM also plays a major role in it being perceived as an informal channel. They argued that IM can be “expressive, allowing for affective communication about work crisis, the general ambiance of the office, jokes and bantering, as well as intimate communication with friends and family” (p. 82). The language phenomena identified as responsible for this casual nature of IM include “relaxed grammar and spelling”. The authors point out the *liberal use of exclamation marks*, to signal, for instance, “friendly responsiveness”.

⁷ Meaning without miscommunications hindering work (as argued by Cornelius & Boos, 2003).

The above findings indicate that in the text-only context the use of the language of interacting team members determines not only how they are viewed by the others as individuals and how they perceive themselves as a team, but language use also functions as an indicator of the tone of the conversation; and contributes to the establishment of the general “ambiance” (Nardi et al., 2000) of the office, thus directly affecting working relationships and the resulting cooperative work. It follows from this, therefore, that in order to understand how this expressiveness is achieved via text-based communication channels and what kind of language use creates a friendly, supporting working environment, one has to understand the functions and meanings of the various linguistic devices and their contexts of use. However, in order to be able to describe what functions various linguistic strategies and devices fulfil, the context in which they are used, and the intended meaning assigned to them, it is necessary to have a thorough understanding of the discourse of the above mentioned interactions from a linguistic and pragmatic perspective. In order to be able to provide such an account, I shall first discuss the technological and communicative context IM constitutes, and discuss the linguistic implications of the altered communicative situations created by this channel.

3.2.2 Blurring boundaries of the uses of IM

Since the occurrence of computer-mediated communication technologies, there has been a well-articulated distinction between the various degrees of synchronicity of the different methods of communication (cf. Ferris & Minielli, 2004). E-mail, for instance, has traditionally been considered as an asynchronous channel (as in Crystal, 2001 or Herring, 2007), because the interactional partners did not need to be logged on simultaneously and there was therefore no expectation for immediate feedback. There could also be a considerable time lag between two exchanges. Instant messaging, on the other hand, has been viewed as synchronous (Herring, 1999; Herring, 2001; Herring, 2007; Simpson, 2005b) or quasi-synchronous (Markman, 2005; Ong, 2011), because conversational partners are typically co-present, and the interaction takes place in almost real time. This clear divide between synchronous and asynchronous genres, however, has become blurred in recent years: e-mail is often used as a ‘synchronous’

conversational tool, with almost no gaps between turns, whereas IM is used as an ‘asynchronous’ communication mode, when minutes or even hours may pass between two conversational turns (Handel, 2002). In terms of discourse, synchronicity has been considered a variable that has a significant effect on language production (Herring, 2007). Ko, for instance, has argued that synchronicity determines the extent to which computer-mediated language use resembles speech: “The difference seems to have to do with whether the electronic discourse takes place in non-real time or real time, with the latter being more ‘speech-like’ than the former” (1996). This observation becomes particularly important if we consider that a change in synchronicity can be expected to have a direct effect on language use; and the discourse previously associated with synchronous and asynchronous modes might display the attributes of both.

Consequently, this realisation raises questions about the nature of IM discourse and its relation to speech and writing (see also 2.2), as well as about the use of linguistic and discursive strategies associated with both channels. If we consider the preceding reviews, the prevalence of issues linked to non-verbal cues – typical of spoken interactions – point in the direction that IM is treated as a highly responsive, synchronous, speech-like communicative channel. This, however, contradicts the findings of business communication research, where several scholars identified IM as a channel ‘blurring’ the boundaries between synchronicity and asynchronicity (Churchill & Bly, 1999; Garrett & Danziger, 2008; Handel & Herbsleb, 2002; Isaacs et al., 2002; Nardi et al., 2000; Woerner et al., 2007). Garrett and Danzinger (2008), for instance, observed an asynchronous usage when interactants do not require an immediate response in the interaction:

Setting up a line of communication via IM is as easy as making a phone call, and the line can be *kept open indefinitely*, allowing participants to query one another infrequently on an as-needed basis and with the expectation that a response will be forthcoming *at the next convenient opportunity*. Of course, such communication patterns also depend on the supporting social skills and norms of the users, but the technology does afford a novel opportunity (p. 26) (highlights from ED).

Murray has pointed out that this type of usage requires the researcher to re-think previously well-established notions, such as what constitutes a conversation or the traditional stages of opening or closing a conversation (1990, p. 43). I believe that in

addition to these important conceptual questions, both researchers as well as users themselves should (re)consider how these newly created communicative situations affect discourse on the whole: would, for instance, the lack of synchronicity determine the usage of linguistic and discursive devices typical of spoken interactions (as implied by Ko, 1996), or would the interaction still be “speech-like” (Murray, 1990) and, if so, how do team members adapt to these situations in their communicative practices and language use? This agenda is in line with the directions Georgakopoulou set for CMC research, in that it needs to

re-situate the focal concerns of CMC away from speaking and writing issues to issues of physical co-presence and embodiment, sharing (or not) of an immediate context, synchronicity (or not) of interaction, and other contextual dimensions of relevance that have not been fully exploited yet (2006, p. 550).

In what follows, I therefore give a short account of what exactly these new communicative situations entail and how they affect the synchronicity and interactivity, and consequently the “orality”, of the discourse used in written interactions in the virtual work environment.

3.2.2.1 New communicative situations in IM

The existing body of research generally agrees on which unique features of IM have a direct or indirect effect on communication and cooperation. These include *presence awareness* (Garrett & Danziger, 2008; Rennecker & Godwin, 2003), *the persistence of transcript* (Churchill & Bly, 1999; Rennecker & Godwin, 2003; Woerner et al., 2007), *polychronic communication /multi-channel communication/ multitasking* (Nardi et al., 2000; Rennecker & Godwin, 2003), *channel for negotiation for availability (also for other interactions)* (Garrett & Danziger, 2008; Handel & Herbsleb, 2002). These features enable communicative practices that are either unique in general, or unique in the virtual environment, but in any case require a departure from the previously described classical synchronous-asynchronous polarity, and therefore require an adaptation in communicative practices and language use from participants.

Presence awareness and the *persistent transcript* predominantly affect time-related expectations and have an effect on the normalised interaction rituals, such as openings, closings, or addressing colleagues. Presence information is typically a built-in feature for most IM clients, for instance online co-workers appear in a directory, where often colour-coding is used to indicate if someone is online, do not wish to be disturbed, idle or offline. Furthermore, some IM programmes allow the users to publish a status update, in which they can explicitly indicate whether they are available for interaction or not. However, some researchers claim that these indicators are merely a blunt measure of availability, as statuses might not be updated, or co-workers might ignore requests for not being disturbed (Cameron, 2005). Business/organizational research has extensively dealt with the implications of presence awareness, in particular from the point of view of interruptions and their effect on work (see e.g. Garrett, 2008 or Rennecker, 2003).

The persistent qualities of IM interactions have been found to be a useful resource in the workplace, either as a reminder of the actual task in progress, which can be revisited over and over again (Woerner, 2007) or as an official documentation of ongoing business issues (Garrett, 2008). The persistence of transcript is the feature that enables IM to be viewed/utilized as a less ‘intrusive’ medium (270 Nardi, 2000) because when contacted via IM team members do not feel obliged to reply, as they would for instance in a face-to-face encounter or when they answer the phone. IM requests can be left unanswered, and dealt with at a time that causes the least interruption in the workflow - *at the next convenient opportunity*⁸.

Of more interest from the point of view of the present thesis is multitasking and its relation to the lack of visual contact. *Multitasking* in general refers to being engaged in two activities at the same time: in the virtual workplace literature, however, *multicommunication* is often treated as a special type of multitasking (Reinsch et al., 2008). *Polychronic communication* means using the same medium – in this case IM – for multiple conversations, while *multi-channel communication* refers to using various communication channels (for instance telephone or video-conferencing and IM) concurrently. Multitasking in the virtual environment has been found to be a prevalent

⁸ For a detailed account of how members of a virtual team adopt their communication strategies in these new communicative situations see Darics (in press).

working method, in some cases an expectation rather than a possibility (Woerner et al., 2007). Isaacs et al. (2002), for instance, found that within their observed virtual teams, during 85.7% of the conversations, at least one person multitasked. Multiple conversations – either within the medium or outside – have also been found to be a common practice. Team members might engage in several unrelated concurrent conversations or the interactions (polychronic or multi-channel) can be closely linked and complementary of each other: a typical scenario of this type is when team members use IM during tele-conferencing or videoconferencing to pose questions to colleagues who are not involved in the meeting about the ongoing discussion (Handel & Herbsleb, 2002; Reinsch et al., 2008). These communicative situations, in which one ongoing interaction does not receive the full and undivided attention of the participants, are mostly possible because of the lack of visual contact. Multitasking and its effect on communication has been extensively researched (Cameron & Webster, 2005; Reinsch et al., 2008; Rennecker & Godwin, 2003; Turner & Reinsch, 2007), yet several questions, in particular regarding norms of language use, admittedly remain unanswered. Although some researchers claim that during multitasking team members can “juggle” multiple tasks or conversations undetected (Rennecker & Godwin, 2003), more research points in the direction that specific language use and the timing of interactions can be a revealing sign. Gaps of silence resulting from the divided attention and degrading coordination of turn-taking, language and spelling mistakes (Reinsch et al., 2008) as well as the deterioration of one or both conversations (Cameron & Webster, 2005) have been identified as disclosing signs of multitasking. The question of how exactly these issues affect communication and relational work clearly necessitates more in-depth research, as does the identification and description of linguistic and discursive strategies (if any) employed by team members in order to avoid miscommunication in a multitasking environment (Turner & Reinsch, 2007). Do, for instance, non-verbal signals, which are the most important devices for coordination of timing in face-to-face interactions, play a role in signalling anticipated delays? How do team members fill pauses while completing work tasks in order to signal their communication partner their full attention? These issues will be re-visited in section 3.3.

Closely related to the previous three features above is the practice of negotiating and signalling availability via IM. This means an explicit interaction or signal about

whether team members are available for discussion via IM. This tendency exists alongside the presence awareness features mentioned above and can take the form of, for instance, greetings, to signal that people have in fact “arrived to the virtual office” (Handel & Herbsleb, 2002). Nardi et al. (2000) observed the use of “preambles”: short IM messages with the help of which initiators attempt to determine the preparedness of recipients for IM interaction. The “checking-in” function observed by Handel (2002) and the “preambles” described by Nardi (2000) raise questions about language use similar to those in the sections above: what norms of language use govern these interactions? How are non-verbal cues – cues known for signalling timing in face-to-face interactions – used or replaced to achieve smooth interaction management? Although there is an acknowledgement in the literature about “careful strategies” employed by participants “to manage tensions and problems of conversational initiation” (Nardi et al., 2000), to my best knowledge very little attempt has been made to provide an empirical description of the discursive and linguistic strategies enabling this communicative strategy.

3.2.2.2 Linguistic, pragmatic and discursive issues concerning the new communicative functions of IM

In section 3.2.2 I gave a short account of the state of the literature regarding the communicative practices enabled by IM technologies, with particular emphasis on how these practices affect the synchronicity of interaction, and consequently language use and interactional management. It is now clear that considerable research is concerned with a tendency in workplace IM usage that defies the traditional synchronous-asynchronous polarity, thus affecting the extent to which team members rely on spoken or written discourse practices. However, while there is an evident consensus about these communicative functions and features of IM and their effect on accomplishing work, much less is known about how these features affect language use, discourse norms and communication in general. Above, I have shown several of the questions raised by the functionalities allowed by the medium: I have mentioned the *presence awareness* function and *the persistent transcript* as factors affecting timing and the chronemics of the interaction, and I have given a more detailed account of *the polychronic communication/multi-channel nature of communication* as well as the

function of *negotiation of availability*. The questions raised represent the two main issues evoked by the blurring boundaries between synchronicity and asynchronicity. The first main group of questions refers to the changing norms of language use in general. If we accept Herring's (2007) claim that "synchronicity is a robust predictor of structural complexity, as well as many pragmatic and interactional behaviors, in computer-mediated discourse" (see also Ko, 1996), it is then evident that the change in synchronicity will bring about changes in language use: in structural complexity as well as pragmatic and discursive strategies, specifically in the usage of the written counterparts of auditory and visual non-verbal devices. I have also pointed out that research has identified how the above detailed communicative functions represent altered, more complex communicative situations, which differ from previously known interactional contexts and affect not only language use and the pragmatics of conversation, but also require us to re-define previously known norms of interpersonal interaction. As I have pointed out in the review above, there is an articulated need in the literature for further research to provide a more detailed account of these rules and norms governing these communicative situations and provide a description of the linguistic and discursive strategies adapted to them (cf. Nardi et al., 2000), especially because breaching these norms might have a direct effect on impression formation and working relationships, and consequently on work efficiency (Cameron & Webster, 2005; Churchill & Bly, 1999). As set out in the research questions below, in this thesis I intend to further our understanding of this issue by examining the use of non-verbal cues originating both in previous spoken and written genres, and their application in naturally occurring IM workplace interactions.

The second main issue related to these functions of IM and the communicative situations they enable is the question of interactional coherence and interaction management. The four novel communicative situations introduced above all include an element of changed timing of interaction: whether addressing a colleague who has explicitly indicated unavailability, intentionally leaving a message unanswered until a more convenient time, or leaving longer gaps between utterances due to being involved in multiple interactions results in differing norms and expectations regarding acceptable delays, gaps or complete lack of answers (silence). The shift from the pre-existing norms of interaction management and the as yet unconventional use of these

communicative situations, however, might result in frustration and tension between the interactants (Reinsch et al., 2008), which then affects communication and consequently work efficiency. It is therefore essential to understand the transformed rules of interaction management and interactional coherence in this new environment and how verbal or non-verbal devices are used for coordination of conversational cooperation and to prevent relational and transactional misunderstanding. As detailed in Chapter 2, the following study of paralinguistic cues aims to address these very important questions. However, before examining the functions that non-verbal devices accomplish in workplace IM, it is essential to introduce the communicative goals virtual team members might have, and establish a ground for the decision about which episodes will be considered for analysis.

3.2.3 Non-task related and informal interactions in virtual teams

As I have indicated in section 3.1, occasions for spontaneous, informal talk have been found to be a crucial element missing from the life of a virtual team. In spite of the realisation of the importance of informal or non-work related talk from the point of view of the creation and maintenance of team identity as well as its effectiveness (see for example Kraut et al., 1990), in the business and organisational communication literature there is vagueness about what constitutes “legitimate” workplace talk. Organisational research literature often only regards interactions focussing on actual work tasks as instances of workplace discourse (Flynn, 2004; Pauleen & Yoong, 2001; Rennecker & Godwin, 2003). This approach is somewhat contradictory to the findings of the field of business discourse analysis, where researchers have approached and described informal or non-work related talk as an integral and essential part of workplace interactions (Holmes & Stubbe, 2003; Koester, 2006). Literature suggests that the importance of spontaneous, informal interactions lies in the two functions it fulfils in the work environment: firstly these types of spontaneous “hallway” or “copy room” encounters can end up in *ad hoc* discussions of ideas related to work, and therefore contribute to the achievement of the work goals of a team (for example Nardi

et al., 2000, p. 85; Kraut et al., 1990). Secondly, people often engage in more personal interactions, which then allow them to build trust, gauge the strengths and weaknesses or assess the shared or common goals of other team members – all found to be essential for the effective functioning of a team (cf. Crossman & Lee-Kelley, 2004; CW3 Cultural Wizards, 2010; Kraut et al., 1990). From an interactional point of view, informal work interactions, social interactions, gossip and lighthearted banter or humour often provide areas for the establishment of common ground in communication and allow for a negotiation of shared norms and meanings (for example in Holmes & Marra, 2002). Additionally, from a linguistic point of view, it has been established that relational interactions typically include a more concentrated number of linguistic and discursive strategies to signal involvement or affect (Koester, 2006, p. 139), including prosodic and other non-verbal devices (Koester, 2006, p. 71).

As it has been pointed out in section 3.1, the lack of common ground for communication, as well as lack of audio-visual signals, and the resulting miscommunication in virtual teams, has been found to be a critical issue requiring more in-depth research. What results from the combination of this paucity and the resulting findings of the argument above is that an insight into non-task oriented interactions – such as small talk, gossip or even informal transactional interactions – might provide a meaningful insight into the complex communicative practices of a workplace, in particular into the negotiation and maintenance of interactional norms, the creation of a common communicative ground through a shared repertoire of linguistic resources, and the communication of affect or involvement through the use of paralinguistic devices. In the next section I give a more detailed account of how non-verbal practices are perceived in the business and organisational literature, and then re-visit the questions raised in this section in section 3.3 in relation to the research questions of this thesis.

3.2.4 The (lack of) non-verbal cues in communication of virtual teams

In Chapter 2 I justified the need for research of the manifestations of non-verbal cues in text-based CMC from a CMDA perspective. A review of the business and organisational literature showed that the question of non-verbal cues also has great

significance in business communication studies, but their academic exploration is scant, particularly from a discourse analytic perspective. The lack of non-verbal cues and the effects they might have on communication, as well as the relatively higher “weight” of the written words is a feature often acknowledged in the business and management communication literature (Berry, 2011; Chesin et al., 2011; Thompson & Coovert, 2003; Vroman & Kovacich, 2002). Thompson (2003) observes that:

Interactional dynamics suffer during CM collaborations, because give-and-take is hindered by the concentrated effort required to type and relay information that is easily transmitted via nonverbal and paraverbal nuances. Online collaborators may attempt to communicate such nuances via a variety of techniques, such as complex syntax and redundancy, however, these techniques are generally regarded as *low-quality, time consuming* substitutes (highlights from the ED) (p. 136).

Similarly, Cornelius and Boos (2003) found that the missing non-verbal cues in task-oriented computer-mediated interactions could only be compensated by *costly* verbal feedback. Others found that although some non-verbal cues (emoticons, capitalisation, asterisks) are available in text-based CMC, their purposeful use is infrequent (Byron, 2008). To give countenance to these findings, in a recent large-scale report the majority of respondents (94%) claimed that the inability to read non-verbal cues was one of the most challenging aspects of working virtually (CW3 Cultural Wizards, 2010).

Based on the revision above it is fair to say that there is a general acknowledgement of the importance of non-verbal linguistic devices and the functions they fulfil in business interactions. However, it is also clear that the descriptions of these devices used in text-based CMC business contexts and the identification of their functions and usage is sporadic and lacks academic rigour (cf. Byron, 2008; Lea & Spears, 1992; Nardi et al., 2000). Furthermore, some of the claims (see my highlights above) approach the linguistic cues that replace the non-verbal cues of face-to-face interactions as devices and strategies that cause difficulties both to produce and to interpret. Based on the above, there is clearly a need to:

a.) provide a systematic description of linguistic and discursive strategies that replace or substitute non-verbal cues in order to identify the functions they fulfil and/or

their situational meaning, and thus contribute to the business and organisational communication literature with empirical findings about language use.

b.) challenge the (often subjective and negative) assumptions about the use of substitute non-verbal cues in text-based CMC, drawing on the recent findings of CMDA.

In a recent study Ledbetter argues that:

Although online environments exhibit consistency with the face-to-face psychosocial processes by which communicators evaluate messages, they also exhibit important disjunctions with the relative weight and meaning assigned to the available nonverbal channels. Thus, perhaps online communication is best viewed not as a medium chronically debilitated by the absence of nonverbal cues but, rather, a medium affording a set of resources that allow communicators to pursue their relational goals (2008, p.13).

Based on the previously discussed evidence (see section 2.5 and section 3.2), non-verbal cues constitute a considerable group of these “set[s] of resources” afforded by text-based CMC channels, so an approach to identify and examine their interactional function in IM conversations in the workplace could contribute to the understanding of how discourse works in the virtual work environment (see section 3.2) and also to the goals aimed at bridging the gap between business discourse studies and (socio)linguistic studies, as outlined above.

3.3 Summary and modified research questions

Given the lack of research on the discourse of virtual teams, in Chapter 3 I set out to assess the literature from related fields of enquiry. The first part of this review was concerned with virtual work and communication in general, and the findings were primarily based on the review of business and organizational communication research. Section 3.1, in particular, focussed on communication issues and miscommunication, and revealed that, in the literature, four main causes are thought to account for

communication issues in virtual work environments. The differing backgrounds of participants, the lack of common ground for communication, the lack of opportunistic interactions to create and reinforce common ground, as well as the lack of common context and missing non-verbal cues are considered to have a major effect on communication. In spite of the apparent importance of problem-free communication for successful cooperation, I have found that previous research that examines what actually happens when people are communicating and the norms of language use and interaction in the virtual work environment is scant. Previously, I have also pointed out that even studies drawing on the findings of linguistics/pragmatics often ignore the newest developments in these areas in general, and CMDA in particular. The methodology introduced in Chapter 4 shows that using linguistic/pragmatic observations to account for issues or problems regarding communication in virtual teams also answers the call of Potter and Balthazard (2002) who urge the research community to “develop additional theoretical perspectives as well as additional methodologies and research approaches in order to get a deeper insight into computer mediated workplace interactions”. The importance of these insights – besides the theoretical understanding of how communication happens in virtual teams – is pre-eminently practical. This practical orientation is well-articulated in Berry’s observation that:

The effectiveness of virtual teams and resultant outcomes of virtual teamwork is dependent on the resolution of miscommunication and conflict, the development of adequate and competent roles within the team for working together, and facilitating good communication between team members (2011, p. 202).

Berry’s point suggests that an examination of the existing communication practices of the virtual team members enables a reflection process for the participants, and allows for a description of discourse practices from the researcher’s perspective, the findings of which could feed back into the development of training materials to enhance communication and avoid miscommunication.

Based on the preceding review it is clear that speculations and observations regarding language use, linguistic competency, strategies and norms often appear in the business and organisational literature. These papers, however, are predominantly abstract from this point of view, and the claims are based on theoretical considerations, interviews, experience reports and case studies, rather than empirical findings (Berry,

2011; Fagan & Desai, 2003; Lam & Mackiewicz, 2007; Nardi et al., 2000; Reinsch et al., 2008; Woerner et al., 2007). It is clear, therefore, that there is a need for an empirical approach to compare and validate the above observations with real communicative encounters in a virtual team.

As a first step in this process, and in the next stages of my review in sections 3.2.1 and 3.2.2 I gave a detailed account of the specific features of IM use in the workplace, and identified the unique communicative situations that defy the traditional view of synchronous instant messaging. Questions about shifting from previously known discourse and pragmatic norms have come to the fore (Nardi et al., 2000; Reinsch et al., 2008), with emphasis on the fact that breaching the norms might lead to the formation of wrong impressions about team members (Adkins & Brashers, 1995), to communication breakdowns (Watson-Manheim & Belanger, 2002), frustration (Reinsch et al., 2008), and consequently less efficient cooperation. As the previous literature provided only a limited insight into the formulation of these altered interactional and language use norms, further exploratory work is clearly needed in this field. This realisation is consonant with the research agenda set out by a group of experts who claim that “since the initial emergence of e-mail, we have seen that genre norms are a moving target, requiring ongoing study as the changes triggered by evolving new technology continue” (Geisler et al., 2001, p. 293), and urge the research community to explore the process as well as the effect of the emergence or change of norms. My response to this call will be formulated below.

During the next stage of my review I established the status of non-work related, informal interactions in the literature. I have shown that research reveals a realisation that the amount of non-task related, social interactions correlates positively with team effectiveness (for a detailed review see Hertel et al., 2005). Among the explanations for this phenomenon is that these interactions enable participants to build trust and create cohesion within teams (CW3 Cultural Wizards, 2010). What has been highly neglected in the studies, however, is that non-task related interactions function as a field for creating a common ground for communication and, due to their pronounced relational orientation, provide a field to communicate affect, evaluation, involvement, or accomplish relational work. The consequences of this realisation are discussed in more detail in Chapter 4.

In terms of the paralinguistic devices mentioned above, I have already justified in the review of CMDA that paralanguage of IM requires more scholarly attention. The review of business and organizational literature, as presented in section 3.2.4, has validated this necessity, especially from a practical point of view. The review revealed that one of the main concerns about interaction in virtual teams is the lack of common physical context and the resulting lack of audio and visual cues, which are traditionally important aids in the communication of content as well as relational work in face-to-face interactions. I have also pointed out the accordance in studies about the issue caused by the lack of common ground for communication in virtual teams. This means that team members use non-standard creative writing techniques, as a means of inscribing non-verbal information into their written messages in order to ensure that the messages are not ambiguous, and both the content and the interpersonal intent is interpreted in the intended way. Besides, as I have indicated in section 2.3.1, these paralinguistic features and substituting strategies are also important means of creating coherence and contribute to the organisation of turn-taking, an aspect which is particularly important in the light of the altered communicative situations created by the blurring of synchronicity and asynchronicity (see section 3.2.2.1). However, whether these instances of non-standard usage of written language and various discursive strategies are conventional is hard to conclude from previous research. It became also clear that the greatest paucity in previous scholarship is the systematic, empirical description of the above described language features that enable virtual team members to creatively “substitute” non-verbal cues used in face-to-face interactions (for notable exceptions in an academic or youth context see Haas et al., 2011), as well as the description of the creation of a shared repertoire of these features (or an analysis of the negotiation of meaning of non-standard language usage).

Thus, in order to address these issues and answer the call of Geisler et al. (2001, see above), the questions articulated in Chapter 2 need to be taken further. The thesis aims to address the following issues:

3. How are non-verbal linguistic devices and strategies ‘translated’ from face-to-face interactions or previous written genres utilised in the workplace IM environment? What non-verbal cues (if any) do virtual team members use in

order to effectively communicate their relational and transactional communicative goals: to disambiguate the content of their messages and their relational intent, to communicate affect and involvement?

4. How do paralinguistic cues contribute to interaction management and creation of coherence in the communicative situations created by IM?

To address these questions along with those articulated in section 2.5, in Chapter 4 I outline the theoretical and conceptual frameworks that will provide a background to the study of IM conversations. Next, I present the methods of data collection and processing, with a detailed outline of a proposed multi-method approach.

CHAPTER 4

THEORY, METHODOLOGY, DATA

In the previous chapters I have shown that there is a need in computer-mediated discourse analysis research, and in the academic fields of business discourse and business communication to examine computer-mediated paralanguage and the range of functions non-verbal cues fulfil in IM. The articulated research questions specifically address three areas of human interaction in the business context: the communication and contextualisation of content and transactional goals, the communication of relational intent and affect, as well as the creation of interactional coherence and interaction management. As one of the emphasised aims of the thesis is to conduct a systematic description of written non-verbal cues as used by members of virtual teams in the workplace, it is therefore essential to identify and adopt a theoretical framework that will account for the three aspects listed above, and provide a resulting analytical-methodological framework that will enable me to address the computer-mediated discourse of virtual teams, and the functions paralanguage accomplishes during the course of text-based CMC workplace interactions. A review of CMDA literature, however, revealed that the field of computer-mediated discourse analysis, and computer-mediated business discourse analysis in particular, does not yet have an established and well-grounded conceptual and methodological background, and no generally accepted comprehensive theory that would account for the complexities of computer-mediated interactions has emerged to date (as pointed out by Herring, 2011, p. 344).

In a previous study, I have already argued the need for an approach that enables researchers to analyse discourse in the context of all factors that could affect message coding and decoding (Darics, 2008), and called for a multi-perspectival approach.

In what follows, I give a detailed account of why such a framework is necessary and what this multi-perspectival approach entails, addressing the theory of CMD in

order to provide a definition of ‘digital discourse’ for this research (section 4.1). In section 4.1.1 I provide a theorisation of the concept of ‘context’ and introduce the framework of interactional sociolinguistics (henceforth IS). This section explains how the IS view of context allows me to account for the paralinguistic strategies used by interactants to signal their intended meanings as well as the background knowledge of participants that affects the interpretation of messages. Then, in order to offer a conceptual framework which allows for a discourse-oriented definition of the concept of virtual teams, I discuss the framework of communities of practice (henceforth CofP). This framework serves as a backdrop for the analysis of the discursive construction of interpersonal relations and of the team (section 4.1.2). The framework of linguistic politeness, as discussed in section 4.1.3, will be employed in order to account for the linguistic and discursive strategies aimed at avoiding conflict and displaying concern for other people’s feelings. Then, in section 4.2, I show how this synthesised theoretical framework provides a set of analytical tools that will enable me to answer the research questions, and introduce the resulting analytical methodology that will allow me to examine and discuss the functionality of paralanguage in the complex communicative environment of workplace IM. Finally, in section 4.3, I give an account of the data collection, the dataset and ethical considerations.

4.1 A multi-perspectival theory

The previous chapters have shown that the existing scholarship on paralanguage in text-based CMC – in spite of its apparent importance – is scant. I have also previously pointed out that computer-mediated interactions in the workplace that are solely text-based are inherently complex, and in the preceding section I showed that there is a lack of an integrative theoretical and analytical models that account for these complexities. I found that it is therefore necessary to introduce a range of frameworks that engage in specific, individual issues, the combination of which will provide a set of operationalised definitions, based on which the results of the analysis can be

interpreted. Such synthesis will also result in an analytical approach allowing me to address and account for the range of functions paralanguage is hypothesised to fulfil in workplace interactions.

To introduce this multi-perspectival theory, it is essential to discuss the technological context imposed by the communication technology and, in particular, demonstrate the theoretical-methodological challenges it poses for the creation of the development of an analytical framework. The greatest of such challenges is that CMC in general represents a relatively new communication context – both at a close, local level, and at a wider, socio-cultural level. This means that, on the one hand, computer-mediated discourse is a constantly emerging phenomenon and “has not yet had time (nor attained the requisite social status) to become formalised in ‘rules;’ but rather, varies according to the technological and social contexts online” (Herring, in press, p.1; see also Androutsopoulos, 2006). On the other hand, new social or business contexts and novel communicative situations created by new media and communication technologies are also constantly evolving and new ones are emerging, thus continuously shaping interactions, meanings, discourse and language (as set out in section 3.2.2.1). This, in Herring’s words, is a *reciprocally emergent communicative situation* (in press). For the researcher, the hardship caused by this reciprocal development is, as Baron puts it, that when studying discourse it is necessary to account for both the evolving “surface phenomena” and the changing “root causes”, as well as of course the relationship between the two (2011). Previous research has already started to address these issues by re-thinking and challenging previously well-established (socio)linguistic disciplinary and methodological perspectives. The resulting findings point in a direction that the methods and theoretical approaches established for written and spoken genres cannot always be mapped directly onto the novel form of discourse (Herring, 2007; Simpson, 2005b). The current discussion in the literature suggests that, when studying ‘digital discourse’, researchers should acknowledge both the complex socio-cultural and the changing technological factors created by the new communicative environment within a conceptual model that is established in its own right (Herring, 2007). Zitzen and Stein, for instance, argue that this new model should focus on the most fundamental differences between pre-existing communicative modes and CMD: the discursive creation and maintenance of social relationships and the

structure of discourse, as well as discourse and interaction management (2004, p. 1016). Elsewhere, I have argued that – in the business environment in particular – the complexity of other factors that need to be taken into consideration during the course of the analysis (for instance the purpose of communication and group membership) indicate that an exclusively linguistic approach will have to be complemented by elements from models used in social sciences and other fields of discourse studies (Darics, 2008). The approach this thesis therefore adopts is a multi-perspectival approach that will enable me to cast light on both the “root causes” (see Baron, 2011, above) and the “social consequences of different discursive representations of reality” (Jorgensen & Phillips, 2002, p. 21). The individual frameworks introduced in the following sections are limited in that they only focus on a specific aspect of the group of complex factors mentioned above but, as I have shown previously, the aim of this synthesis is to provide an analytical framework that enables me to raise questions about the various interactional practices in the virtual work environment and provide a framework that is “rigorous and systematic” in the description of the usage and functionality of non-verbal cues⁹.

4.1.1 Contextualisation and interactional sociolinguistics

The first stage of my theorisation addresses the concept of context and the process of contextualisation. The necessity of this stage is a result of the context-centred issues raised in the research questions, and also the varying – and at times even conflicting – definition of this term in CMDA, business discourse and (socio)linguistics. In the previous section I have discussed the close, technological ‘context’ and its relevance in discourse-centred research, and mentioned that the wider social context of the newly created communicative situations also has a direct effect on communication and discourse. In the business environment, however, the complexity of the factors affecting discourse is further complicated by the fact that “communication is not an end to itself” and that there is also “an underlying business purpose or objective to be achieved as a result of the communication” (Bargiela-Chiappini et al., 2007, p.

⁹ As advocated by Herring (2011, p. 344).

172). This means that in order to study and understand business communication, specialists need to take into account the underlying objective or purpose of the communication, along with social and organisational contexts which affect the coding and decoding of discourse (p. 18). Thus, it is clear that ‘context’ is a very complex concept to define (see Koester, 2006, p.11), and that the standpoint chosen in defining what constitutes it has important methodological implications.

The general view of ‘context’ to which I subscribe in this thesis stems primarily from the theoretical grounding of interactional sociolinguistics and aims to incorporate all the aspects discussed above. The theoretical framework and analytical methodology of IS was developed by John Gumperz (1982), who drew on anthropology, pragmatics, linguistics and conversation analysis to create an interpretive framework within which he employed the techniques of conversation analysis for micro-level explorations of interactional data, but at the same time explicitly recognised the wider socio-cultural context to have an impact on interactions (Stubbe et al., 2003, p. 358). This approach means that IS defines context from two perspectives: firstly as talk-intrinsic and interactionally created and, secondly, as a set of *a priori* conditions that affect interactions. These aspects of the context guide speakers during the course of interpretation of messages as well as the whole interaction.

The talk-intrinsic nature of the context is manifested by *contextualization cues*, which are used within the conversation to frame meaning. These cues are:

Constellations of surface features of message form . . . by which speakers signal and listeners interpret what the activity is, how semantic content is to be understood and how each sentence relates to what precedes or follows (Gumperz, 1982, p. 131).

Contextualisation cues relate to contextual presuppositions (tacit awareness of meaningfulness) and allow participants to make situated inferences about the most likely interpretation of an utterance. Speakers can make choices between features at any of a number of levels including: (i) code, dialect or style; (ii) prosodic features; (iii) lexical and syntactic options and formulaic expressions; and (iv) conversational openings, closings and sequencing strategies as well as non-verbal cues (Gumperz, 1982, p. 131). This focus on the signalling devices evokes contextual presuppositions that make this framework a particularly useful tool for answering the research questions

about the functions non-verbal cues fulfil during the course of the interaction. Naturally, auditory and visual cues are not represented in text-based interactions, but written representations of these cues, or other devices functioning as contextualisation, are.

As regards the acknowledgement of the wider socio-cultural context, the IS approach considers interactants' knowledge of pre-existing contextual factors, firstly in order to account for how this knowledge affects the interpretation of discourse (Koester, 2006, p. 15) and, secondly, to account for how discourse indexes pre-existing socio-cultural meanings (Stubbe et al., 2003, p. 378).

An analytical gap in the above described theory is the articulated focus on the aspect of context that is necessary for the exploration of the interactional construction of professional identities is the interplay between the pre-assigned hierarchical positions and the interactionally negotiated nature of professional roles within the virtual team. In order to address this I re-visit the basic theoretical viewpoint of *social constructionism* that informs both the above described framework of interactional sociolinguistic and forms the basis of the thinking about interactionally negotiated identity.

The basic tenet of this theory is that identity is a dynamic interactional process that takes place in concrete interactional situations (see Kroskrity, 2000; Holmes & Meyerhoff, 1999, p. 11, also section 2.4), through the use of linguistic strategies and discursive work, and is a result of interactional negotiation and contestation (Bucholtz and Hall, 2005, p. 606). Although not used as a specific framework on its own right in this thesis, *social constructionism* provides the theoretical grounding for the identification of the “indexicality” and “relationality” of identity (Bucholtz and Hall, 2005), and guides the attention to the constantly developing and changing nature of social identities (as pointed out by Holmes & Stubbe, 2003, p. 11). Social constructionism therefore frames the approach of this thesis in that through the application of the methods of interactional sociolinguistics it enables me to account for the indexicality, i.e. the use of cues that contribute to the discursive creation of professional identities, and through the application of the methods of conversation analysis (as discussed in more detail in section 4.2.3) account for the relationality, i.e.

“interactional negotiation and contestation” (Bucholtz and Hall, 2005, p. 606) of social identities.

This approach has already been widely used in the study of organizational communication, in particular in the discursive approaches to the signalling of power leadership (see Fairhurst, 2009; Holmes & Stubbe, 2003), focussing on the interaction or conversation (Fairhurst, 2009, p. 1611) as a field of creation of professional identities, and utilising the methods of conversation analysis (Clifton, 2006) to explore the specific practices and linguistic devices that partake in this process. As pointed out by Georgakopoulou, in the digital realm, this discursive construction of identity is even more pronounced, because the question of who interactants are in real life is often irrelevant, and the focus is on “who, with what kinds of resources, do being” (2006, p. 552). She also emphasises that, in CMC research, it is of high importance to take into consideration the specific social and cultural reality in which specific communicative events are enmeshed (p. 553).

I believe that the assumptions stemming from a social constructionist viewpoint will enable me to account for the process of the creation of the specific, context-dependent professional identities, in particular through the identification of the linguistic strategies, discursive work, as well as through the observation of the negotiation of hierarchy and power within the team.

Another important aspect of business discourse is a component of the concept of context not sufficiently discussed above, namely the socio-cultural context of the workplace. Thus, the following framework offers an outline along which this aspect of context can be defined, and also constitutes a framework that allows for the examination and description of the conventionalisation process of the less conventional non-verbal cues used by team members.

4.1.2 Virtual teams as communities of practice

This subsection has two main aims: first, to offer an operationalised definition of the ‘virtual team’ that constitutes the socio-cultural context within which the interactions in question take place, and thus influence message coding and decoding,

and, secondly, to provide a framework that will enable me to address the research questions regarding the meaning-making processes in which non-verbal cues participate during the course of the negotiation of transactional and relational messages or the management of interactions.

As I have detailed in section 2.4, the concept of online communities has become a well-researched construct in current strands of CMC research. It has also been discussed that in order to approach, define and describe online communities, recent scholarship has turned to the analysis of language use and discourse within a community (Clarke, 2009; Darics, 2008; Graham, 2007; Stommel, 2008). Although several other theoretical and methodological frameworks exist¹⁰, the framework this thesis draws on lends itself well to the analysis of virtual teams as communities. The reason for this is that this essentially teleological approach focuses on shared practices and norms, ongoing learning, and negotiation and construction of personal and team identity – partly or mainly through linguistic and discursive practices. It is not surprising that due to this linguistic focus, the theory of CofP has become a popular theoretical approach in language and gender and sociolinguistic studies (Bucholtz, 1999; Eckert & McConnell-Ginet, 1992; Holmes & Meyerhoff, 2000). The concept of CofP was introduced by Lave and Wenger (1991), and further refined by Eckert and McConnel-Ginet (1992) thus:

An aggregate of people who come together around mutual engagement in an endeavor. Ways of doing things, ways of talking, beliefs, values, power relations – in short, practices – emerge in the course of this mutual endeavor. As a social construct, a CofP is different from the traditional community, primarily because it is defined simultaneously by its membership and by the practice in which that membership engages (1992, p. 464).

Resulting from the realisation of the essential nature of interactions in the course of the creation of both the membership identities and practices of the community, as described above, it is not surprising that research on (interaction based) online communities has started to utilise the CofP framework (Cherny, 1999; Stommel, 2008). To illustrate the framework's applicability to teams that operate within virtual

¹⁰ For example, speech community (Labov, 1972) or Social Identity Theory (Tajfel, 1978).

work environments, I give a detailed account of the three criteria used to define a CofP, and describe their relevance to online communities.

Mutual engagement

Both Cherny (1999) and Davies (2005, p. 561) highlight the fact that Wenger's and Lave's use of the word "community" does not require co-presence or a well-defined group, but "participation in an activity system about which participants share understanding" (Cherny, 1999, p. 98). If we take into consideration the highly fluid and flexible nature of virtual teams, where there is not necessarily a pre-defined membership and hierarchy, and participants are often members of multiple teams with varying roles and responsibilities (Watson-Manheim & Belanger, 2002), it is easy to see how the non-pre-defined and practice-oriented approach to community could provide a fruitful starting point for analysis (as in Stommel, 2008). Communication processes play a role of extreme importance within the virtual work environment: the interactions in a virtual team have several intertwining functions – they are the means of completing work through discussions, negotiations, orders, enquiries, and so forth; but also the means of establishing social relations, as well as the means of forming and negotiating membership and team identity (see p. 63 or Darics, 2010b). Thus, taking into consideration the difficult nature of defining the extent and type of engagement necessary for the formation of a CofP (e.g. Davies, 2005, p. 561), I believe the criterion of mutual engagement in the CofP framework could be interpreted as mutual engagement in interaction in the virtual realm. This aspect could therefore provide a meaningful basis for the analysis of interaction and discourse, in particular because through interactional engagement team members create, negotiate and produce a record of a shared repertoire (see below), and the mutual engagement in interaction serves as reification of their membership and identity within the team. As revealed in the findings of the organisational study of virtual work (see section 3.1), the lack of non-verbal signalling and the technology's inability to transmit social context cues has also been discussed in the application of the CofP framework to online environments (Zhang & Watts, 2008). However, as in the criticism articulated in section 3.2, the above claims are based on dated research and lack academic foundations grounded in linguistic and

discourse analytic description (see for example Dickey, Wasko, Chudoba, & Thatcher, 2006). Research, however, has proved that the (co)construction and validation of CMC-specific linguistic and discursive devices that have not yet conventionalised, in particular devices that draw on a hypothesised shared knowledge of interactional situations outside CMC, contribute to the creation of a common history for the CofP through negotiated meaning (Darics, 2010a). It is thus clear that conditions for mutual engagement in the virtual realm enable researchers to examine interactions, both as a means for the negotiation of the CofP, and as an outcome of these negotiations as a created shared repertoire (see also Meyerhoff, 2002, p. 528).

Joint, negotiated enterprise

The shared goal and negotiated enterprise, Wenger's second criterial characteristic of CofP, is also an elementary requirement in the work of virtual teams (for example Tavčar et al, 2005). It has been pointed out above that in the online environment, in particular in groups where text-based CMC genres are the most frequently or exclusively used channels for communication, and members rarely or never meet in person, the communication that takes place between team members has multiple – interrelated, but essential – functions. Apart from the other functions detailed previously (for example in Chapter 1 and above), interactions are the means of the negotiation of the enterprise and the validation of the goals the team is working towards. In this sense, in a virtual team the negotiation and interactional validation of the shared goals can be more specific and easier to identify, as opposed to the “general” and “less articulate” shared goals of a traditional face-to-face CofP (Holmes and Meyerhoff, 1999, p. 175, Meyerhoff, 2002, p.528).

The negotiation of the shared goals and joint enterprise also directs the researcher's attention to process instead of the outcome (Wenger, 1998), a fundamental part of which is the achievement of mutual understanding. Mutual understanding, however, is a concept that has been defined as problematic in the virtual realm (see section 3.1, or Dickey et al., 2006; Hinds & Weisband, 2003) due to the lack of a shared physical context for interactions. In a virtual work environment it is, however, essential to achieve mutual understanding, firstly as a basis for joint enterprise and, secondly, to

attain shared understanding of goals. Research has found that, in virtual teams, mutual understanding can be aided by face-to-face encounters and training, which can then contribute to the creation of the background knowledge and context in which conversational exchanges make sense (Cornelius & Boos, 2003). The socio-cultural context is an important starting point for the consideration of team members' understanding of organisational structures, identities and practices – all of these are typically pre-defined concepts within an organisation. It is important to note, however, that virtual teams within an organisation reflect their own unique social contexts, which are developed and understood through repeated interactions over time (Dickey et al., 2006).

It is clear from the above that it is essential to take into consideration for example, whether team members meet in person or not; what training they have received prior to their virtual cooperation; and whether their previous knowledge of the organisational hierarchy plays a role in the achievement of mutual understanding. However, it is also clear that this knowledge of the participants has to be affirmed through repeated interactions, and consequently mutual understanding can only be achieved through interactional encounters. This is not only true for formal knowledge of the organisation and its pre-defined norms, but also for knowledge of communication practices upon which participants draw when interacting by means of text-based CMC. In a previous study, I have shown that participants draw on a hypothesised shared knowledge of previous face-to-face communicative situations when they employ linguistic practices evoking auditory signals (Darics, 2010a). These often not yet conventionalised linguistic practices have to be validated by interactants, thus contributing to the creation of a shared repertoire of resources, the third essential criterion of CofP.

Shared repertoire

Over time, the joint pursuit of an enterprise results in a shared repertoire of joint resources for negotiating meaning (Wenger, 1998, p. 85). It is this emergent repertoire that distinguishes a pre-designed group from a CofP, because it reflects how the members of a CofP use community artefacts (including linguistic resources and

terminology, and also technology, policies and gestures) in their own way, which is often different from their designed purpose. It is also because of this focus on the creation of shared resources that research has found the CofP framework to be a useful means of analysing changes in communicative practices and interactional norms (Holmes & Meyerhoff, 1999; Meyerhoff, 2002, also Georgakopoulou, 2006). Apart from its usefulness in defining and capturing the concept of virtual teams, I believe that it is because of this sociolinguistic and interactional focus that the CofP framework allows a more linguistic focussed approach to computer-mediated business discourse. A research informed by a CofP theory can account for phenomena that would otherwise be hard to explain, for example the treatment, usage and negotiation of not yet conventionalised linguistic structures and discursive practices, and the role of these negotiations in the construction of team boundaries and membership identities (see Meyerhoff, 2002). By drawing on the theory of CofP, this thesis also aims to answer the call for expanding the list of studies applying these theoretical lenses (Davies, 2005; Zhang & Watts, 2008), and aims to join the strand of research that agrees that the CofP framework can be meaningfully used to examine online groups.

4.1.3 Relational work and politeness

The last theoretical framework has been chosen specifically due to the lack of focus on the negotiation of relational intent in the previously discussed theoretical approaches. In the introduction I have shown that communication in virtual teams has multiple layers: team members establish and maintain social relationships, learn about and establish the norms of organisational communication and behaviour, and accomplish work processes. For example, they offer advice, use directives and requests, criticise, agree and disagree. These primarily work-oriented interactions often have disruptive effects on the relationship between interactants, due to their face-threatening nature (Goffman, 1967). Goffman's notion of 'face' refers to the individual's self-image presented through the use of language and behavioural and gestural displays. In the traditional politeness theory of Brown and Levinson (1987), 'face' is characterised as 'positive' or 'negative'. The former describes the self-image that participants want to

maintain in the interaction. This means that people have a desire and expectation that others who interact with them will work to affirm and preserve their public personas (Morand & Ocker, 2003). 'Negative face' refers to people's need for freedom and their desire not to be impeded (Watts, 2003, p. 86). Based on these two sets of 'needs', as Watts explains, Brown and Levinson's politeness is the "minimisation of face-loss", which means that if people want to act cooperatively, they have to avoid posing threats to others' positive and negative faces and also avoid face-threatening speech acts (henceforth FTAs) (2003, p. 85).

In the interpretation of this framework, the speech acts typical of workplace encounters, such as requests, directives (Holmes & Stubbe, 2003, p. 6), disagreements (Watts, 2003, p. 197), thanks, apologies and compliments (Kasper, 1990, p. 197), all constitute FTAs and constantly have to be balanced with displays of consideration for other people's feelings. As a result, interaction in the work environment is infused with politeness discursive strategies, which allow for this balance of getting things done and caring for communicators' face. This 'balancing' is typical of all workplace encounters, irrespective of the objective of the communication: a transactional interaction, which is mostly task oriented, or a non-transactional interaction, such as small talk or office gossip (cf. Koester, 2006). Thus, concluding that "almost every example of authentic discourse has several layers of meaning" (Holmes, 2000, p. 166), it is clear that a politeness framework is a useful way of addressing discursive strategies that have an overt or underlying aim of displaying care for a conversational partner's face.

In the present thesis, however, I move away from the traditional model of linguistic politeness, originally proposed and developed by Brown and Levinson (1987). This is because, as some of the critics of the original theory point out, in the original framework politeness is defined as redressive action taken to counterbalance the disruptive effect of face-threatening acts, and so communication is seen as a "fundamentally dangerous and antagonistic endeavour" (Kasper, 1990, p. 194). Instead, the theoretical approach to which I subscribe is the framework of relational work. This discursive approach to politeness, proposed by Locher and Watts (Locher & Watts, 2005; Locher, 2006; Locher & Watts, 2008; Watts, 2003), is based on the theoretical concept of relational work, and emphasises the interactionally grounded nature of politeness. Relational work, in their understanding, refers to the interpersonal level of

communication (Locher, 2006), and describes the ‘work’ that individuals invest in negotiating relationships with others (Locher & Watts, 2008). A tenet of their framework that is particularly useful for my own analysis is the argument that relational work “comprises the entire continuum of verbal behaviour from direct, impolite, rude or aggressive interaction through to polite interaction” (Locher & Watts, 2005, p. 11). Drawing on this framework, will therefore enable me to identify the devices and discourse strategies that contribute to the enactment of relational work and, in particular, account for linguistic features that cannot necessarily be classified as polite or impolite (Locher, 2006), but are aimed at creating and maintaining an informal, relaxed working environment and collegial relationship between team members. It is important to note, however, that even though I consider the whole spectrum of verbal behaviour aimed at creating and maintaining friendly and collegial working relationships when discussing relational work, Brown and Levinson’s (1987) traditional politeness universals still form a basis for examination of the linguistic work invested in the avoidance of face threats. The next section gives a more detailed description of the analytical tools derived from relational work and linguistic politeness, but before I sum up the main points of the theoretical frameworks discussed above.

4.1.4 Summary

In the previous sections, I outlined the theoretical and conceptual shortcomings of the field of computer-mediated business discourse analysis and highlighted the lack of established approach(es) in the analysis of digital discourse. I also gave an account of the complexity of defining ‘context’ in the virtual workplace, and found that the reason behind this complexity is twofold. Firstly, ‘context’, in the field of digital discourse studies, denotes the constantly evolving communicative technologies and the newly created communicative situations which all have a fundamental effect on discourse and interaction (Herring, in press). Secondly, in the discourse analytic tradition, ‘context’ refers to the backdrop against which communicative encounters can be interpreted, and manifests itself on three levels: talk-intrinsic, closer and wider social context.

To address this complexity, and in order to get meaningful results from the analysis of the data, I propose to approach naturally occurring conversations through a multi-perspectival analytical lens. I have introduced three main theoretical models to guide my interpretation of the data: a.) interactional sociolinguistics (IS), to address the problem of how to relate speakers' goals and intentions to surface discourse features and social constructionism to account for the interactionally negotiated nature of identities in the virtual team, b.) communities of practice, to provide an operationalised definition of the concept of the virtual team and a framework for the description of the shared practices and norms within the team, and also to account for the creation of these shared practices, which consequently contribute to the creation of the CofP and, c.) politeness theory and relational work to guide my analysis during identification of the relational function of contextualisation devices.

My thesis aims to show that the combination of these theoretical and conceptual features and the resulting analytical tools (to be discussed in more detail in section 4.2) provide mutually complementary perspectives, and allow me to account for the highly complex nature of IM workplace interactions. As the field of business communication and business discourse (Bargiela-Chiappini et al., 2007, p. 58), as well as computer-mediated or new media discourse studies (Thurlow & Mroczek, 2011), advocate a multidisciplinary analytical approach, by the application of such analytical framework this study aims to respond to these calls, in particular through advancing our understanding of new communicative contexts and interaction in the virtual work environment.

4.2 Methodological guidelines and techniques

The research questions in Chapter 2 addressed whether, in text-based workplace interactions, interactants employ cues designed to communicate non-verbal information that is traditionally used in spoken interactions and, if so, the forms taken by these cues and the functions they fulfil. In Chapter 3, the questions focussed on how the above

mentioned cues function in the virtual work environment, and how their usage responds to the new communicative situations created by IM technology.

As I have argued above, a complex set of factors affect message coding and decoding in the communication of virtual teams. This means that in order to meaningfully approach discourse these factors have to be taken into consideration. The methodological implication of this is that elements of discourse – such as paralanguage – have to be viewed within the closer and wider context of their use, and not acontextually (cf. Carey, 1980; Crystal, 2001; Riordan & Kreuz, 2010). Some scholars in the CMDA analytic tradition have already pointed out that the interpretation of these subtle, highly variable (Kalman & Gergle, 2010) cues is often subjective (Crystal, 2001), thus making it necessary for the researcher to take into consideration contextually relevant factors that determine or aid interpretation (Georgakopoulou, 2006).

In the previous sections I have postulated that the theoretical frameworks discussed above might be used in the development of a methodology that would enable a systematic, empirical description and analysis of these cues. Section 4.2.1 therefore provides a synthesis of these theoretical approaches and an explanation of how the resulting framework would guide such an analysis. The following sections then focus on the practicalities of the method of analysis, including the selection and identification of the data and the procedure for analysis. Section 4.2.2 addresses the system that forms the basis for identification of non-verbal cues, and section 4.2.3 sets out the method of linguistic analysis.

4.2.1 Interactional sociolinguistics, CofP and politeness – analytical implications

The research questions posed in Chapters 2 and 3 address the *hows* of non-verbal communication in the virtual work environment: how non-verbal information is inscribed into writing, how non-verbal cues contextualise messages and how they contribute to the achievement of various communicative goals and the achievement of conversational coherence. In order to answer these questions it is essential to examine

the function of paralanguage during the course of the interactions and observe, in particular, the communicative practices that include various manifestations of non-verbal cues.

The theoretical approaches introduced previously allow me to address specific questions about the interactional practices of team members and provide a framework for the description and interpretation of these practices and their accomplished functions: IS allows for identification of the cues that accomplish contextualisation functions and also for description of the roles these cues play in the interpretation of both transactional content and relational intent; the CofP framework enables me to find evidence about how non-verbal cues are used in the creation and negotiation of the roles of members and explore how team members negotiate the meaning of communicative strategies that are considered unconventional; and, finally, the relational work (and politeness) framework enables me to address questions about how non-verbal cues contribute to the signalling of polite, cooperative intent and explore the work they accomplish during the negotiation of power relations in the workplace. Below, I provide a detailed account of the interactional practices these frameworks account for and specify the questions they allow me to address in my analysis. I then introduce the CMC cues framework to enable the identification and categorisation of paralanguage, as well as my chosen analytical method.

Interactional sociolinguistics

In section 4.1.1 I have given a detailed account of the theoretical perspectives of IS, and showed that this approach allows researchers to identify the “macro-level social meanings” affecting the meaning-making process during interaction (Schiffrin, 1996, p. 315) as well as the “communicative strategies that underlie particular utterances” (Schiffrin, 1996, p. 322). IS has been found to be a particularly useful tool for the analysis of encounters which are characterised by status and power differences between interactants (such as workplace interactions) (see Stubbe et al., 2008, p. 359), because it can shed light on the discursive creation of micro-level meanings through the observation of contextualisation cues (Schiffrin, 1996, p. 315), and by involving the

wider socio-cultural context it can account for the effect these cues achieve during the communication of relational and transactional goals.

Previous studies have used the IS framework to identify non-verbal cues functioning as contextualisation cues in spoken interactions, in particular to explore how these cues contribute to the signalling of intended meaning (Gumperz, 1992; Auer, 1992, Stubbe et al. 2003). In my analysis I adopt this framework to address non-verbal cues in text-based interactions, with the aim of identifying paralinguistic devices that function as contextualisation cues and exploring the work they accomplish in the disambiguation of communicative intent.

It is important to bear in mind that contextualisation cues by definition do not have referential (decontextualised) meaning (Auer, 1992, p. 24), but rather a natural meaning base, the utilisation or interpretation of which depends greatly on interactants. The usage and interpretation of contextualisation is deeply embedded into the culture and background of interactants (Auer, 1992, p. 34) and these are almost never consciously noted (Schiffrin, 1996, p. 314). This suggests that in order for contextualisation to work as a guide during the interpretative process, conversationalists have to share knowledge of these cues. This shared interpretation can be discovered by investigating the interaction itself – that is, by using the reactions that an utterance evokes as evidence of whether interpretive conventions were shared (Gumperz, 1981, quoted in Schiffrin, 1996, p. 314). This immersion in the process of interaction in order to identify both the contextualisation cues and their effects on the interpretative process calls for an emic analytical approach that makes these processes visible. In section 4.2.3 I give a detailed account of the methodology of conversation analysis, which has traditionally been used in such IS-informed analyses (Stubbe et al., 2008).

To sum up, in the light of the research questions postulated in previous chapters, the framework of IS allows me to address the following questions:

- (a) Are written non-verbal cues used as contextualisation cues in IM interactions?
- (b) If so, how do they contribute to the contextualisation of the transactional and relational goals of team members?

Communities of practice

As discussed in section 4.1.2, in a CofP language practices play an important role in the creation and maintenance of membership roles and group boundaries. Applying the CofP framework allows researchers to focus on both the negotiation process and the outcome of these negotiations during the creation of a shared repertoire of resources (Meyerhoff, 2002, p. 528) and address issues such as how people draw on these resources as a means of signalling their belonging to groups and their membership roles (Holmes & Meyerhoff, 1999, p. 175). Drawing on this framework, previous research on CMD, for instance, addressed how people negotiate meaning through forum interactions, and identified the effect these negotiations had on the creation of shared norms and resources (Graham, 2007; Stommel, 2008). If we consider the lack of conventionality and the creative nature of written non-verbal cues described in sections 2.2 and 2.5 and further elaborated upon in section 4.1.3, a CofP approach enables me to address how the meaning of paralinguistic devices is negotiated and validated during the course of the negotiation of the communicative goals of VT members. On a wider social level, however, this approach can shed light on how these negotiations and the resulting language use norms contribute to the creation of a shared linguistic repertoire and consequently to the creation of group identity within a virtual team.

Drawing on the CofP framework, the research questions articulated in Chapter 2 and 3 can thus be further specified:

- (c) Do team members use non-verbal cues as means of signalling their professional roles within the team?
- (d) Is there evidence that these paralinguistic devices are not conventional?
- (e) If so, how do people negotiate their meanings, and does this negotiation contribute to the creation of a shared repertoire and consequently to the marking of team boundaries?

Relational work

In section 4.1.3, I have given a detailed description of the issues with which linguistic politeness and relational work is concerned, and I have shown that these frameworks allow researchers to focus on “the work people invest in negotiating their

relationships in interaction” (Locher & Watts 2008, p. 78). Previous research on CMD has adopted these frameworks to account for the interactional negotiation of impoliteness (Graham, 2007; Angouri & Tseliga, 2010). In my analysis, I adopt this framework to account for the “entire continuum (...) from direct, impolite (...) to polite interaction” (Locher & Watts, 2005, p. 11). This means that I draw on relational work to examine the communicative practices people employ to “exhibit appropriate/politic behaviour” (Locher & Watts, 2005, p. 29) or to demonstrate collegiality and friendliness (as in Darics, 2010b). I also use this framework to explore the communicative practices used for mitigating face-threatening acts, in particular in situations where politeness is used as a means of negotiating power relations. This aspect is of particular importance because politeness has been found to be very sensitive to the social distribution of power – for instance in the workplace (see for example Holmes & Stubbe, 2003; Morand, 1996). For example, in encounters between equals or near-equals, when one participant requires another to do something, the interactions require great attention to be given to politeness (Holmes & Stubbe, 2003, p. 40), and typically include the use of linguistic devices, such as mitigation or hedging, in order to maintain the harmonious relationship between participants. In unequal encounters, on the other hand, discursive strategies such as humour have been found to be used as means of subtly enacting power (Holmes, 2000), but if used by subordinates it can function as attenuator of the force of disagreement, or even as means of challenging power. In research into the politeness of spoken interactions, auditory and visual cues have often been found to function as devices for the accomplishment of relational work, for example using exaggerated stress and laughter to create a positive atmosphere (Locher & Watts, 2005, p. 26), increased volume or contrastive stress to mark unmitigated directive intent (Holmes & Stubbe, 2003, p. 34) or intonation to mark irony (Watts, 2003, p. 65).

Drawing on the findings of linguistic politeness and relational work in my analysis, I will examine non-verbal devices in order to address the following questions:

- (f) Do non-verbal cues play a role in text-based CMC during the enactment of relational work and politeness?
- (g) Is there evidence that paralanguage is used to express affect and emotional involvement as a means of enacting friendly, collegial relations?

- (h) Do non-verbal devices contribute to the negotiation of power relations, either as means of enacting power or as means of mitigating the imposition created by power differences?

4.2.2 CMC cues framework

In the previous sections I articulated a set of research questions focusing on specific interactional practices where non-verbal cues accomplish a role. In order to be able to provide answers for these questions, however, it is necessary to establish a framework for the identification of devices functioning as non-verbal cues in text-based computer-mediated interactions. The framework I propose is based on the findings of previous scholarship of CMC cues and is outlined below.

In the research on CMC cues there has been a wealth of attempts to categorise, analyse and describe the creative writing and discursive strategies that serve as non-verbal cues in text-based computer-mediated communication genres, but the majority of these accounts seem to be incidental, lacking a rigorous framework along which linguistic instances could be discussed (Carey, 1980; Thurlow, 2001; Haas et al., 2011; Hård af Segerstad, 2002; Riordan & Kreuz, 2010). A notable exception is Herring (2011), who follows the traditional hierarchy of grammatical phenomena as a framework to discuss the features of “electronic language”. The lack of conventionality in the description of paralinguistic features in text-based CMC is apparent in the incidental approach taken by many researchers: for instance, what has been described as backchannel signalling (Darics, 2010b) is discussed as a case of letter repetition elsewhere, (Kalman & Gergle, 2010), while it is discussed as vocal spelling (Carey, 1980; Riordan & Kreuz, 2010) or intentional misspelling (Nastri, Pena, & Hancock 2006) in other lines of research. The tentativeness of these studies is also palpable with regard to terminology: for example, the same phenomenon described as (...) might be referred to as hesitation (Darics, 2010b), as punctuation indicating pausing (Haas et al., 2011), as ellipsis mark(s) (Ong, 2011) or as suspension dots (Simpson, 2005a).

It is clear from the above that although the importance of paralanguage and non-verbal cues in CMC is apparent in the literature (see for example Kalman & Gergle,

2010), there is no unified system along which these are approached. I therefore propose a new system that is based on the findings of previous research, predominantly on Herring's e-grammar (2011) and Haas et al.'s taxonomy (2011) (and also informed by Carey (1980) and the quantitative study of Riordan and Kreunz (2010)). The taxonomy I propose to follow when discussing micro-level phenomena of non-verbal cues in CMC is summarised in the table below.

TABLE 1.

1. Orthography	
1.1 Eye dialect related to sounds	
<i>Non-lexical tokens</i>	hm, mm, oh, uh, ah, um, errr, erm, yup, yeah, (plus variations of these)
<i>Interjections and laughter</i>	boo, yuk, phew, oops, woah, awww, aaaa, eugh, hahaha, hehehe, hihi, hee hee
<i>Comic strip sounds</i>	Boing, boom, zzzz, grrrr, argh
1.2 Eye dialect related to words	
<i>Capitalisation</i>	all capital letters, lack of/presence of capitalisation unconventional capitalisation
<i>Spelling</i>	vocal spelling to imitate dialectal or casual pronunciation (yeez) Non-standard spelling: letter repetitions - (loooong, buttttt)
2. Typography	
2.1 Punctuation	
<i>Conventional use</i>	as opposed to non-conventional (missing)
<i>Repeated punctuation</i>	repetition, combination (!!!, !!?)
<i>Ellipsis mark (...)</i>	various uses
<i>Other keyboard symbols</i>	brackets, underscores, *, combinations
2.2 Emoticons	
:) :-) :-D :-P :'-(

The first basic distinction is that between orthography, defined as linguistic strategies manifested as variations of spelling, and typography, which entails writing strategies related to punctuation or other keyboard symbols.

Within the orthography category I propose to divide up paralinguistic strategies as follows: *eye dialect related to sound* (1.1) and *eye dialect related to spelling* (1.2). Before providing explanations about each title, however, I explain first the term *eye dialect* and its use in relation to creative writing strategies in text-based CMC.

As I have detailed in Chapter 2, interactants have been found to manipulate language to suit their communicative needs (Carey, 1980; Danet, 2001) since the earliest stages of text-based CMC, not allowing themselves to be constrained by the lack of audio-visual cues, but rather drawing on a set of available resources to substitute them (Ledbetter, 2008). As early as 1997, Danet et al. highlighted that “the need to say in writing what we have been used to saying in speech calls attention to the communicative means employed in formulating the message” (Section 9). The majority of these strategies to which people resorted in order to replace or substitute spoken non-verbal cues already exist in traditional written genres: repeated punctuation to signal intention or prosody, hesitation marks to indicate pauses, capital letters to indicate stress, as well as creative, non-standard spelling to imitate a dialect or informal pronunciation. The latter strategy has traditionally been called *eye dialect*, although the usage and referential meaning of the term in linguistics has not been consistent. In one analytic tradition stemming from the transcription of spoken language data, *eye dialect* is the terminology used to refer to a pseudophonetic spelling of words in order to render deviations in pronunciation from what is considered normal (Gumperz & Berenz, 1993; and see Herring, in press). In literary tradition, *eye dialect* is used as a terminology to refer to any creative writing technique or non-standard spelling to draw attention to pronunciation or auditory features in writing. I agree with Haas et al. (2011), who argue that, in text-based CMC, interactants employ non-standard spelling and other writing techniques to capture the spoken nature of dialogue, similarly to authors of literary pieces, and I therefore use the term in this latter sense.

In line with Haas et al. (2011), I have divided up eye dialects into *eye dialect related to sounds* and *eye dialect related to words*. In the former, writing can be related to sounds and used to depict a sound effect, produced by either humans or non-humans,

such as backchannel or reaction signals or noises. These writing strategies (called *vocal segregates* by Carey (1980)) are well-known from traditional written genres, but often rely on spelling conventions that are not necessarily shared by all speakers of English (Gumperz & Berenz, 1993, p. 96) or are highly variable. The backchannel signals and other human noises (labelled as comic-strip sounds) are examined in two separate categories due to the differences in functions these strategies fulfil (this is discussed in more detail in section 5.1.1.2).

The category of *eye dialect related to words* focuses on techniques where the writing or spelling of words deviates from the norm: these include writing techniques involving capital letters as well as spelling variations. It is important to mention here that although abbreviations, particularly those related to computer-mediated discourse (such as LOL, BRB and ROFL¹¹), belong to this category system-wise, they are not included in the present analysis. The reason behind this exclusion is that the non-standard nature of their spelling is conventional, and thus does not bear a contextualising function as such.

The final category in the framework includes cues created by means of non-letter characters. These include punctuation and other keyboard characters, including emoticons.

4.2.3 The CA-informed analytical method

In the above sections I set out the theoretical frameworks that inform my methodology, and provided an analytical framework for the identification of non-verbal devices in IM. In this section I set out the methods I have developed in order to address the research questions resulting from the findings of the review in Chapters 2 and 3, within the constraints of those frameworks:

1. *In naturally occurring, text-based workplace interactions, do interactants employ cues designed to communicate the non-verbal information that is traditionally used in spoken interactions? If so, what forms do these cues take? What range of functions do they fulfil?*

¹¹ 'laughing out loud', 'be right back', 'rolling on the floor laughing'.

2. *Is there evidence that these cues contribute to the achievement of the communicative goals of the participants, to impression formation, and to the creation of coherence?*
3. *How are non-verbal linguistic devices and strategies 'translated' from face-to-face interactions or previous written genres utilised in the workplace IM environment? What non-verbal cues (if any) do virtual team members use in order to effectively communicate their relational and transactional communicative goals: to disambiguate the content of their messages and their relational intent and to communicate affect and involvement?*
4. *How do paralinguistic cues contribute to interaction management and creation of coherence in the communicative situations created by IM?*

In order to address these questions, it is first essential to examine naturally occurring uses of IM interactions in virtual work environments. For this purpose, I collected a corpus of data, as will be explained in more detail in section 4.3. Based on the CMC cues framework outlined above, I identified the instances of non-verbal cue use in the dataset and examined the various uses in order to address the questions formulated in section 4.2:

- (a) Are written non-verbal cues used as contextualisation cues in IM interactions?*
- (b) If so, how do they contribute to the contextualisation of the transactional and relational goals of team members?*
- (c) Do team members use non-verbal cues as means of signalling their professional roles within the team?*
- (d) Is there evidence that these paralinguistic devices are not conventional?*
- (e) If so, how do people negotiate their meaning, and does this negotiation contribute to the creation of a shared repertoire, and consequently to the marking of team boundaries?*
- (f) Do non-verbal cues play a role in text-based CMC during the enactment of relational work and politeness?*

(g) Is there evidence that paralinguistic cues are used to express affect and emotional involvement as a means of enacting friendly, collegial relations?

(h) Do non-verbal devices contribute to the negotiation of power relations, either as means of enacting power or as means of mitigating the imposition created by power differences?

It is clear from these questions that the identification of the various functions and uses of non-verbal cues requires an inferential analytical process which is based on observation and the interpretation of discursive phenomena (Heritage & Atkinson, 1984, p. 7). In order to justify claims about the interpretations, I adopt an analytical approach that is based on the assumption that interactants' treatment of and response to preceding utterances is the reflection of their interpretive processes, and therefore enables the researcher to identify and account for communicatively significant devices, on which speakers and listeners demonstrably rely during the interpretative process. This approach is conversation analysis (CA). In this sense the present thesis views CA as a method rather than a theory, although the framework's theoretical grounding is essential for the understanding of the IS approach detailed previously.

In CMD research, the CA method has previously been applied to 'synchronous'¹² CMC in order to account for phenomena comparable in CMC and face-to-face interactions, such as coherence (Berglund, 2009; Herring, 1999; Nash, 2005; Woerner et al. 2007), turn-taking (Condon & Cech, 2002; Hancock & Dunham, 2001; Markman, 2005; Simpson, 2005b), repairs (Markman, 2005; Schonfeldt & Golato, 2003), openings and closings (Markman, 2009; Rintel, Mulholland, & Pittam, 2001; Rintel & Pittam, 1997). However, based on these studies, there does not seem to be a unified view on how exactly the methods of CA should be applied to the computer-mediated environment, and two methodological caveats have also arisen in previous studies. Firstly, research suggests that established approaches to spoken discourse analysis do not necessarily map directly onto 'synchronous' CMC; an alternative, modified approach is recommended (cf. Simpson, 2005b). Secondly, it has also been asked in CMC tradition whether it is sufficient for a conversation analyst to examine

¹² For more detail about the synchronicity of the communicative tool see section 3.2.4.

the “outcomes of the processes rather than the processes themselves” (Garcia & Jacobs, 1998, p. 300). Markman (2005), for instance, recommends making the participant’s actions available to the researcher by recording the computer screen during the interaction. In this thesis, I take a viewpoint that agrees with an alternative line of research (see for example Berglund, 2009; Ong, 2011; Rintel, Pittam, & Mulholland, 2003) which maintains that it is not essential for an analyst to have more information at his or her disposal than the participants themselves. In the methodology I am developing, I therefore treat written data as analogous to the transcripts used in CA.

In naturally occurring spoken interactions, CA has also been found to be a particularly useful method for identifying and examining the roles of paralinguistic cues by applying a qualitative sequential analysis (Heritage & Atkinson, 1984, p. 7). I think that by applying a microscopic and interpretive description of interactions, a CA-informed method is also particularly apt to examine non-verbal cues in IM because, as argued previously, interactants, during the course of the interpretation of messages, only rely on the messages they see on screen. However, as I have pointed out in section 4.1.1, I consider the closer and wider social context of the virtual workplace as variables that affect the coding and decoding of messages, therefore, I propose combining the sequential, close analytical method of CA that focuses exclusively on talk-intrinsic features, with the interpretative methods of IS which allow me to account for the socio-cultural context of the interaction and how language use affects it.

With regard to the applied analytical methodology, both CA and IS emphasise the interactionally negotiated nature and context-dependence of contextualisation devices, and the problematic nature of taxonomising. Atkinson and Heritage (1984), for instance, claim that conversation analysts should not focus on cues (whether lexical or non-lexical) that look alike or sound the same because there is always a danger that the analysis will presume in advance that the cues will “invariably have the same interactional implication wherever and whenever they occur” (p. 298). In line with this approach, the analysis I follow takes a pragmatic point of view in that the main goal is not to provide a classification of devices, but rather an account of the various occurrences and their uses. The discussion in the next chapter therefore focuses on the detailed examination of a number of brief segments drawn from the data. It also has to be noted that such an approach to language data does not easily lend itself to

quantitative approaches. Although the occurrence of the CMC cue features is examined, the quantitative data is illustrative of the frequency and does not serve as evidence in the argument.

Another important aspect of the CA method is its articulated focus on the interactional negotiation of meaning-making through the signalling of conversational cooperation, often accomplished through the use of “back channel signals: interjections, nods and other body movements” (Gumperz, 1982, p. 163). Thus, by following the CA method, examination of the “turn-by-turn character of talk (in which) the participants display their understandings of the state of the talk for one another” (Heritage & Atkinson, 1984, p. 11) enables me to account for the devices and techniques used for the creation of interactional coherence and specifically address how paralinguistic cues contribute to interaction management and creation of coherence in the communicative situations created by IM (as set out in RQ4). In order to be able to start the analysis, however, I first present my dataset – a corpus of naturally occurring IM interactions – and offer a description of the socio-cultural context of the workplace where the conversations were collected, as well as ethical considerations regarding the data collection. This follows below.

4.3 Data

Sections 4.1 and 4.2 gave a detailed review of the theoretical frameworks and the resulting analytical tools that enable me to address the research questions regarding the usage of paralinguistic cues in work-related Instant Message interactions. I have also pointed out that a bottom-up, close, analytical procedure conducted on IM conversations would enable the micro-level exploration of both the linguistic devices and discursive strategies functioning as paralinguistic cues, as well as the description of their effects on interaction, their roles in the enactment of relational work and message contextualisation and, on a wider, social level, their roles during the creation and negotiation of professional and virtual team identities. In order to be able to conduct

such an analysis, a compilation of a corpus of naturally occurring dyadic IM interactions from a virtual work environment is essential.

In the literature review I have pointed out that examination of naturally occurring data from a workplace setting has been scarce in both CMD research (see for example Baron, 2010) and in business discourse studies (see for example Bargiela-Chiappini et al., 2007, p. 178). The literature review also suggested that due to privacy and confidentiality issues, observation of interactions within real virtual teams has been very limited in previous research. Martins et al., in their fundamental literature review of the research on virtual teams, also point out that it should be “imperative, that empirical research move out of laboratory settings and into the field in order to advance the literature through the asking and answering of questions that cannot be adequately tested in a laboratory setting” (2004, p. 823). The corpus of the present thesis meets both of these requirements and therefore provides invaluable insight into how people actually communicate in organisations (see Bargiela-Chiappini et al., 2007, p. 12).

4.3.1 The team

The naturally occurring IM logs come from data collected from the virtual team of a global consultancy company based in London, UK. The group of data sources comprises 30 members, dispersed geographically across several countries. The official company language is English; the ratio of native to non-native speakers is 12:19. The non-native speakers come from various linguistic backgrounds, including German, French, Hungarian, Portuguese, Spanish, Japanese, Chinese and Indian. The native speakers of English come from three locations: the UK, the USA and South Africa. The identified group has 20 female and 11 male members (for a summary see Table 2 below). Within this group, managerial structure spans four levels of hierarchy; the team includes the national head and regional heads, regional specialists and team members. The initial ethnographic data collection revealed that the face-to-face contact for the entire team is limited to a three day training period each year, but there is no guarantee that all members are present on these training days. During their day-to-day work the team members use several communication modes, most prominently IM and

telephoning, at times simultaneously. Team members revealed that their choice of communication technology usually reflects the urgency of the task (this is in line with the findings of previous research (see for example Pauleen & Yoong, 2001; Thompson & Coovert, 2003), but they like to keep the IM client open for quick, spontaneous communication (as described in section 3.2.4). It is also important to note that although the working team is pre-defined based on the organisational structure, the usual form of cooperation takes place in pairs or smaller sub-teams, rather than the whole group working together. The hierarchical position of the participants was coded based on the ethnographic data collection conducted prior to the data collection, and the internal company chart given to me by one of the participants (see Table 2 below). The general atmosphere of the workplace is informal and people higher up in the hierarchy are easily approachable. However, due to the great pressure of the job, tasks are often stressful, long working hours are not rare, and interactions are often intense. As regards to the communication history of the participants, as I have explained above, IM and telephone is their preferred method of communication. Some members have regular personal meetings, while others rarely meet outside the virtual realm. Further information about the communication history and details about the relationship between the interacting participants will be presented during the course of the analysis if it has been known from the limited ethnographic information provided to me or retraceable from the available dataset.

Due to confidentiality reasons, the pseudonyms used in the analysis section cannot be matched with the ethnographic data, as the real identities of the participants would be easily retraceable by the involved parties.

TABLE 2.

Hierarchical position	Age	Gender	Country of origin	English skills
Lead	50	female	UK	native
Lead	50	male	UK	native
Lead	31	male	UK	native
Lead	38	male	UK	native
Lead	48	male	UK	native
Lead	40	female	Singapore	non-native

Hierarchical position	Age	Gender	Country of origin	English skills
Regional Lead	37	female	Germany	non-native
Regional Lead	30	female	South Africa	native
Regional Lead	31	female	Singapore	native
Regional Lead	32	female	Brazil	non-native
Regional Lead	35	female	USA	native
Regional Lead	40	female	Singapore	non-native
Regional Lead	35	male	South Africa	native
Specialist	25	male	South Africa	native
Specialist	35	male	India	non-native
Specialist	30	female	Hungary	non-native
Specialist	32	female	Germany	non-native
Specialist	30	female	Japan	non-native
Specialist	32	female	Columbia	non-native
Specialist	31	male	Belgium	non-native
Specialist	36	female	China	non-native
Specialist	35	female	UK	native
Team member	34	female	UK	native
Team member	25	male	India	non-native
Team member	28	female	India	non-native
Team member	30	female	India	non-native
Team member	30	male	India	non-native
Team member	30	female	India	non-native
Team member	32	female	Spain	non-native
Team member	30	female	India	non-native

4.3.2 Data collection

With regard to the process of data collection, I approached the group members to participate in this research and log and save IM conversations with the consent of the national head of the group. The whole team was made aware of the data collection and the aims of the research. Six team members volunteered to save their interactions, and over a period of two months provided me with IM logs at regular intervals. Some of the data sources also made available their conversation logs collected prior to the defined data collection period, so the earliest conversations come from November 2007. The next stage during data collection, the processing of the logs, provided a methodological

challenge, as the format of the obtained files varied highly, from rich text format to html and word documents. The various logging softwares used for saving the interactions also meant that the format of the logs differed highly. Some programmes did not save timings, while others included the names of participants. The first stage of the data processing therefore included transforming the data into a comparable, searchable format. I used an individually written data processing software for this called NAP (Linguistic Data Processor), which allowed me to tag the various fields of the files as, for example, participant, time and text. This method had two main advantages. Firstly, it allowed me to separate the actual language data from the other non-discourse data in the logs. By doing so, I was able to obtain a precise number for my word count and focus my searches in the actual language data. Secondly, it allowed me to attribute ethnographic information to the interacting participants in the conversations in order to track, for instance, patterns across organisational levels.

Another methodological challenge during the processing of the data was the archiving of conversations. Due to the intermittent nature of interactions, as discussed in section 3.2.2, the length of the individual conversations varied highly and, at times, due to the lack of identifiable opening or closing sections, it was impossible to chunk the interactions into individual conversations. In the light of previous findings about the intermittent nature of IM in the workplace (cf. Nardi et al., 2000; Isaacs et al., 2002), interactions that took place during one working day were therefore considered as one single conversation, even if separated by longer pauses.

4.3.3 The dataset

Following the data processing based on the guidelines outlined above, the final corpus contained 1244 conversation and 308,010 words in the text field of the dataset.

TABLE 3.

Statistics of project "THESIS"

Conversation count: 1,244

Line count: 45,781

Word count: 308,010

Character count: 1,206,891

Due to the mixed nature of the group in terms of native and non-native speakers, male and female participants and team members of higher and lower positions, the corpus provides a varied and authentic picture of interactions in a virtual work environment. The collected dyadic interactions also cover a wide range of transactional genres, including interactions aimed at decision-making and directive discourse, as well as relational interactions and relational episodes, thus giving a balanced reflection on the variety of workplace tasks people need to accomplish, as well as their ways of maintaining and negotiating workplace relationships in the virtual realm.

4.3.4. Ethical considerations

As explained above, the data collection in the company was approved by both the regional head and by all members of the team. However, several considerations had to be taken into account before processing the data. Firstly, the team members themselves were allowed to re-read and edit their logs before forwarding them on to me. At times this meant the deletion of business critical or sensitive data, which were replaced by general placeholders indicating the nature of the missing information, such as (telephone number) or (location). If such information was not deleted from the logs by the participants, based on the confidentiality agreement I had with the company, I was obliged to delete it. I was also obliged to change the names of the participants in the published versions of the logs. The pseudonyms were chosen consistently throughout the corpus and intentionally to reflect the gender of the participants.

Secondly, the ethical considerations during and after the data collection reflected the ethical guidelines drafted in the report of the Association of Internet Researchers (Ess & AoIR ethics working committee, 2002): the participants were given the option of checking and editing the logs before sending them on to me; they also had the option to opt-out, or enquire about any stage of the research. I set up a forum for the participants to encourage interaction, and I also participated in a telephone meeting to feed my findings back to the team. The publication of the data samples does not include

ethically significant risks for the participants, mainly because any revealing information or sensitive data was removed from the quoted excerpts. Finally, the chosen CA-informed analytic procedure contributes to the protection of participant identity through the use of fragments rather than complete conversations.

The analysis presented below was carried out in two phases. I began my analysis based on the table outlined in section 4.2.2, with the identification and occurrence search of the creative writing strategies functioning as paralinguistic devices. The resulting instances were then processed manually, and the various contextual uses and functionalities of the cues were identified. In the second stage, illustrative data samples were chosen and analysed, applying the methods of IS and CA in order to explore how non-verbal cues function. The discussion that follows in Chapter 6 then focuses on the contextualisation nature of the identified cues and their functions in transactional and relational communication as well as in the creation of interactional coherence.

CHAPTER 5

ANALYSIS

The overall purpose of the following chapter is to identify the creative writing strategies that function as paralinguistic devices in IM, and to examine how they contribute to the contextualisation of interactions, and what functions they accomplish in communication between virtual team members. The chapter includes the linguistic analysis of data excerpts from the corpus of naturally occurring text-based interactions from a virtual team. The structure of the chapter follows the structure of the CMC cue system outlined in section 4.2.2. The chapter starts with the examination of paralinguistic cues created by means of manipulating orthography and examines *eye dialect related to sounds* (section 5.1.1) and *eye dialect related to words* (section 5.1.2). Section 5.2 focuses on cues created by means of non-letter symbols. The individual subsections start with an introduction of the scholarship of the particular cue type, serving as a basis for the identification of the specific cues within that group. Here I also present the result of the occurrence search, to illustrate the significance of the cue in question in the corpus. Then, in the analysis, based on the questions generated by the multi-perspectival theoretical approach introduced in Chapter 4, I examine the functions accomplished by the specific cues during the course of interaction. In 6.1, I subsequently offer a summary of the findings, and in section 6.2 I discuss how these findings generated by the outlined theoretical approach contribute to the understanding of the interactional work non-verbal cues accomplish in work-related IM.

5.1. Orthography

As explained in more detail in section 4.2.2, *eye dialect* refers to writing techniques aimed at capturing auditory information in typed texts. Auditory cues in spoken interactions include prosodic phenomena, tone, emphasis, stress, intonation, or loudness of speech. Apart from the prosody that accompanies verbal utterances, auditory cues also include backchannel signals, laughter and other lone-standing noises. The subsections in section 5.1.1 examine the occurrence of these latter paralinguistic cues in the written communication of IM, in order to explore – in line with RQ1 and RQ3 – whether interactants employ paralinguistic strategies ‘translated’ from face-to-face interactions, and through close linguistic analyses expose the functions these cues fulfil during the course of the achievement of the complex communicative goals typical of the virtual workplace, as outlined in RQ2, RQ3, and RQ4.

5.1.1 Eye dialect related to sounds

Eye dialect related to sounds is a term to describe the written representations of non-verbal auditory tokens. This group of tokens in spoken interactions includes non-lexical tokens (such as acknowledgement tokens, backchannel signals), interjections, laughter and other human and non-human sounds. These sounds in speech are typically spontaneous and immediate responses to situations, highly context dependent and, as Norrick points out, their interpretation relies heavily on intonation and other non-verbal signs (2009, p. 869). Non-verbal auditory tokens have been an area of central interest within the study of spoken interactions and have been found to bear great importance in the contextualisation of meaning and the signalling of communicative cooperation in conversation (Ward, 2004, p. 3). Despite this centrality both in terms of the strategic function these tokens accomplish during interactions and as subjects of academic interest, their occurrence has not been systematically addressed in the literature of CMD. In chapter 2 I reviewed three academic studies (Carey, 1980; Cherny, 1999; Haas et al., 2011) where these tokens have been partly discussed, but I have also shown that

these descriptions were not systematic and comprehensive.¹³ In order to address the research questions and to identify the range of cues ‘translated’ from face-to-face interactions virtual team members utilise in their IM interactions, I provide a summary below of the various types of non-verbal auditory tokens and the functionality they accomplish, previously identified in the literature of spoken interactions, and examine their use and occurrence in text-based conversations. Section 5.1.1.1 introduces non-lexical tokens, such as auditory signals, that have a primary function in interaction management through signalling, for instance, attention or uptake. In section 5.1.1.2, I explore tokens that could stand alone and have a semantic function (such as interjections, laughter and ‘comic strip sounds’).

5.1.1.1 Non-lexical tokens

Introduction

In section 4.2.3 I have already indicated that non-lexical tokens have been found to play an important role in the signalling and monitoring of communicative cooperation (Gumperz, 1982, p. 163). They have also been found to contribute to the achievement of other communicative goals, such as the enactment of relational work by filling pauses, expressing uptake or indicating surprise (Watts, 2003, p. 182). They have also been found to function as contextualisation cues to mark, for instance, levels of attention (Drummond & Hopper, 1993a) or, in terms of interaction management, function as initiators of repair (Schegloff, 1982, p. 88). In CMC research, as indicated in section 2.3.1, the state of literature about non-lexical tokens varies significantly. Previous research suggests that “chat lacks reaction signals (*m*, *mhm*, *uh-huh*, *yeah*) and comment clauses (*you know*, *you see*, *mind you*)” (Crystal, 2001, p. 40; Thurlow, 2001, p. 289). Others, however, maintain that “backchannel signals in CMD are important for determining the attention state of the interlocutor as well as establishing whether the speakers’ intentions have been understood” (Cherny, 1999, p. 182).

One possible reason for the scant and unbalanced interest for non-lexical tokens in CMD – as Ward points out – is the lack of agreement regarding their systematic

¹³ See the criticism on the treatment of paralinguistics by Carey (1980) in section 2.2.1, the review of Cherny’s account of backchannel signals (1999) in section 2.3.1, and the critical review on the quantitative methodology of Haas et al., (2011) in section 2.5.

description within the research of spoken interactions (2004, p. 4). In order to be able to establish the range of non-verbal cues used in IM, in particular the types ‘brought over’ from the paralinguistic cue-set of spoken interactions (as set out in RQ1 and RQ3), I reviewed the scholarship to identify which cues have been described to function as non-lexical tokens in the research of spoken interactions (Drummond & Hopper, 1993a; Fischer, 2000; Fuller, 2003; Gardner, 1997; Heritage, 1984; Heritage, 1998; Jefferson, 1984a; Jucker & Smith, 1998; Norrick, 2009; Ward, 2004). My search identified five token types previously addressed in the research of spoken interactions: *hm/mm*; *oh/uh/ah*; *uh/eh?*; *err/erm* and *yep/yeah/yup/yip*, although, as pointed out by Ward, the categorisation of these cues is hindered by the fact that their pronunciation and accompanying prosody varies significantly (2004, p. 5), affecting their functional role during interactions. This taxonomy, however, serves as an apt basis for the identification of these cues and their spelling variants in written conversations.

The following section therefore provides a description of the occurrence and spelling variation of the previously identified five cue types. Through close CA analyses I then demonstrate that, similarly to their spoken counterparts, these cues function as backchannel signals in IM, as means to signal communicative cooperation. The close analyses also prove that these non-lexical tokens play an equally important role during the enactment of relational work and as contextualisation cues of the intended meaning both on the level of content and on the level of relational intent, thus providing evidence that the interactional function of these cues is highly complex and often overlaps. The findings below also provide evidence for the main issues addressed in the RQs and that although the interpretation of these cues relies heavily on the hypothesised prosody they evoke, they are used regularly, intentionally and systematically by the participants as means of inscribing non-verbal information into their written text.

HM/MM

The first set of signals to be discussed, *hm* and *mm*, are considered to be ‘recipient tokens’ in previous research on spoken interactions (Cherny, 1999; Drummond & Hopper, 1993a; Gardner, 1997; Schegloff, 1982), although it has also

been highlighted that their functions may vary in the light of their prosodic qualities (Gardner, 1997, p. 132). In the dataset, the following spelling variations were found.

TABLE 4.

Non-lexical token	instances
hm	4
hmm	33
hmmm	42
hmmmm	15
hhmm	10
hhmmm	4
ALL INSTANCES of “hm”	108
mmm	3
mmmm	7
mmmmm	4
mmmmmm	2
mmmmmmm	2
mmmmmmmm	2
mmmmmmmmm	3
mmmmmmmmm	2
ALL INSTANCES of “mm”	25

In the literature about spoken interactions, the question of whether these tokens are turn-constructive units is a critical one (Gardner, 1997; Guthrie, 1997). In CMC, if the token stands alone, it automatically constitutes a turn, as we can see in Excerpt 1. In the dataset, I found 49 instances when the variation of *hm* or *mm* constituted a turn on its own, in some cases accompanied by other non-verbal signs, such as ellipsis marks or emoticons. The highest number of *hm/mm* tokens in the dataset, however, was

used alongside other verbal signs within the same utterances. The position of these tokens varied from initial to mid message to final position. A close analysis of these instances revealed that these non-verbal cues are used systematically for three main functions: 1.) to express acknowledgement of information with heightened emotional and/or mental involvement, 2.) to betoken a thinking process and 3.) to disclose positive attitude.

Acknowledge, with heightened involvement.

Excerpt 1 (Conversation 663)

1. Viv | 08:09 pm | it is thr in the last file i sent you by email
2. Andrew | 08:10 pm | that's my point: both of us are at fault here for not checking this before sending off...
3. Andrew | 08:10 pm | it's not just you, I'm equally culpable.
4. Viv | 08:10 pm | hm
5. Viv | 08:10 pm | :)
6. Andrew | 08:10 pm | actually, i'm not smiling...
7. Andrew | 08:11 pm | it's gotten a bit embarassing here, and it could have been prevented.

In Excerpt 1, *hm* in line (4), and the following emoticon in line (5), serves as a cue for acknowledgement of the information as well as a sign of involvement in the matter at hand. It is clear from the extract that the conversational partners are involved in a confrontational situation, where Andrew is expressing his discontent (2) while using language that asserts his managerial position (6-7). Viv's non-verbal contribution to the interaction is an important strategy to signal attention, and at the same time allows her boss to re-gain the floor without the need to interrupt him.

The acknowledgement function of *hm/mm* can also entail a level of emotional involvement, such as surprise (see for example Gardner, 1997), as in Excerpt 2:

Excerpt 2 (Conversation 841)

1. Kaithlin | 16:54 | BTW
2. George | 16:54 | what
3. Kaithlin | 16:54 | Larry has been up for this job since NOV
4. George | 16:55 | mmm
5. Kaithlin | 16:55 | and he has been on ops etc calls since Jan
6. George | 16:55 | In the back ground
7. George | 16:55 | nice....
8. Kaithlin | 16:56 | yes

Excerpt 2 demonstrates a backchannel usage of the non-verbal token in that it is sandwiched between two utterances from Kaithlin. However, it is clear from the close timings of lines (5), (6) and (7) that the non-lexical token *mmm* was likely to be intended as an introductory signal of acknowledgement of what has been said by Kaithlin in line (3), immediately followed by a commentary on the matter in the subsequent lines. Line (4) is positioned as an interruption because Kaithlin continued her writing (5) concurrently to George's message in line (6). The 'speakership-incipiency' use of this token is similar to the findings of research on spoken interactions (cf. Gardner, 1997): George's use of *mmm* may be a non-obtrusive indirect indication of his turn-initiation along with an acknowledgement of additional emotional content. The acknowledging function is particularly apparent in the cases when *hm/mm* is in the sequence closing position as in Excerpt 3.

Excerpt 3 (Conversation 1043)

1. Jones | 15:27 | calling now...
2. Kaithlin | 15:27 | thanks
3. Jones | 15:28 | no reply :(
4. Kaithlin | 15:28 | oh no]
5. Kaithlin | 15:28 | we will try again
6. Kaithlin | 15:35 | not sure
7. Jones | 15:36 | hmmm

In the extract above, line (7) is the final utterance in the discussion between Kaithlin and Jones. I have discussed previously (in section 3.2.4.2) that in the work

environment IM is used as a channel of communication that is kept open all day, allowing participants to use it intermittently on an *as needed* basis. This intermittent usage has been found to affect the opening and closing preambles traditionally found in face-to-face or even telephone conversations (Isaacs et al., 2002). The closing function of the acknowledging non-lexical token is therefore unique in that it serves as a closing of the ongoing topic, allowing participants to indicate their understanding of the discussed issues without the need for further elaboration.

The three excerpts analysed above demonstrate that *hm/mm* and their spelling variations function as acknowledgement tokens in text-based CMC, similarly to the same cues used in spoken interactions (Drummond & Hopper, 1993a; Gardner, 1997; Schegloff, 1982). However, what also became clear based on the analyses above is that by using non-lexical tokens instead of verbal indications of acknowledgement, interactants further contextualise their messages, either through signalling of the level of involvement in an interaction, or as a politeness technique for avoiding direct obtrusion. This finding provides evidence for Holmes's observation that every piece of authentic discourse – including non-verbal strategies – has several layers of meaning (2000, p. 166). The findings above also allow me to address the questions raised in Chapter 4 about the role of non-verbal cues as contextualisation cues and as strategies to enact relational work. These questions will be re-visited in Chapter 6.

Betoken contemplation. The function of indicating the thinking process can be interpreted as very similar to the function discussed above, in that it entails a level of acknowledgement of the ongoing matter, in particular if *hm/mm* follows a statement and not a question or request. The main difference, however, lies in the timing of the utterance, as in Excerpt 4.

Excerpt 4 (Conversation 749)

1. Elizabeth | 14:40 | let's see if (*name*) can actually DO something
2. Kaithlin | 14:40 | lets hope
3. Kaithlin | 14:40 | its fine for (*name&name*)
4. Kaithlin | 14:40 | Eur and Asia will have an issue
5. Elizabeth | 14:42 | hmhhh

6. Elizabeth | 14:43 | this is ridiculous
7. Elizabeth | 14:43 | i cant hear a thing
8. Kaithlin | 14:43 | I know

As we can see from the extract, there is a two minute pause following Kaithlin's utterances in lines (3-4). Pauses in CMC are quite problematic because they can be caused by the system (for example, a network error), or by the participants, inadvertently (for example when multitasking) or on purpose (for example when avoiding a reply). As pauses can also serve as contextualisation cues affecting the interpretation of message content or interpersonal intent (Walther & Tidwell, 1995), participants employ non-verbal strategies to fill the gap in order to avoid unintended interpretations of pauses. The non-verbal signalling of contemplation is also used strategically following questions or requests. This usage is similar to the one observed by Cherny (1999, p. 193) in that this token might reveal the speaker's discomfort with previous utterances.

Excerpt 5 (Conversation 688)

1. Fabiana | 10:11:01 AM | hi
2. Yasmine | 10:13:03 AM | Hi
3. Fabiana | 10:13:20 AM | (*name*) the trainer for (*subject*) wanted to call me for a chat
4. Fabiana | 10:13:25 AM | do u think better to call you?
5. Fabiana | 10:14:10 AM | 2-4 pm
6. Yasmine | 10:21:47 AM | can't
7. Yasmine | 10:22:06 AM | I will be with (*name*) lunch time then rush to (*name*) office for vendor meeting
8. Yasmine | 10:22:22 AM | can she call me tomorrow?
9. Fabiana | 10:24:21 AM | hmm..
10. Fabiana | 10:24:32 AM | ok.. i;ll talk to her first and find out waht she needs
11. Fabiana | 10:24:41 AM | and ask her to call u tmrw
12. Yasmine | 10:24:44 AM | ok

In Excerpt 5 in line (9), Fabiana uses *hmm* as a response to Yasmine's question (8) as an indication of her contemplation of the request in line (8). The indication of the thinking process (9) is a clear sign of Fabiana taking the time to weigh the options in

her response. In contrast to not uttering anything and hypothetically removing line (9), using *hmm* implies a complexity regarding the issue at hand.

A subcategory of the above function is usage when the non-lexical tokens used for betokening thinking processes have an additional overlay of mitigation. Excerpt 6 below is such an example.

Excerpt 6 (Conversation 23)

1. James | 16:04 | hopefully this will help resolve
2. James | 16:04 | the new server should be better
3. Jones | 16:04 | ok coolio thanks!
4. Jones | 16:16 | *hmm*, its still not working for me
5. Jones | 16:16 | u think i should hang on till friday and see then?
6. James | 16:17 | what error msg do you get
7. Jones | 16:18 | (*error message deleted*)
8. James | 16:19 | *mmmm* right
9. Jones | 16:20 | :)

The conversational partners in Excerpt 6 have been discussing a technical issue, where James gave a series of instructions for Jones to follow. In line (3) he thanks him for the help, but 12 minutes later re-opens the discussion with an utterance starting with *hmm* (4). The non-lexical token in the initial position is a signal of contemplation but also interactional strategy, a device to mitigate the force of the contradiction and the renewed request for help. In line (6) James asks for more information about the error message and, after receiving a response from Jones in line (7), James uses the token *mmmm* (8) to acknowledge the information received and/or indicate the thinking process.

What is important to note based on the findings above is the interactants' awareness of the contextualising nature of non-verbal signals in CMD. Similarly to the usage in the previous section, on a surface level *hm/mm* was found to be used as a cue to signal the ongoing nature of conversational cooperation, indicating contemplation. However, in every instance, these cues accomplished an additional interactional role. In Excerpt 4, *hmmm* was used to enact the thinking process but also to fill a gap, to avoid a possible wrong interpretation of the pause during the conversation (see Darics, in

press). Excerpt 5 provided further evidence for the contextualising nature of this cue in that it was used to indicate the difficulty of the discussed issue, whereas Excerpt 6 demonstrated the use of *hmm* as a politeness strategy. These observations provide further evidence for answering the RQs about the range of functions non-lexical tokens accomplish in IM, as discussed in detail in section 6.2.3

Indicate positive assessment. The literature of non-lexical tokens has acknowledged the importance of prosody in the identification of the meanings of these linguistic elements (Gardner, 1997; Ward, 2004). Some sounds, in particular *hm/mm*, uttered when signalling appetite or enjoyment, are easily recognisable based on their prosody. It is not surprising that – albeit in much fewer instances than the functions discussed above – *hm/mm* is also used in a ‘degustatory’ sense in the dataset in this function.

Excerpt 7 (Conversation 693)

1. Jones | 02:51:06 PM | will leave it up to u then - and catch up on prison break
2. George | 02:52:19 PM | lol...there is a new series of 24 starting tooo
3. Jones | 02:53:05 PM | i never really got into 24 after the 1st season...
4. Jones | 02:53:21 PM | although could watch just for elisha cuthbert.... mmmmm.....
5. George | 02:53:23 PM | you don't know what you are missing

Considering that the sound token expresses the speaker’s positive opinion about the object he was describing in line (4), it is fair to say that the non-verbal cue here functions as an assessment, disclosing the speaker’s attitude to what has been said. However, this usage also demonstrates that the interpretation of non-lexical tokens relies heavily on the prosody and pronunciation they evoke (see Chafe, 1988), because they draw on individuals’ “mental recollection” of the acoustic image of the token (Walpole, 1974). Since the mental recollections people have about prosody and pronunciation are individual (Walpole, 1974, p. 193), interactants have no assurance

about how these cues will be interpreted by their conversational partners. This suggests that although non-lexical tokens are conventionally used (Ward, 2004, p. 5) in spoken interaction, their written usage is unconventional due to the lack of shared meaning regarding the prosody they evoke.

OH/UH/AH

The second group of non-lexical tokens to be discussed incorporates *oh/uh/ah* and their variations. Similarly to the tokens above, the functions and usage of *oh/uh/ah* are numerous and overlapping. The analysis below provides evidence that, similarly to the tokens discussed above, *oh/uh/ah* fulfil important roles as backchannel signals. The analysis also explores the work they enact as affective or emotional tokens.

The spelling variation of these tokens in the dataset is very wide, perhaps a reflection of the highly varied forms of their spoken counterparts (Ward, 2004, p. 8). The spelling variations included extremes such as *ahhhhhhhhhhhhhhhhhhh* or *aaaaaaaaahhhhhhhhhhh* or *ooooooooohhhhhhhhhhhhhhh*.

The dataset contains the following instances of *oh/uh/ah*:

TABLE 5.

Non-lexical token	Number of occurrences
uh and variations	6
huh	4
oh and variations	391
ah and variations	98

The *oh/uh/ah* non-lexical tokens are often used in formulaic utterances, such as *oh...ok* or *ahh ...yes* (see Table 6 below), along with other non-verbal cues including

ellipsis marks or emoticons. The occurrence search suggests that this type of use as part of formulaic utterances accounts for their high number in the dataset.

As regards their functions, it has been well documented that, in spoken interactions, *oh* marks the receipt of new information and functions as a signal of a change in a speaker's "current state of knowledge, information or orientation" (Heritage, 1984; Heritage, 1998; Ward, 2004). *Ah*, on the other hand, signals that someone is in control of a situation and fully aware (Ward, 2004, p. 30). Meanwhile, referred to as the *schwa* sound in the literature, *uh* can occur either as a filler or before minor formulation difficulties (Ward, 2004). In the corpus, I was not able to identify such correspondence between form and function, thus confirming the incidental nature of the transcription of spoken non-lexical tokens into writing. The three main functions of *oh/uh/ah* which I have identified in the dataset are 1.) change-of-state token, 2.) token of contemplation, 3.) token of affect.

New information or change-of-state token. The use of *oh/uh/ah* as a signal of the receipt of take-up (Fischer, 2000, p. 259) and as a signal of change in the state of knowledge or awareness (Heritage, 1998) has been previously described as a function these tokens fulfil in spoken interactions. The data analysis provided evidence that these tokens accomplish the same function in written conversations, as in Excerpt 8.

Excerpt 8 (Conversation 691)

1. Gabriel | 8:37:13 PM | how was your time with sunita
2. Gabriel | 8:37:14 PM | ?
3. Yasmine | 8:37:33 PM | it was jusy saying hello to him with Jaz
4. Yasmine | 8:37:43 PM | and try to get his time for next week
5. Gabriel | 8:37:49 PM | ah
6. Gabriel | 8:37:53 PM | did he give you any
7. Yasmine | 8:38:03 PM | next Wed or Thu
8. Gabriel | 8:38:09 PM | that's cool

The excerpt above is a good example of the work accomplished by using the token *ah*. Yasmine is sharing new information with Gabriel, who acknowledges this by sending a lone-standing *ah* (5) before proceeding to further enquiry about the details of

the information. By doing this, Gabriel clearly indicates his cognitive involvement in the interaction and that the information Yasmine provided was in fact new (compare with Heritage, 1984, p. 305). The real function of the token becomes evident if we hypothetically remove it from the interaction. Without the signal of uptake in line (5), the question in lines (1-2) and the question following the response (3-4) in line (6) might sound too direct and investigative – perhaps an effect Gabriel, who is Yasmine’s superordinate, wishes to avoid in order to avoid emphasising the power differences between himself and his colleague. The significance of this realisation is that by employing a non-verbal strategy, the interactants do not only signal their acknowledgement of information receipt, but also mitigate the imposition created by the intended topic change. Thus, *ah* in this sense serves not only as a backchannel signal but as a politeness strategy, providing further evidence of the roles these cues accomplish in relational work. This aspect is further elaborated in the discussion of the interactional functions of non-verbal cues in sections 6.2.3.2 and 6.2.3.4.

Betoken cognitive processes. Previous research into spoken interactions found that *shwa+h* or *u+h* interjections are ways of filling gaps before responses, either because the speaker momentarily has nothing to say, or to process information that is disturbing or uncomfortable (Ward, 2004, p. 40). Naturally, this filler function cannot be translated directly to the IM environment because the token is unnecessary: the addressed participant can choose to respond at their convenience, and therefore the choice to interject a non-lexical token is made to express a pragmatic function. This function is, for instance, granting the thinking process an additional emotional overlay, such as puzzlement (cf. Norrick, 2009, p. 875).

The following Excerpt 9 demonstrates this latter use, and is particularly interesting because both *uh* and *oh* are used (4) along with the ellipsis mark

Excerpt 9 (Conversation 471)

1. Ashok | 06:46 pm | Hello Andrew
2. Andrew | 06:46 pm | Hi.
3. Ashok | 06:47 pm | i contacted the Hotel in Srilanka

4. Andrew | 06:48 pm | uh, oh...sounds like bad news.
5. Ashok | 06:49 pm | they haev sent an email regarding the requirements for the session, Billing information and also the flight details
6. Ashok | 06:49 pm | no no
7. Ashok | 06:49 pm | they have a room
8. Ashok | 06:49 pm | i'll forward that email to you. could you please provide me the information that has been asked there?
9. Andrew | 06:50 pm | sure...but please tell me that we have the tentative booking at least?

In this interaction, Ashok talks to Andrew, who is higher up in the organisational hierarchy. Ashok shares some information with Andrew in line (3), to which Andrew responds by using a range of paralinguistic cues: *uh, oh*, ellipsis marks. The work completed by the two non-lexical tokens and the ellipsis mark is apparent on a relational level: Andrew's contextualisation allows Ashok to make situated inferences about the most likely interpretation (compare with Stubbe et al., 2003, p. 358) of "sounds like bad news": namely, Andrew's surprise and sympathy. By disclosing his emotional and/or cognitive involvement, his utterance is clearly not intended and interpreted as hostile or overtly critical. This usage provides further evidence for the important function non-lexical tokens fulfil as contextualisation of intended meaning (specifically addressed by the research questions (a) and (b) formulated in Chapter 4), but also shows that by allowing an insight into his feelings, Andrew's non-verbal device contributes to the creation of a closer, familiar relationship between himself and Ashok.

Formulaic interjections and emotional involvement. As highlighted previously, *ah/oh/uh* occur in formulaic expressions in a considerable number of cases, as illustrated in the table below. This tendency correlates with the findings of research on *oh* in formulaic interjections (Norricks, 2009, p. 883).

TABLE 6.

General meaning	variations	Occurrences
Change-of-state, with negative assessment	oh no	43
Change-of-state, with acknowledgement or irony	oh good oh great	37
Change-of-state, with agreement	oh...ok	31
Affect	oh my oh God oh my god oh goodness oh for heaven's sake	29
Triumph or irony	oh, yes	20
Sympathy/surprise	oh dear	13
Uproar	oh shit oh crap oh cripes oh flipping heck	10
Apology	oh sorry	10
Other expressions of excitement/disappointment/disgust	oh jeez of wow oh bugger oh hell oh yuck	10
Realisation	oh i c/ I see	3

These co-occurrences as parts of formulaic expressions explain the very high number of instances of this type of non-lexical tokens in the dataset (as shown in Table 4). Together with their verbal parts, these non-lexical tokens mostly function as interjections to signal the internal state of the speaker.

The following conversation (Excerpt 10) contains 3 instances of *oh/uh* in an exchange when the team members are discussing an upcoming meeting. The systematic use of various non-verbal techniques – including non-lexical tokens – show very strong contextualisation of participant insecurity and lack of information about the issue at hand.

Excerpt 10 (Conversation 33)

1. Fabiana | 10:58 am | do u know who is taking minute?
2. Andrew | 10:59 am | No, normally I think Cailey herself takes notes down.
3. Fabiana | 10:59 am | i dun think so... oh oh
4. Fabiana | 10:59 am | (*name*) said she is not the one taking either
5. Andrew | 11:00 am | Uhhh...in the past, whenever Cailey didn't assign responsibility explicitly to someone, she herself was doing the needful.
6. Fabiana | 11:01 am | oh..ok
7. Andrew | 11:01 am | I hope that applies today too
8. Fabiana | 11:01 am | me too.. ha ha.. :-P

Fabiana, who is higher in the organisational hierarchy, initiates the conversation, enquiring about the person taking minutes during the meeting in line (1). Although Andrew's negative response is rather direct, his use of *I think* mitigates the high epistemic modality of his utterance. Fabiana then disagrees with Andrew, thus threatening his face, and so in order to mitigate the force of the disagreement she does not conclude her sentence with a finalising full stop, but instead uses an ellipsis mark (see more on this in section 5.2.1.3) followed by a combination of non-lexical tokens to evoke the sound effect of the non-lexical tokens to signal a sudden realisation of a negative consequence of the discussed issue. By using these cues she also discloses her lack of confidence or knowledge in the matter, thus eliciting sympathy, perhaps as a way of lowering the imposition created by the power difference between herself and Andrew. She then adds a new piece of information to the conversation in line (4). Andrew's response, *uhhh*, is clearly emotionally loaded judging by the letter repetition and the use of the ellipsis mark, and signals a change-of-state regarding his knowledge, also functioning as turn-initiation. Fabiana's *oh* in line (6) is at the turn-initial position

and, along with the hesitation mark and *ok*, clearly signals the change in her knowledge and orientation. This function is what Heritage described as a response to ‘informings’, either as an indication of uptake or combined with other assessment components (1984, p. 302). What is important to note here is that content-wise, Fabiana’s message would mean exactly the same without the use of paralinguistic cues. However, her decision to include *oh* and (...) enables her to indicate her uptake, signal her thinking process and disclose her heightened involvement in the interaction. This effort is continued in her final line (8), where again she uses ellipsis to signal a trailing-off of thoughts (see section 5.2.1.3), a textual laughter (see section 5.1.1.2) and an emoticon (see section 5.2.2). It is clear from the analysis that Fabiana uses a range of non-lexical tokens throughout the interaction to indicate her involvement, and signal her lack of confidence in the matter, thus assuring her partner about her cooperative intent and displaying her intention to lower the imposition created by the power difference between them. This usage provides strong evidence for the strategic use of non-lexical tokens as a means of negotiating power differences in unequal workplace encounters, as hypothesised in Chapter 4 RQ (h).

Finally, heightened emotional involvement is often displayed by using multiple letter repetitions, as the instances introduced as spelling variations, or in context in Excerpt 11.

Excerpt 11 (Conversation 869)

1. George | 16:31 | So What di he say?
2. Kaithlin | 16:31 | sorry
3. George | 16:31 | Let me try that again - What did he say ?
4. Kaithlin | 16:32 | for some reason i dont have his mobile no
5. George | 16:32 | aaaaaaaaahhhhhh
6. George | 16:32 | You got my hope up:-)
7. Kaithlin | 16:34 | my whole global address book has dissapeared
ferom outlook
8. Kaithlin | 16:34 | i only have my local contacts!!!

In this sample, the usage of the non-lexical token is closely linked to the quality of the vocal performance of the sound produced to express disappointment. I have

pointed out previously that these eye dialects are not conventionalised, and so interactants cannot be sure if the sound effect they attempted to capture in writing coincides with how the recipient will interpret the message (compare with Walpole, 1974, p. 195). In this extract, George's strategy of clarifying his intent to capture disappointment is the verbal reinforcement of the non-lexical token in line (6): *You got my hope up*. The excessively multiplied letters clearly signal the emotional involvement of George, thus proving that non-lexical tokens do function as a means of displaying affect in IM, as hypothesised in RQ (g). From a CofP perspective it is also important to mention that George's display of a relaxed writing style contributes to the creation of a relaxed, friendly virtual work environment. The significance of this finding is further explained in section 5.1.2.2.

UH/EH?

The next set of cues differ from those previously discussed in that they are followed by a question mark, and are used in a question tag function or to elicit further information. They appeared in the dataset 42 times. In the dataset, the use of *uh/eh?* has been relatively straightforward to define based on the position they take in a turn: as turn-initial or lone-standing, they function as a token to request clarification. Appearing at the end of a sentence, they are used as a tag question particle, to elicit – mostly supportive – responses.

What is interesting about these particular particles is that in spoken language they have been found to be of strong signalling value of geographical or social language variation (Meyerhoff, 1994). Their use in writing therefore suggests the evoking of a certain type of intonation. However, as the interactants in the conversations in which these particles were used came from various social and geographical backgrounds (see Table 2), the participants had no certainty whether their recollection of the pronunciation and intonation matched with that of their conversational partners, and were therefore unlikely to use this eye dialect for the reason to evoke a certain type of intonation. While trying to identify the motives behind the use of what is seen by the literature as a strong identity marker, my research revealed that, apart from one instance, the tag particles *eh/uh?* were used by people

higher up in the organisational hierarchy, in encounters with unequal power, as in the following example.

Excerpt 12 (Conversation 572)

1. Cailey | 12:00 pm | Andrew...good to talk to you
2. Cailey | 12:00 pm | thank you for your candour
3. Cailey | 12:00 pm | and your openness
4. Andrew | 12:00 pm | hey, I'm the one who's grateful for the time you took out for me today...
5. Cailey | 12:00 pm | like i said...this is not goodbye or the end, just the start of a new relationship, eh?
6. Andrew | 12:01 pm | I owe you a lot as it is - from your coaching to your hospitality - this adds another one to that list.
7. Andrew | 12:01 pm | yes ma'am, it would be my pleasure to continue this to a new relationship...
8. Andrew | 12:01 pm | cheers to that!!

Here, Cailey, the regional lead and Andrew, her subordinate, are in the process of finishing a conversation that has been ongoing for a long time. In line (5), Cailey uses a tag particle, with a function of what Holmes (1982) calls a ‘modal tag question’ to elicit a confirmation from her conversational partner. However, on a relational level, Cailey’s use of the tag structure might contribute to the mitigation of the force of the reminder in line (5) and functions as a facilitator to offer Andrew a way into the discourse by eliciting a supportive response. The framework of relational work and politeness outlined in section 4.1.3 enables me to account for these functions – both functions accomplished by the use of *eh?* are subtle ways of displaying concern for the face of Cailey’s conversational partner. In addition, by using an eye dialect that draws on a hypothesised shared intonation, Cailey’s discourse strategy reinforces the concept of shared knowledge of interactional encounters outside the virtual realm between herself and her partner, and also contributes to the creation of an informal communicative environment. This analysis offers an answer to the research questions addressing the role of non-verbal cues in the negotiation of power relations and the enactment of relational work through demonstration that the tag particles *uh/eh?* are typically used by conversational partners higher up in the hierarchy, as devices to enact

relational work to indicate interest in or solidarity with the conversational partner of lower power.

ERR/ERM

TABLE 7.

Hesitation/Pause filler	Occurrence
erm	16
err	8

The non-lexical tokens *err/erm* are predominantly used to fill pauses in spoken interaction (Goldman-Eisler, 1961) and, in particular, to fill gaps occurring during the course of speech production. Tokens that enable interactants to fill gaps in speech are important tools, because in spoken interactions utterances are created on the go, with no option for prior planning or editing. This is naturally not the case for IM. Although speed and synchronicity are important features of the communication tool, interactants nonetheless have the option of carefully constructing, re-reading and editing their messages before sending them off (cf. Rintel & Pittam, 1997, p. 531). In this sense, in IM, no real gaps can occur due to hesitation – consequently, the devices that are used to fill pauses in spoken interactions have additional interactional functions in IM. In the dataset, I found that, on a surface level, written ‘pause fillers’ such as *erm/err* are comparable with signals of holding the floor or to reflect internal processes, for instance ongoing cognitive activities (Goldman-Eisler, 1961, p. 25). The following excerpts illustrate, however, that on an interactional level, they function as politeness strategies, as in Excerpts 13 and 14.

Excerpt 13 (Conversation 502)

1. Andrew | 09:54 am | thanks, will send the deck with the sample sheet back to you before the call starts.

2. Cailey | 09:54 am | erm...when you are done, can you send out entire thing to all LETs please?
3. Andrew | 09:55 am | no problem, will do that.

In the extract above, Cailey's use of the non-lexical token *erm* along with the ellipsis mark is a good example of the work invested in toning down the force of a directive coming from a boss. The mitigating force of the token is best understood if we remove it from the interaction – without this subtle signalling function, the topic change would be too sudden and the request might seem too direct, perhaps an effect Cailey wants to avoid to maintain the informality of the communication and thus the friendly atmosphere in the team.

Excerpt 14 (Conversation 363)

1. Andrew | 11:59 am | I'll send the note to scheduling to load the rest...and send out the cancellation note to the vendors...
2. Fabiana | 11:59 am | no
3. Fabiana | 11:59 am | ask sch to send cancellation to vendor
4. Fabiana | 11:59 am | u only need to tell sch what to do
5. Andrew | 12:00 pm | errr...okay my grammar needs improving...I was extending the pronoun to both clauses - I was going to ask scheduling to do both tasks.
6. Fabiana | 12:01 pm | oic

This extract demonstrates the use of various non-verbal cues as means of contextualising the message in order to aid intended interpretations. This extract is also a good example of the clarification of a possible misunderstanding, and of how paralinguistic cues contribute to this process. In the conversation, Fabiana is higher up in the hierarchy, and Andrew is telling her about an action he intends to take to complete a task (1). In line (2), Fabiana objects using an unmitigated *no*, and continues with an unmitigated directive in line (3) followed by an explanation in line (4). In the next line we see Andrew's explanation, alongside a range of cues: he starts his utterance with *errr* as a sign of uptake as well as an indication of the thinking process, functioning also as a mitigating device to soften the force of the overtaking of the floor.

These efforts are further emphasised by the use of an ellipsis mark to signal that more is to come. He uses *okay* in a self-deprecatory sense to indicate his acceptance of responsibility, and the sentence is again followed by an ellipsis mark. The importance of the clarification is also clear from the length of the message – clearly Andrew makes a great effort to explain his point of view in detail. Considering that sentence-final punctuation is not conventional in IM, the full stop at the end of the message could further emphasise the finalised nature of his efforts. Fabiana’s abbreviated *oic* (*‘oh I see’*) is a validation of her acceptance of Andrew’s explanation as well as the relational work in which Andrew invested so as not to offend his superior.

The use of *erm/err*, as shown in the extracts above, demonstrates the function non-lexical tokens accomplish in the negotiation of polite intent. This function is discussed in more detail in section 6.2.3.4.

YEP/YEAH/YUP/YIP

The variations of *yeah* have been thoroughly researched in the CA literature (Drummond & Hopper, 1993a; Drummond & Hopper, 1993b; Fuller, 2003; Jefferson, 1984a; Jucker & Smith, 1998; Norrick, 2009). This scale of interest is not surprising considering that this token has been found to be the most frequent discourse marker in spoken (American) English (Norrick, 2009). In previous research, *yeah* has been found to be slightly different from the non-lexical tokens discussed in the subsections above in that it verges on being a lexical item to express affirmative responses. When used as a non-lexical token in spoken interactions, *yeah* can function as an acknowledgement – often as a backchannel signal, and in particular when one person is holding the floor for an extended period of time. Its function, however, has been found to go beyond general acknowledgement in that it provides “differential feedback about the ease with which the information was integrated into the receiver’s state of knowledge” (Jucker & Smith, 1998, p. 197).

As regards text-based conversations, due to the technicalities of the medium, simultaneous backchannelling in the traditional sense of the word is not possible. In speech, ‘backchannels’ are signals used as means to “exhibit an understanding that an extended unit of talk is underway by another and that it is not yet complete” (Schegloff,

1982, p. 81). In IM, utterances cannot be sent concurrently and, even if they are, they will be displayed in sequential order, meaning that backchannel signals interrupt the ongoing writing of the talking partner. Despite the risk of interrupting the current speaker, my research has shown that non-lexical tokens are used for a backchannelling function, as demonstrated below.

Excerpt 15 (Conversation 972)

1. Kaithlin | 14:32 | i am so irritated with this whole thing
2. Jones | 14:33 | i'm a bit confused about it - must be honest
3. Kaithlin | 14:33 | we are taking one lots of fucked up data
4. Kaithlin | 14:33 | putting it in a complicated difficult to use database
5. Kaithlin | 14:34 | so no one every checks the LMS data anymore
6. Jones | 14:34 | yep
7. Kaithlin | 14:34 | and we now have another lot of fucked up data
8. Kaithlin | 14:34 | well thats what i told Elizabeth
9. Kaithlin | 14:34 | i want NOTHING to do with this
10. Jones | 14:35 | so how is the class list going to work going forward?

Excerpt 15 shows that, due to the linear display of messages, Jones's *yep* in line (6) is displayed as a message that interrupts Kaithlin's talk. Interruption, however, is considered as impolite behaviour and in the workplace also as a strategy to signal a superior power position (Stubbe et al., 2003, p. 372). By using *yep*, Jones, who is slightly inferior in the organisational hierarchy, risks a conflict between being seen as impolite due to interrupting someone's speech and signalling interest and acknowledgement. In the instance above, Jones's interrupting utterance is not attended to by Kaithlin, so it can be inferred that it was not considered to be an interruption but rather as a token of acknowledgement. What this example shows, however, is that the signalling of ongoing attention is judged to be of greater significance than the risk of being seen as impolite. This finding thus provides evidence for the role non-verbal cues accomplish in the communication of cooperation and the creation of interactional coherence. This aspect is revisited in more detail in section 6.2.4.

The token *yeah* and its spelling variations have also been found to differ from the previously discussed tokens in that the examination of the data revealed a correspondence between the form and the function they accomplish. *Yip*, for instance, occurs 42 times in the dataset and all but one of these occurrences are lone-standing, signalling affirmative responses to questions or enquiries about availability, as in Excerpt 16.

Excerpt 16 (Conversation 726)

1. Elizabeth | 13:59 | urrrgent question
2. Elizabeth | 13:59 | help help!
3. Kaithlin | 13:59 | yip
4. Kaithlin | 13:59 | listening

Yep occurs 64 times, but has a wider range of functions. Apart from its use as an affirmative response, it is also used as a turn-initiator in an acknowledgement sense, and also as a backchannel sign signalling uptake or acknowledgement during a longer stretch of talk. *Yeah* (87), similarly to *yep* above, also has a wider range of functions: it is also used as an acknowledgement token as well as a signal of preparedness to shift from reciprocity to speakership. In this function, *yeah* is a spelling variation of the above discussed tokens, with no particular significance assigned to the actual spelling (cf. Jefferson, 1984a, p. 204).

What is perhaps worth more attention is the case when it is used as an affirmative response following questions and directives. This usage accounts for almost half of the occurrences (41 instances). What is interesting in this use is the choice of this spelling over *yes*, which occurs 1587 times in the dataset. Analysis of the data shows that the usage of the less formal spelling (or pronunciation) variant of *yes* serves as a contextualisation cue in itself, conveying a level of informality or light-heartedness as in Excerpt 17.

Excerpt 17 (Conversation 767)

1. Kaithlin | 15:52 | BTW - can I take next Thursday afternoon off?
2. Elizabeth | 15:52 | yeah go on then

The effort to convey a familiar, friendly tone is particularly important in instances when an employee (Kaithlin in this instance) submits a personal request to a boss (Elizabeth). This is because, as I have explained in section 4.1.3, in the work environment interactions are intertwined with signals to display consideration towards other people's feelings. In unequal encounters, in particular, superiors have been found to use strategies to "reduce the degree of social difference" (Stubbe et al., 2003, p. 367). In the extract, we can see that Elizabeth's choice of spelling, *yeah* over the conventional *yes*, makes the affirmative response less formal. This effect is further strengthened by her lexical choice of the phrasal verb *go on* (2). These findings thus prove that choice of spelling can function as a contextualisation cue that serves as a signal of the relational intent in attenuating the imposition created by that fact that Elizabeth is in a position to grant or deny the request made by Kaithlin.

5.1.1.2 Interjections, laughter and other human and non-human sounds

Introduction

In the introduction of the subsection 5.1.1 I offered a summary of the reasons why auditory non-verbal cues have been neglected by previous CMD studies, and set out to examine in detail the occurrence and functional role of these cues in the computer-mediated environment. I argued that in order to systematically describe cues functioning as *eye dialect related to sounds*, it is necessary to draw on the findings of research into non-verbal auditory cues in spoken interactions. Thus, in section 5.1.1.1 above I gave a detailed account of the occurrence of non-lexical tokens that have been found to be used primarily in the establishment and maintenance of the communicative contact (for example backchannels or recipient tokens, cf. Drummond & Hopper, 1993b; Gardner, 1997; Guthrie, 1997; Heritage, 1998; Schegloff, 1982). In this section, I address non-verbal cues which in speech could function "as an entire separate

‘sentence’, an expression which encodes an entire basic message typically involving the speaker’s emotional state” (Fraser, 1990, p. 391). My aims in this section are the same as the aims of the section above: firstly, to examine whether auditory non-verbal cues used in speech are transcribed into writing and, secondly, to explore the communicative functions they achieve during the course of the interaction.

The method I have chosen for the analysis follows the structure of the method used in the sections above: as a first step I reviewed the literature of spoken interactions to establish the types of cues previously addressed in the literature. I then conducted a quantitative data search to identify the occurrence of these cues in the dataset. The results of the general occurrence search are presented in Table 8 below, providing evidence of the wide range of interjections and other human sounds used in the dataset. Thirdly, I conducted a close linguistic analysis along the lines of the research questions set out in Chapter 4 to address the range of functions these cues accomplish in IM. The findings of the analysis confirm that, similarly to the non-lexical tokens discussed above, the non-verbal auditory cues fulfil a wide range of interactional roles in IM conversations, including interaction management, contextualisation and relational work. Based on their emphasised emotional nature in speech (see Fraser, 1990, p. 391) the analysis confirmed that interjections, laughter and comic-strip sounds have a prominent role in the inscription of feelings and affective involvement in text-based conversations. Some of the cues have also been identified as ‘performances’, disclosing personal feelings and attitudes of interactants. The significance of these findings – as discussed in section 6.2 in more detail – is the evidence they provide against claims about IM’s inability to transmit socio-emotional content (cf. Sproull & Kiesler, 1986). The findings also demonstrate evidence that, despite the conventionalised nature of the discussed cues in speech (cf. Ameka, 1992, p. 106), their meaning and usage lacks conventionality in writing, particularly because of their heavy reliance on hypothesised prosody and pronunciation.

TABLE 8.

In the data the following interjections and comic-strip sounds were identified:

Category	Type	example
Interjections	expressive	yuck(1), eugh(1), phew (25), oops(44), woah/whoa (4), aww(4)*, aaa(2)*, eek(11), duh(5), jeez(23), gee(2), yey(2) + textual laughter
	conative	shh(4), huh?(4), boo hoo(1)
comic strip sounds	human	zzz(7), grrr (31)*, arg/argh(5),

* various letter repetitions (also see section 5.1.2.2).

Interjections

The definition of interjections to which I subscribe in this thesis is what Ameka calls *primary interjections*,¹⁴ that is “words and non-words” that are phonologically and morphologically anomalous and do not need to be combined with other word classes to form an expression (1992, p. 105). These interjections are thought to be relatively conventionalised (Ameka, 1992, p. 106), their position being “on the boundary of verbal and non-verbal communication” (Ameka, 1992, p. 112). Although highly context-dependent, most of these tokens could be interpreted as having referential meanings (or at least functions that could easily be associated with particular interjections). However, the meaning of a particular interjection depends heavily on the intonation. For instance, Norrick found that *huh* with a rising intonation signals a desire to repeat a previous utterance, whereas a falling intonation could signal difficulty processing the previous utterance, often perplexity or disagreement (2009, p. 868). As intonation is a key aspect in assigning meaning to interjections (Norrick, 2009, p. 867), it is not surprising that in a written context the lack of auditory information results in a level of ambiguity in written interjections. Participants using written interjections cannot always be sure whether the intonation and prosody they intend to capture in writing coincides with how the recipients would interpret the linguistic sign. In a previous study, I argued that participants in these instances address a hypothesised

¹⁴ *Secondary interjections* are when non-lexical tokens enter into construction with other word classes

shared knowledge of the sound qualities of the typed message (Darics, 2010a), drawing on the ‘inner ear’ or the ‘mental recollection’ of the acoustic image of words or tokens (see also Walpole, 1974). The research I conducted on the IM conversations containing written interjections (as identified in Table 8) has shown that in order to avoid misunderstanding, interactants employ interactional strategies to negotiate the meaning of these cues. One such strategy is the repetition of the same token within close proximity as in Excerpts 18 and 19.

Excerpt 18 (Conversation 2)

1. Elizabeth | 04:14:38 PM | phew
2. Jones | 04:14:38 PM | 1st time delivery
3. Jones | 04:14:44 PM | i know... phew indeed

Excerpt 19 (Conversation 928)

1. Jones | 10:11 | just got my cell phone bill from last month... eek
2. Kaithlin | 10:11 | oh no
3. Jones | 10:12 | roaming charges :)
4. Kaithlin | 10:12 | well you must charge them
5. Kaithlin | 10:12 | eek

In the case of Excerpt 18, the speech act of signalling relief in line (1) is done by using the interjection *phew*. In line (3) we see a validation of this use, through the expression of agreement *I know*, which functions as a signal of agreement with the speech act expressed by *phew*. The non-verbal sign is further ratified through a repetition of the interjection itself followed by another interjection functioning as an intensifier. The second example (Excerpt 19) illustrates a similar strategy, where the interjection *eek* is used in line (1) to express the emotional response of the speaker towards the information disclosed in the same line. However, in speech, the meaning of this particular interjection can differ depending on pitch and intonation: in high pitch it could be a cry for help, or an expression of disgust or distress. In this instance in line (2), the actual meaning is also clarified through the close textual context, but the repetition of the same interjection in line (5) by the other participant is a clear sign of

the ratification of the used non-verbal cue. The usage of these interactional strategies provides evidence for RQs (d) and (e) in that they demonstrate the work invested in the creation of a common ground for the decoding of unconventional linguistic strategies (cf. Jucker & Smith, 1998, p. 172).

In terms of their interactional function, it has previously been noted that interpretation of interjections is highly dependent on the intonation of tokens, as demonstrated by the case of *huh?*. Examination of the usage of the same token in writing proves that the interactants' choice of a non-lexical device over a verbal strategy with similar or the same meaning is a contextualisation cue in itself. Although not prevalent in the dataset – especially compared to *what?* functioning as repair initiator, which was found 20 times in the dataset – the use of *huh* illustrates that participants can achieve various levels of directness by drawing on interjections or other non-verbal cues such as punctuation.

Excerpt 20 (Conversation 388)

1. Andrew | 12:06 pm | Now, I have to follow up with the folks in Bangladesh to close that one.
2. Susan | 12:06 pm | you would like to have a call with me
3. Andrew | 12:06 pm | ? about?
4. Susan | 12:07 pm | you have said that you will send me the meeting invite shortly
5. Andrew | 12:07 pm | huh?
6. Andrew | 12:07 pm | when? I checked my sent items and there's nothing like to you...
7. Andrew | 12:08 pm | am I going completely nuts?!

Huh? in Excerpt 20 line (5) functions as a general indication of puzzlement, surprise or disbelief, followed by a more specific repair initiator enquiring about a specific piece of information, thus indicating the source of the troubled understanding. It also takes on an interactional role, functioning as an entry device to the conversation. The importance of the non-verbal nature of this token can be understood if we exchange *huh?* with *what?* or even *what??!?*. The interrogative becomes more directly addressed at the previous speaker, and because repair initiators in CMC can only be

directed at eliminating trouble in understanding (unlike in speech where they can also eliminate trouble in speaking and hearing, see Schonfeldt & Golato, 2003), to request clarification this way can impose significant threat on the previous speaker's face. It is therefore clear that by choosing the interjection over verbal or different non-verbal forms, participants enact relational work by adjusting the level of directness of the repair request.

Laughter

I consider laughter (and its representation in writing) a subcategory of interjections, due to the fact that it exhibits similar interaction-constructural features to interjections in general. They differ from interjections in that, in speech, laughter is often unintentionally produced, as Jefferson, Sacks and Schegloff observe, showing how interactants orient themselves during interaction and in the coordination of their activities (1977, p. 3). In writing, however, as shown in the analysis below, written laughter is always intentionally typed with a purposeful signalling intent and accomplishes three main functions: 1.) signalling acknowledgement, 2.) contextualising messages and 3.) performing merriment. These are discussed below in more detail but, prior to the analysis, a few observations are necessary about the various forms laughter takes in CMC.

Firstly, it has to be noted that laughter is represented in CMC in various formats: the form that is discussed in this section is *textual laughter*, a combination of the letters *h* and *a/e/i*. Other forms of laughter in CMD include acronyms (LOL, ROFL¹⁵ – these are not included in the analysis, as explained in section 4.2.2) or emoticons (further discussed in section 5.2.2). Secondly, textual laughter has several spelling variations, as shown in Table 9. The most prevalent textual laughter type in the dataset is the two-syllable version, closely followed by other lengths and variations.

¹⁵ 'Laughing out loud', 'Rolling on the floor laughing'

TABLE 9.

Textual laughter	occurrence
haha/ha ha	193
haha...ha	109
hehe	31
hehe...he	18
hihi	4

The findings of the data analysis below suggest systematic use of the various lengths of textual laughter: textual laughter used in pragmatic-discursive functions is short – typically two syllables – whereas textual laughter with an expressive function is usually represented by a longer laughter sequence. Syllable-type spelling versus one-word spelling, or the type of vowel used, have been found to be employed incidentally. The significance of this finding is that evidence is revealed of interactants' awareness of the various interactional functions textual laughter fulfils: the interactants' intentional choice between the two-syllable or longer forms represents evidence for the intentional use of non-verbal cues for the achievement of various communicative goals, as set out in RQ2.

Signalling understanding and acknowledgement. When textual laughter is used as an acknowledgement, it is produced as a response to a humorous or ironic comment, often followed by a verbal message – either in the same line or the following line.

Excerpt 21 (Conversation 475)

1. Ashok | 03:36 pm | Hi Andrew
2. Ashok | 03:36 pm | How are you doing?
3. Andrew | 03:37 pm | An interesting morning...hope you're doing well?
4. Ashok | 03:37 pm | haha. I am doing Fine. Thank you:)

Excerpt 22 (Conversation 34)

1. Andrew | 03:35 pm | okay then...I'll get him to pen a one-line confirmation to my mail. Getting him to write much more will take too long.
2. Fabiana | 03:38 pm | haha... ok. thanks.

Excerpt 21 is an example of the acknowledgement of irony. Although I am not familiar with the circumstances preceding this particular interaction, considering that this is the introductory session of their conversation, it is clear that Andrew is referring to an experience he shares with his conversational partner from the preceding morning. Although the literal content of the first part of his utterance is appraisal, his effort to contextualise the message as something that needs further elaboration is clear from his use of the points of ellipsis marks (see also section 5.2.1.3) and his suggestive question in line (3). Ashok's textual laughter in line (4) is an acknowledgment of the uptake of the irony. *Haha* is followed by a full stop, which – considering that except for this particular instance textual laughter is typically followed by ellipsis marks, exclamation mark(s), or nothing – further emphasises the indexical nature of this non-verbal cue, signalling uptake or acknowledgement. In the second case (Excerpt 22), Andrew's comment in line (1) is intended as a humorous remark, which is confirmed by Fabiana's *haha* (2) followed by the ellipsis mark as an indication of a “trailing away” (see section 5.2.1.3).

The above segments illustrate that by applying a turn-by-turn CA informed analysis, it is possible to go beyond generalisations such as “textual laughter emulates real laughter” (cf. Kalman & Gergle, 2011, p. 9), and explore the interactional function textual laughter accomplishes as a device used by the participants “to display their understanding of the state of talk for one another” (Heritage & Atkinson, 1984, p. 11). Based on this function, the use of textual laughter provides further evidence of the role non-verbal cues play in the signalling of communicative cooperation and in the creation of interactional coherence, as set out by RQ (i).

Indicating humorous/lighthearted intent. If textual laughter is produced by the current speaker, in the middle of or at the end of a message, it functions to indicate how

the message should be interpreted – thus serving as a contextualisation cue to aid the decoding of the intent. As indicated in section 4.2.1, previous research has established that humour plays an important role in the workplace in the accomplishment of relational work – as an in-group or out-group marker, as a device to reduce inequalities between those of different power status; or as a signal of the lack of agreement between others (Holmes & Stubbe, 2003; Holmes & Schnurr, 2005; Holmes, 2000). Based on its significance as a discourse strategy, it is not surprising that, in the currently examined dataset, paralinguistic markers – such as textual laughter – are also often used to signal humour or humorous intent.

Excerpt 23 (Conversation 1097)

1. Sue | 14:51 | hi dumb question - what does "NB" stand for?
2. Kaithlin | 14:51 | its latin
3. Kaithlin | 14:51 | means very important
4. Kaithlin | 14:51 | i used to know what it meant
5. Sue | 14:51 | ah lovely ha ha of course u know us lazy americans never study Latin ;)
6. Sue | 14:51 | thanks

In Excerpt 23, textual laughter is used to emphasise the humorous nature of Sue's utterance in line (5). Sue's comment in line (5) serves as a positive politeness strategy, a self-deprecation, a strategy to attend to her own face when disclosing embarrassing information about herself. Her intention of being funny is also emphasised by the end-of-utterance emoticon (see section 5.2.2). The mid-message textual laughter functions as a contextualisation cue aimed at Sue's partner to indicate how the intended message should be interpreted. This use of laughter is similar to what Jefferson found in her research on troubles-talk laughter: recipients are not necessarily invited to "join in the merriment, and to also find the thing laughable, or to affiliate with prior speaker's exhibited position on it" (1984b, p. 351). It is clear from the excerpt above that this is because textual laughter here is not the enactment of real laughter, but rather a discursive strategy to aid the interpretation of messages. This excerpt therefore exemplifies the strategic use of humour as an indication of sarcasm

and self-deprecation, and serves as evidence for the discursive function of textual laughter (as explained above).

Enacting gaiety. This is the performative representation of typically joint laughter: written mostly as multiplied syllables accompanied by other paralinguistic cues (ellipsis, repeated punctuation and letter repetition) and other markers of laughter (acronyms and emoticons). The ‘typographic performance’ in CMC has previously been the subject of academic exploration. Danet et al. (1997), for instance, analysed the enactment of an online party, and have found that participants in a social chat programme enjoy performing action through writing. Joint laughter enacted by the participants in the workplace is another example of this type of performance.

Excerpt 24 (Conversation 707)

1. Kaithlin | 13:39 | i cannot believe i missed one of my own sessions
2. Kaithlin | 13:39 | after i yelled at everyone else the whole year
3. Elizabeth | 13:39 | hahaha
4. Elizabeth | 13:39 | hehehehehe
5. Elizabeth | 13:39 | yahoo
6. Elizabeth | 13:39 | wait till i tell 'em!
7. Elizabeth | 13:39 | ;-)
8. Kaithlin | 13:39 | LOL

It has been well documented that humour is an important tool for the creation and maintenance of solidarity within groups at work (Holmes & Stubbe, 2003; Holmes & Schnurr, 2005). These shared laughs could therefore serve as significant instances in the life of the virtual team, especially considering that most team members do not have a chance to interact with the others in real life (see section 4.3.1). From a CofP perspective, these shared performances have great importance because, by joining in the laughter in writing, interactants reify the source of the humour, thus reinforcing the common ground of their understanding (Holmes & Schnurr, 2005, p. 166) and consequently contributing to the creation of a positive virtual atmosphere.

Comic-strip sounds

Comic-strip sounds differ from interjections in that they are expressive of a mental state, and often represent non-human sounds in writing. They share a number of features with interjections: namely, they can stand on their own and have referential meanings or definable pragmatic functions. Another commonality they share with interjections is their paralinguistic, contextualising function. On the other hand, while interjections are clearly the orthographic correlates of the spoken variation of the words or tokens, comic-strip sounds do not necessarily exist in speech. Their symbolic nature is, therefore, perhaps even more prevalent, as they are supposed to evoke a hypothesised sound effect of a hypothesised sound. The label *comic-strip sounds* used in this thesis is motivated by the fact that similar onomatopoeic words are used in comic books to depict sound effects that do not necessarily exist in real life.

The most prevalent occurrences of human comic-strip sounds in the dataset are of those related to the expression of frustration or anger – as can be seen from Table 8. The analysis below illustrates the discursive functions achieved by the use of a particular comic-strip sound.

Excerpt 25 (Conversation 980)

1. Kaithlin | 15:19 | can you download a CL?
2. Jones | 15:19 | yes, just loaded now, but its very slow
3. Jones | 15:19 | still trying to pull a CL
4. Kaithlin | 15:20 | OK
5. Jones | 15:21 | still going.....
6. Kaithlin | 15:21 | cause I just get an error message
7. Jones | 15:21 | yea - i get the same thing
8. Kaithlin | 15:21 | OK
9. Kaithlin | 15:21 | thanks for checking
10. Jones | 15:21 | OK
11. Kaithlin | 15:21 | grrrrrrrrrrrrrrrrrrrr
12. Jones | 15:21 | i know.....

Excerpt 25 takes place between two colleagues: Kaithlin is higher up in the organisational hierarchy than Jones. They are discussing an issue which clearly causes frustration for both participants (2-7). In the closing section of the conversation,

Kaithlin uses a comic-strip sound in line (11) to express her emotional state and Jones affirms his understanding of this function in line (12). The essence of the usage of the comic-strip sound is what Wierzbicka calls the lack of illocutionary component (1992, p. 163): she points out that they are not necessarily addressed to a listener, but serve as an act of ‘doing’ to disclose the emotional state of the speaker (see also Ameka, 1992). Although this observation might not be fully translatable to written interactions, in that if a message is sent to a conversational partner, there must be some element of addressivity, it is true that the usage of these tokens does not necessarily elicit a response from the hearer. The most important aspect of the use of the comic-strip sound *grrr* is then the textual representation of emotions, feelings or mental state, providing evidence for RQ (g) that non-verbal cues do play an important role in the ‘inscription’ of affect into IM conversations.

5.1.2 Eye dialect related to words

Introduction

As indicated previously, *eye dialect* is the name of the group of creative writing techniques that are used in order to draw attention to the auditory features of written texts. In the previous section, I discussed *eye dialect* techniques that depict non-verbal sounds: non-lexical tokens, interjections, laughter and comic-strip sounds. In this section I address techniques that are used to manipulate existing verbal forms in order to inscribe auditory information – in particular pronunciation, prosody and stress – into writing. These techniques include the use of capital letters (section 5.1.2.1) and non-standard spelling (section 5.1.2.2).

My aim in the analysis below is twofold: firstly, to explore the occurrence of these two techniques – as previously identified in the CMD literature and outlined in the CMC cue framework in section 4.2.2 – to provide evidence for the RQ addressing the forms non-verbal cues can take in the IM of virtual teams and, secondly, through close linguistic analyses to examine the functions these cues accomplish during the course of interaction. As techniques of *eye dialect related to words* – for example, capitalisation and the use of non-standard spelling are well represented in the research

literature of CMD – the following sections provide a short introduction to the functions previously identified in relation to these cues within text-based CMC. I then present the result of the occurrence search to illustrate the significance of each technique, followed by the description of the main functions these cues accomplish during the interaction. The findings below prove that, similarly to tokens of *eye dialect related to sounds*, capitalisation and non-standard spelling play important roles on all levels of interpersonal interaction: on a relational level they signal affect; they function as contextualisation cues to clarify content and relational intent; and they also contribute to the creation of interactional coherence. As shown in the individual subsections, these results confirm the findings of existing scholarship on *eye dialect related to words* and, through the description of functions not previously accounted for, also extend them. The findings also result in the realisation that although *eye dialect related to words* is a technique closely related to pronunciation, their systematic description is only meaningful if it is based on the function they fulfil and not on their relationship to the hypothesised spelling they evoke.

5.1.2.1 Capital letters

Writing a word or message all in capital letters has traditionally been viewed as shouting (Danet et al., 1997; Hård af Segerstad, 2002; Postmes, Spears, & Lea, 2000) and has become stigmatised in CMC, especially in workplace CMD (see netiquettes on IM, for example, McKillop, 2006). Linguistic research, however, has identified that capitalisation is in fact a creative linguistic strategy that is used to emphasise content or evoke prosody, intonation or stress (Carey, 1980; Thurlow, 2001; Riordan & Kreuz, 2010). Nonetheless, as I have pointed out in the literature review in section 2.2.1, the academic description of this particular technique along with other paralinguistic cues has been limited, lacking in-depth understanding of the various contextual uses and functions capitalisation (or the lack of it) can take on (see for example Thurlow, 2001, p. 288). The analysis in the following section addresses this paucity, particularly through the examination of the interactional functions capitalisation fulfils in text-based conversation.

In the first stage of the analysis I manually counted the instances where capitalisation occurred. I excluded abbreviations and acronyms related to work (for instance monograms, or acronyms of companies or countries), business discourse related abbreviations (AOB, TBC, ASAP, FYI, FAQ, OTP, PR) as well as acronyms related to CMD (LOL, FFS, BRB, BTW, OMG, LMAO), as in these cases the capitalisation of the text was due to conventionality, not as additional paralinguistic information. A total of 467 types of acronyms and abbreviations were excluded from the study. The resulting reading identified 683 instances when lexical and grammatical words were written entirely using capital letters. This accounted for 0.22% of all words used in the corpus, which is similar to the findings of Riordan and Kreuz (2010), who found that capitalisation was the most frequently used cue in five online databases, with 0.35% of words written entirely in capitals. The third stage of analysis was conducted using a CA approach in order to reveal the pragmatic and discursive functions the capitalisation of the words or phrases fulfil. The examination found that using ALL CAPS for part or whole of a message is used for the following interactional tasks: 1.) stress and emphasis, 2.) clarification 3.) creating coherence.

Stress and emphasis. Capturing stress and emphasis in writing has been identified as the main function of capitalisation in CMC (Thurlow, 2001). The analysis of the data showed that, coupled with other non-verbal cues, such as letter or punctuation repetition, the emphasis created by using capital letters functions as a signal of high emotional involvement, as in the case of thanking (THANK YOU!!!!) or the expression of satisfaction (FANTASTIC!). In several instances, however, capital letters are used to create emphasis to convey assertiveness rather than affect. This use is of particular importance in work-related interactions, as demonstrated in Excerpt 26.

Excerpt 26 (Conversation 703)

1. Kaithlin | 16:44 | OK i am a bad bad person who does not know how to write objectives
2. Kaithlin | 16:44 | so i am going to write something now OK
3. Kaithlin | 16:45 | for me this is like going to the dentist
4. Elizabeth | 16:46 | you're the LAST

5. Elizabeth | 16:46 | even Samia has done hers
6. Elizabeth | 16:46 | just pick a max of two items per category
7. Elizabeth | 16:46 | no more
8. Kaithlin | 16:46 | OK
9. Elizabeth | 16:46 | and just write a shrot descrption of what you're going to do, to do it
10. Kaithlin | 16:48 | OK i will try

In Excerpt 26, Kaithlin is telling Elizabeth about a report she had not yet submitted. The conversation begins in a light-hearted tone: it includes a self-accusation, while the content of the message and the repetition of *bad* in line (1) suggest that the confession is meant to be humorous to mitigate the impact of self-criticism (see for example Holmes & Stubbe, 2003, pp. 109-134). In her response, Elizabeth uses capital letters to emphasise the word *LAST* (4). Although this conversation and their previous IM history suggest that the relationship between the two interactants is friendly, this is an unmitigated FTA, while the content of the message is further boosted by the capitalisation of the word *last*. Elizabeth continues her message for another three lines, and only in line (6) does she use a hedging device: *just*. Elizabeth's use of capital letters is a strategy to signal that the issue at stake is not something to be joked about, and this message has indeed been understood by Kaithlin, who repeatedly agrees to take further action (8, 10). The stress evoked by the orthography is strategically used by Elizabeth to express her serious intent. The unmitigated nature of the declarative created by the means of capitalisation also functions as a signal of her superior position in which she has the right to give orders or reprimand for not finishing a task on time (see Stubbe et al., 2003). This extract thus provides evidence that the manipulation of capital letters is a technique not only to contextualise the intended message in terms of its importance or seriousness, but also – as hypothesised in RQ (h), which addresses the role of non-verbal cues in the negotiation of power differences in the workplace – a means to reinforce superior hierarchical position.

A separate category within capitalisation for expression of emphasis or stress exists for complete messages written in capital letters. Capitalising the whole message is not very common – the majority of these cases appear in relation to greetings (for example, HAPPY NEW YEAR!, GOOD LUCK!). The relational work capitalisation

achieves in task-related sentences is therefore even more pronounced, as illustrated in Excerpt 27.

Excerpt 27 (Conversation 873)

1. Kaithlin | 12:21 | Hey G
2. George | 12:21 | helloooo
3. Kaithlin | 12:21 | did we get dates for cm IN aLGERIA
4. George | 12:22 | Yes I sent to you and Jack I think...let me check
5. Kaithlin | 12:22 | I AM SURE YOU DID
6. Kaithlin | 12:22 | sorry found it
7. George | 12:22 | cool though I was loosing my mind:-)

In Excerpt 27, the conversational partners are on the same level of the organisational hierarchy. Generally, in these types of encounters, careful consideration is paid to politeness issues and relational work, particularly if the conversational partners want the other partner to cooperate (Holmes & Stubbe, 2003, p. 40). Here, Kaithlin contacts George to enquire about some data (3), and by using the pronoun *we* she emphasises solidarity and perhaps the joint nature of the task. It is not clear from the interaction whether the task they are discussing had previously been assigned to any of them, but George nonetheless takes responsibility for it (4). He also uses a pragmatic particle *I think* and an ellipsis mark to express uncertainty, thus lowering the epistemic modality of his utterance. In line (5) Kaithlin uses entirely capital letters as a way to create visual emphasis, and thus reassure George of her trust in George's task completion. This usage of entirely capital letters functions as an added emotional content, signalling the care for George's face needs. Kaithlin's request or checking of the task could have been interpreted as her dominance in the interaction, which consequently entitles her to do the 'checking'. The capital letters in line (5) therefore mitigate the force of this imposition and also emphasise the solidarity and common ground between her and her conversational partner (cf. Koester, 2006, p. 62). This example therefore serves as proof that capitalisation does not only add emphasis to the written text, but also contributes to the relational work invested in the interaction in order to maintain a familiar and equal working relationship, thus providing further

evidence for RQ (g), which addresses whether non-verbal cues are involved in enacting friendly, collegial relationships.

Clarification. The second category of capitalisation is in line with the accentuating function discussed above, but the nature of the emphasis is different: it functions as a request for clarification or a clarification itself. Indicating breakdowns in understanding and requesting repairs is not always straightforward in IM, due to the lack of auditory and visual cues that often co-ordinate repairs in spoken interactions (Schonfeldt & Golato, 2003). The review of the dataset revealed that capitalised words enable interactants to draw attention to the source of troubled understanding, and thus request clarification, as in Excerpt 28.

Excerpt 28 (Conversation 21)

1. Elizabeth | 12:00:24 PM | there you are! done it all for you xxx
2. Jones | 12:00:42 PM | yaya xxx thank you thank you...
3. Jones | 12:00:53 PM | now (*name1*) will say "we need to be proactive" LOL
4. Elizabeth | 12:01:15 PM | GOOD
5. Elizabeth | 12:01:23 PM | or does she mean WE need to be proactive?
6. Elizabeth | 12:01:40 PM | (*name2*) is allllll over Egypt
7. Elizabeth | 12:01:49 PM | and Israel
8. Jones | 12:02:00 PM | she says we very loosely

In this extract, Elizabeth uses two words entirely in capitals: the first instance, *GOOD* (4), is a typical case when capital letters signal and emphasise emotional intent. In the second instance, however, the capitalisation draws attention to the word *we* (5), signalling the source of the troubled understanding, that stems from the difference between the inclusive and exclusive semantic fields of *we*. Although the question did not state the nature of the trouble specifically, Jones's response (8) reveals his perfect decoding of the trouble source, the item to be clarified. The strategy to contextualise the pronoun *WE* written in capital letters in line (5) therefore proved to be successful, showing that non-verbal cues can serve as discursive strategies, lessening the need to

verbalise complete messages, a finding opposed to conclusions made in the business communication literature (see section 3.2.4).

The function of capitalisation in the next excerpt is also clarification, but the analysis is of particular importance for providing evidence for RQ 1, which addresses the forms non-verbal cues take in writing. The excerpt below exemplifies how usage and lack of usage of capital letters take on a clarification function.

Excerpt 29 (Conversation 1)

1. Zita || hello
2. George || hello
3. Zita || how are you
4. Zita || where are you? im in ob (reference to *location of office*)
5. George || I'm in OB
6. Zita || no you are not :)
7. George || Yes I am:-)
8. George || are you?
9. Zita || yep
10. George || find me if you can:-)
11. Zita || 4th floor?

In Excerpt 29, the capital letters in line (5) might not seem unconventional, but in relation to the preceding utterance the usage of capital letters does carry additional meaning. In IM discourse, the packaging of the utterance (for example, the point at which the message is sent) is interpreted as a cue in itself (Cech & Condon, 2004, p. 7). This means that one sent message equals one sentence and capital letters to signal the beginning and a full stop to signal the end are often omitted (cf. Haas et al., 2011, p. 385), as can be seen in Zita's utterance *im in ob* (4). By repeating this message and capitalising the first and last two letters, George adds an additional meaning that could be translated as "You cannot be there as I am there". The message communicated through the contrast of the non-capitalised and capitalised forms of the words is obviously interpreted correctly as the discussion continues in friendly teasing and the participants agree to look for each other within the building. As pointed out above, the significance of this observation is that it shows that in a contrasting situation, even conventional forms of writing can serve as non-verbal cues contextualising messages.

Interaction management. As I have pointed out in section 2.3.1, in addition to the usage of written backchannel signals (Herring 1999), hesitation signs and ellipsis marks (Berglund, 2009; Ong, 2011), other non-verbal cues have not received considerable attention with regard to the creation of conversational coherence. Close reading of the conversations containing capitalised words or phrases revealed that capitalised words – particularly conjunctions – play an important role in the achievement of coherence, both in turn-initial positions and turn-final positions.

Excerpt 30 (Conversation 1061)

1. Jones | 16:32 | there were two Coaching sessions on the (*abbr.*) showing as (*abbr. 1*) and should have been (*abbr 2.*)
2. Kaithlin | 16:32 | god
3. Jones | 16:33 | but they were reflecting correctly on the CL
4. Jones | 16:33 | so no worries there... BUT
5. Jones | 16:33 | we have that extra (*abbr 2.*) day charge for the Change Management

In the above extract, Jones is explaining a problematic issue to Kaithlin, whose affective involvement is explicitly marked by her interjection *god* in line (2). Jones's message pattern also reveals high emotional involvement: his messages come in quick succession (cf. Darics, 2010b; also Hancock et al., 2007, p. 931). In line (4) he uses a capitalised conjunction in the turn-final position, as a way to indicate that more is to come. This strategy is similar to what Baron called "utterance chunking" (2010). It is clear from the excerpt that the capitalised form of the last word serves as a cue drawing more attention to the logical relationship between the first part of the sentence and the part to come.

In a number of cases, however, the capitalised conjunction is used in a turn-initial position. In these instances the role of capitalisation as a cohesive device is not as apparent as in the turn-final position illustrated above, but the capital letters draw greater attention to the logical relationship between the previous messages and the new

message, thus creating a sense of conversational coherence and enabling participants to make more precise interpretations.

Excerpt 31 (Conversation 841)

1. Kaithlin | 16:54 | Henry has been up for this job since NOV
2. George | 16:55 | mmm
3. Kaithlin | 16:55 | and he has been on ops etc calls since Jan
4. George | 16:55 | In the back ground
5. George | 16:55 | nice....
6. Kaithlin | 16:56 | yes
7. Kaithlin | 16:56 | no actually been announced on learship calls
8. George | 16:56 | SO I wonder when they were planning to tell us
9. Kaithlin | 16:57 | BUT he was in london for 2 days and none had introduced him to anyone
10. Kaithlin | 16:57 | so Elizabeth had to do it\
11. George | 16:57 | Maybe Andy slipped up by announcing him

In the extract above, two colleagues at the same level of the organisational hierarchy have a discussion about a third colleague who had recently been promoted. Research into business discourse has found that non-task related interactions (such as office gossip) usually display more linguistic and discursive strategies that express higher levels of involvement and affect (Koester, 2006, p. 139), and this is clearly the case in the extract above (these cues include the non-lexical token as analysed in section 5.1.1.1, the use of ellipsis marks, and evaluative comments such as *nice*). The capitalisation of interjections in turn-initial positions in lines (8) and (9) further widens the repertoire of the cues, indicating affective involvement. However, following a closer examination of the extract – particularly of the timing of the individual messages – our attention is drawn to the the repeatedly disrupted turn adjacency, which resulted in a loosened interactional coherence (cf. Herring, 1999). Kaithlin’s message in line (7), for instance, is a response to George’s comment in lines (4) and (5). In this utterance, she reveals when the colleague’s promotion was announced, so George’s speculation about the same fact in line (8) is a clear sign of the wrong order of display of the incoming messages. George’s capitalised *SO* is therefore an important cue to draw attention to that fact that line (8) is an explanation of the consequences of the issue

discussed previously (1-5). Similarly, Kaithlin's use of the conjunction *BUT* entirely in capital letters highlights the logical relationship and thus the coherence between this latest message (9) and her previous utterance (7).

The use of capitalised conjunctions in the section above provides evidence that, as well as adding a layer of affective involvement or emphasis, capitalisation also contributes to a clearer signalling of the logical relationship between individual utterances and, thus, on a more general level, accomplishes an important role during the creation of interactional coherence in IM. This finding represents evidence that non-verbal signalling is an important resource for interaction management and the creation of interactional coherence (as postulated in RQ 4). The finding also extends the existing scholarship on the various techniques that have been identified with the achievement of this function in CMC (as introduced in section 2.3.1).

The range of functions of capitalisation as a non-verbal writing strategy during interaction is discussed in more detail in section 6.2.2. Below, the analysis moves on to address the other writing strategy associated with *eye dialect related to words*: non-standard spelling. As described in the introduction of section 5.1.2, this section aims to investigate the occurrence of non-standard spelling in the dataset, and – in line with RQ 2 and RQ 3 – its role in the achievement of the communicative goals of interactants.

5.1.2.2 Non-standard spelling

Previous research has found that a large majority of letter repetitions in text-based CMC (although in various online genres) represent words where the repetitions are used to emulate spoken non-verbal cues (Kalman & Gergle, 2010). One easily distinguishable case of vocal spelling is the representation of the paralinguistic drawl (Carey, 1980), the repetition of a vowel to represent a hypothesised elongated pronunciation, as in Excerpt 32 below.

Excerpt 32 (Conversation 401)

1. Susan | 03:52 pm | ok can you plz send me an email plz
2. Andrew | 03:56 pm | yes ma'am, mail just sent to you.
3. Susan | 03:56 pm | thank you soooooooooooooooooooooo much
4. Susan | 03:56 pm | :)

As noted by Carey (1980) and myself elsewhere (Darics, 2010a), this strategy brings attention to the sound qualities of the typed text, thus adding emphasis and indicating the emotional involvement of the speaking participant. This contextualising function of letter repetition is apparent in that this strategy is often exploited when typing formulaic expressions or discourse markers as part of the enactment of relational work. The word *so*, for instance, occurred 35 times in the dataset, with varying number of “o”-s, used for exaggeration or as a sign of emotional involvement. Other formulaic expressions or parts of formulaic structures found in the dataset were as follows:

TABLE 10.

Occurrence	Number
pleeeaaase	1
helllo	8
sooo	35
nooo	12
hellooo	15
soorry	1
sorryy	3
thanksss	1
(thank/ how are) youuuu	5
sorryyy	3
ALL	84

Vocal spelling also occurs in words other than formulaic expressions. However, their identification and description is problematic, particularly in light of previous research. Kalman and Gergle, in their study of letter repetition, distinguish between articulable and inarticulable letter repetitions based on the quality of the repeated sound, and only consider a word inarticulable if the repeated sound is a plosive (2010, p. 5). The review of my dataset, however, suggests that the above stated rule is oversimplified and the repetition of letters representing sounds of other phonetic qualities have to be considered as inarticulable. Inarticulable letter repetitions include instances where the repetition would result in the elongation of the sound, as in *probleeeem*, *boooooorreed*, thus completely changing the pronunciation contour of the given word; secondly, where the multiplied letter represents a diphthong as in *laaater* or *niiiiice*, the elongation of which is not possible at all; finally, other non-plosive inarticulable consonant repetitions, such as *onllllly* or *tonnne* (as in tone). Another methodological discrepancy of previous research with regard to letter repetition is the lack of differentiation between lexical words and interjections or non-lexical tokens. Both Riordan and Kreuz (2010) and Kalman and Gergle (2010) conducted their research on *all* instances of letter repetition without acknowledging the fact that multiplication of letters in words with conventional spellings results in deviant forms and thus serves as a cue, whereas non-lexical tokens and interjections do not necessarily have fixed spellings (see Haas et al., 2011, p. 393), and their cue status lies in their usage as such (see previous subchapter) and, apart from a few exceptions (as in section 5.1.1.2), not the spelling variations they represent.

In the analysis below, I therefore adopt an analytical approach that is not pronunciation-focussed but rather usage-based, and analyse the usage of non-standard spelling along the lines of its usage in context. In the analysis, I draw on the findings of research into non-standard spelling from other written genres, in order to establish the functions that have already been identified and examine whether these findings stand for text-based conversations. Such focus enables me to provide evidence for the RQ addressing how non-verbal cues from other written genres are utilised in IM conversations (RQ3), and explore the range of functions they accomplish during interpersonal interactions.

A usage-focussed description of non-standard spelling

The strategy of manipulating orthography without reflecting variation in pronunciation has been found in other genres, such as trade names, graffiti, or fiction (see a summary in Androutsopoulos, 2000), but due to the nature of these genres, much of the research has been concerned with the role of deviant spelling as a sociolinguistic variable or as an expression of creativity (see for example Davies, 1987). In the case of computer-mediated conversations, orthographic variations might be used as signs of creativity and as expressions of personality (Danet et al., 1997; Peuronen, 2011) in casual chat, but are unlikely to be used in these functionalities in the more “serious” framework of a workplace. Despite this presumption, however, deviant spelling is frequently found in the dataset.

In the dataset, I manually identified instances of letter repetitions: firstly, because it was important to exclude cases where multiplication could have happened due to misspelling, particularly in words with double letters (for example, *connect*, *willl*) and, secondly, as explained in the previous sections, to eliminate instances where the multiplication was part of an *eye dialect related to sounds*. After excluding the functional expressions detailed in the previous section, the search identified 56 instances when letter multiplication was used. As shown below, in these instances the function of the paralinguistic cue has been found to be contextualisation, in two main ways: 1.) emotional involvement and 2.) displays of relaxed writing style.

Emotional involvement.

Excerpt 33 (conversation 841)

1. George | 16:53 | IIIITTTTTTTTTT"SSSSSS THE WEEEEEEKEND
BAAAAAAAAAAAAABBBBBYYYYYYYYYYY!!!!!!!
2. Kaithlin | 16:53 | i am about to scream
3. George | 16:54 | I'm packing up shop
4. George | 16:54 | I had enough for one week

Excerpt 34 (Conversation 706)

1. Kaithlin | 17:24 | btw
2. Kaithlin | 17:24 | did you see my templete
3. Kaithlin | 17:24 | template
4. Kaithlin | 17:25 | i am so excited about the awesome formulars i wrote
5. Kaithlin | 17:25 | everying should take alllllllllllllllooooooooooooootttttt less time
6. Elizabeth | 17:26 | coolio

Excerpt 33 is an example of the various combined strategies used in order to signal affect and excitement: the verbal message is further contextualised by entirely using capitals, letter repetition and multiplication of exclamation marks. The second extract is a task-related interaction and line (5) exemplifies the usage of letter repetition for signalling a level of involvement (although clearly less intense as in Excerpt 33). The excitement of the interactant is apparent not only through her eye dialect use, but also in her revelation about her mental state in line (4). The interactional function of the letter repetition cue is apparent in both cases. The excerpts prove that letter repetitions do not correlate with the stress or elongation of the spoken versions of the manipulated words, thus providing evidence that the description and analysis of non-standard spelling should be based on the achieved function rather than the relationship to the spoken version. The analyses also demonstrate that, through an orthographic disclosure of emotional involvement, the users contextualise their message and provide an aid for conversational partners about how these messages should be interpreted. This therefore proves the important role of non-standard spelling as a tool of expressiveness (as addressed in RQ (g)) but also as a contextualisation cue of intended relational meaning (as addressed in RQs (a and b)).

Relaxed writing style. The second type of usage and function of non-standard spelling correlates closely to the observations of Davies about the language of advertisements, where innovative spelling was used in order to attract the attention of readers, “simply by the virtue of its being different and unexpected” (1987, p. 48). However, while in the case of advertisements, “unexpected” spelling is a way of

generating attention and enabling the brand name to become well-known, this is clearly not the case in the instances below.

Excerpt 35 (Conversation 779)

Elizabeth | 10:29 | hello thereeee

Excerpt 36 (Conversation 769)

Elizabeth | 10:28 | hello, good morningggggg

The motivating force behind these usages could be what Androutsopoulos refers to as a way to create or enhance the relationship between interactional partners (2000, p. 515). By displaying a relaxed writing style, through their language use participants contribute to creation of informal working environments, which then leads to intimacy and collegiality and enhances efficient cooperation (also noted by Nardi et al., 2000, p. 81).

From a politeness and relational work perspective, the linguistic strategy of displaying informality through a relaxed writing style, particularly if the interaction takes place between unequals, has also been found to lessen the force imposed by the authority of the 'boss'. In spoken interaction between unequals, intonation has been found to be used as a mitigating device (Holmes & Stubbe, 2003, p. 36), so non-standard spelling to indicate exaggerated intonation might function in a similar role, as mitigation of the imposition created by the power inequality, as demonstrated below.

Excerpt 37 (Conversation 779)

1. Elizabeth | 10:29 | hello thereeee
2. Kaithlin | 10:29 | Hello there
3. Kaithlin | 10:29 | did you get my triage report yesterday
4. Elizabeth | 10:30 | how are you today? (*angel*) or (*devil*) ?
5. Elizabeth | 10:30 | i did, not opened yet
6. Kaithlin | 10:30 | (*angel*)
7. Elizabeth | 10:31 | coooool
8. Elizabeth | 10:31 | ok quickie then - any news from the MDW?

Elizabeth is Kaithlin's boss and she is contacting Kaithlin in order to enquire about a workshop – possibly a task for which Kaithlin was responsible. During the course of the interaction, Elizabeth displays a range of linguistic and discursive strategies before and after making the enquiry in line (8) in order to lower the imposition of power difference between herself and her subordinate and to avoid impinging on the autonomy of Kaithlin. Elizabeth's opening line (1) contains the letter multiplication discussed previously, contextualising her intent as friendly and informal. After responding to the greeting (2), Kaithlin switches to a task-related topic to enquire about a report she had sent the day before (3). Elizabeth's response in line (4), however, relates to their non-task related relational interaction – an example of disrupted turn adjacency (Herring, 1999). Angel and devil are verbal descriptions of the emoticons Elizabeth used in her message. Her following line (5) is a response to Kaithlin's message in line (3), while in line (6) Kaithlin responds to Elizabeth's relational enquiry in line (4) by repeating one of the previously prompted emoticons. Elizabeth in line (7) acknowledges Kaithlin's reply (6) with the informal *cool*, and by multiplying the vowels of the word she adds an additional emotional level to her message. Following this display of informality and emotional involvement, Elizabeth posts her query in line (8). First, she uses the discourse marker *ok* in what Beach describes as a transitional function to signal a “movement from prior to ‘nextpositioned’ matter” (1993, p. 327). The *nextpositioned matter* in this case is Elizabeth's question regarding the training.

Excerpt 37 provides a good example of how people of higher hierarchical positions exploit a range of linguistic and pragmatic strategies to make sure that things get done and still maintain the informality of the relationship. It is also clear that Elizabeth's strategic use of vocal spelling – whether articulable or not – is an essential part of these strategies. This finding further supports the argument that non-standard spelling is a type of CMC non-verbal cue, achieving complex interactional functions, particularly while enacting relational work. The excerpts also show that the role they accomplish as contextualisation cues can only be explored through situated contextual analyses and not through their relationships to their hypothesised spoken variants. I further discuss the implication of these findings in section 6.1.2.

5.2 Typography

As explained in more detail in section 4.2.2, the second part of the analysis addresses non-verbal cues created by the means of typography. This includes punctuation, keyboard symbols and emoticons. The aim of the following section is twofold: firstly, based on the literature of CMD and, in comparison with the findings of research into other written or spoken genres, to establish the range of typographic cues utilised in IM (in line with RQ 1 and RQ 3) and, secondly, to establish the work they accomplish during the communication of various communicative goals and the creation of interactional coherence (as set out in RQs 2, 3 and 4).

The structure of the following sections reflects the state of literature about the particular cue types: the examination of punctuation as a non-verbal device starts with a review of the CMD literature in particular, to establish which punctuation counts as non-verbal signalling (section 5.2.1). Subsection 5.2.1.1 addresses non-conventional punctuation and, similarly to the structure used in the previous sections, along the lines of the research questions established in Chapter 4 explores in more detail the function of non-conventional punctuation. In subsection 5.2.1.2, I discuss repeated full stops separately from other non-conventional punctuation techniques for two reasons: because of their significance as cues in the dataset and because of their centrality in CMD research. In subsection 5.1.2.3 I explore other keyboard symbols, such as asterisks and parentheses, that have previously been identified as playing a role in non-verbal signalling in CMC and, finally, in section 5.2.2 I revise what is known so far about the function and usage of emoticons and, by drawing on the findings of research into the interactional roles of facial expressions, I provide an extended account of the various roles emoticons fulfil in written conversations.

5.2.1 Punctuation

The punctuation in CMC – similarly to non-standard spelling discussed above – has long interested CMD researchers (for example Carey, 1980; Hård af Segerstad,

2002; Thurlow, 2001), although, as has been pointed out by Kalman and Gergle, examination of these cues has lacked methodological rigour in much of the research literature (2010). One of their main criticisms targets the lack of balance in the description of the cues: they question, for instance, why researchers treat certain cues as paralinguistic markers, while ignoring others (2010; section 4.5). They point out that this gives a distorted view of the typographic paralinguistic markers and focuses exclusively on non-standard or creative use of punctuation, and also argue that “a message with only commas and periods and no exclamation marks or ellipses” is a cue in itself. This view is particularly valid if we consider the conventional use of punctuation in CMC: studies have shown that sentence-final punctuation is often omitted in IM (Ling & Baron, 2007, p. 269). Greenfield and Subrahmanyam speculate that the omission of punctuation is a speed facilitating device (2003, p. 727). Ling and Baron, however, maintain that this is because the act of sending a message coincides with the sentence-final position, thus the punctuation does not fulfil a pragmatic communicative function (2007, p. 295). In order to be able to provide evidence to answer the research question addressing the form and range of non-verbal cues in IM, as a first stage of my research into typographic cues I explored the conventional use of punctuation in the dataset. The analysis, as shown below, proved Kalman and Gergle’s point about the contextualising nature of the presence or absence of conventional punctuation.

In the dataset, the usage of full stops has been found to be similar to that in the findings of Ling and Baron (2007) in that mid-message usage of conventional punctuation is much higher than turn-final usage and it is hard to identify regularity of use. In my dataset, some participants had higher preference for using punctuation than others – one particular team member, for instance, ends each of his turns with a full stop. Generally, however, it can be said that conventional use of punctuation is present throughout the dataset – perhaps because of the relative ease of input, as suggested by Ling and Baron (2007) or, as shown in Excerpt 38, due to heightened awareness of linguistic and pragmatic devices that contribute to the accurate decoding of the relational and transactional intent of messages in transactional encounters.

Excerpt 38 (Conversation 218)

1. Andrew | 12:20 pm | just read your mail...okay, last point: would you like me to patch you in today evening for the All-Hands Call?
2. Kristie | 12:21 pm | o, yes:) I was gonna ask you. Are you staying in office till then?
3. Andrew | 12:22 pm | it's not that late for me...so I would be happy to patch you in...but then, I forgot, do you have a toll-free no. for Japan?
4. Kristie | 12:25 pm | no.. (*company name*) Japan do not use meeting place. They use different system so in every opportunity, I ask to patch or make an International call..
5. Andrew | 12:25 pm | no problem...shall I patch you in on your cell?
6. Kristie | 12:25 pm | I hope they align the system we use globally. Yes pls
7. Kristie | 12:25 pm | (*telephone number*)
8. Andrew | 12:26 pm | will do...:)

The extract above shows good examples of the conventional use of punctuation in IM: both Andrew and Kristie use full stops and commas to mark the end of phrases or logical sequences, as well as question marks to indicate interrogatives. It is notable in this extract that, apart from lines (7) and (8), all individual messages contain multiple turns – it is not surprising therefore that the interactants use various forms of punctuation to mark the end of individual sentences. In line (6) we see an example of disrupted turn adjacency (Herring, 1999), which means that the two utterances included in the same message are responses to two different preceding messages. In Kristie's message (6), the first sentence is a sequel to her own previous message in line (4), while the second sentence is a response to Andrew's question in line (5). The full stop in this line is, therefore, not merely an indication of the end of the sentence, but also a sign of the end of a topical sequence. Punctuation here therefore fulfils an important pragmatic role in marking not only sentence boundaries but also boundaries of multiple turns within one utterance. This extract proves that, similarly to the findings about contrasting use of capital letters in subsection 5.1.2.1, the conventional, normative use of punctuation serves as contextualisation of intent or content, particularly in light of what is considered to be typical punctuation use in IM (for example, Ling and Baron, 2007). This excerpt also exemplifies heightened care for precise communication in

transactional interactions, in which misunderstandings might have serious business consequences.

5.2.1.1 Non-conventional punctuation

In the literature review and in the previous section I have already discussed the shortcomings of research into the typographic cues in CMC, in particular the lack of balance between the examined punctuation variations and uses. I have found, for instance, that repeated exclamation marks have received great attention in the literature. Both Nardi et al. (2000) and Hancock et al. (2007) discuss multiple exclamation marks: the former argue that they are used to signal responsiveness in virtual team communication (p. 81), whereas the latter claim that multiple exclamation marks are a sign of positive emotions. Riordan and Kreuz (2010) conducted a study on the manifestation of cue sequences, but without acknowledging the importance of repetition for the communicative goals of interactants. As well as receiving varying levels of attention in literature, the claims regarding the functions and pragmatic roles of repeated punctuation have mostly been based on hypotheses, and not on actual linguistic research: Hård af Segerstad, for instance, speculates that the multiplication of punctuation marks “seem(s) to be used to express attitude, ask questions or generally ‘make oneself heard’”(2002, p. 145), while Haas et al. assert that non-conventional punctuation indicates pausing or emphasis (2011, p. 384).

The high variety of explanations indicates that non-conventional punctuation is used as contextualisation and, as such, has no referential meaning but is highly context-dependent (compare with Riordan & Kreuz, 2010, p. 1817) and meaning is inferred from the close and wider context of the interaction. In the section that follows, I therefore apply the multi-perspectival approach outlined in Chapter 4 to examine the range of roles and functions non-conventional punctuation accomplishes during the course of interactions. As shown below, by taking on a CA-centred approach, I show that non-conventional punctuation serves as backchannel signalling, to aid interaction management and conversational coherence. I also, through comparison with the findings of research into non-verbal signalling in spoken interactions, establish their role in evoking both auditory and visual cues in IM. Focussing on the contextualisation

function of these cues, I then identify the role they play in signalling the importance or relevance of the content of messages. Finally, after taking a relational work perspective, I establish the role of non-conventional punctuation in the communication of a range of emotions, thus disproving previous scholarship that claims that non-conventional punctuation is strategically used to communicate positive emotions (for example Hancock et al., 2007).

Backchannelling. Functioning as backchannel signalling, similarly to the non-lexical tokens discussed in section 5.1.1.1, punctuation cues give immediate feedback on information content or the success of message uptake. As a cue augmenting the verbal part of the message, repeated punctuation can function as a device to direct attention to trouble sources by signalling the intended intonation or prosody of a verbal message.

Excerpt 39 (Conversation 514)

1. Andrew | 03:17 pm | This one has been cancelled, and the August one shifted to July.
2. Cailey | 03:17 pm | cancelled????
3. Cailey | 03:18 pm | this is the (*name*) one!!!
4. Cailey | 03:18 pm | cannot cancel

In Excerpt 39, Cailey, Andrew's boss, uses a sequence of question marks after the verb repeated from Andrew's utterance in line (1). The effect of this device is twofold: firstly, the scale of repetition is an indication of the level of Cailey's involvement in the conversation. Secondly, the set of punctuation marks evokes an interrogative "auditory imagery" (Chafe, 1988), a rising tone of voice, to signal a breakdown in understanding. This strategy clearly draws on the participant's experience from spoken interactions when requesting clarification or repair. The importance of this realisation is significant in relation to the question addressing the role non-verbal cues play in the creation of a shared linguistic repertoire within the virtual team (RQ (e)). As pointed out before, and also in another study (Darics, 2010a), if interactants employ hypothesised sound effects as means of contextualising their messages, they evoke a

hypothesised shared knowledge, which ratifies the common communicative ground of the team.

Excerpt 39 exemplifies how non-conventional punctuation can contribute to contextualisation of verbal messages and help interactants in the process of the decoding communicated task-oriented and relational goals. However, in some instances, non-conventional punctuation combinations constitute utterances by themselves. In these instances, the link between typographic cues in CMC and paralinguistic cues in spoken interactions is even more evident, as the signs alone convey paralinguistic meaning or serve as contextualisation of the understanding of preceding or following verbal messages. With regard to the actual meaning they convey, it has previously been indicated that punctuation is a way to signal prosody by addressing the “inner ear” (Walpole, 1974) of the reader in order to evoke an “auditory imagery” (Chafe, 1988). This tenet, however, might not be transferable to turn-constructing cues of punctuation when no verbal message is present. Rather, these cues should be viewed as the written, non-verbal transcriptions of gestures and facial expressions, as in the following segments.

Excerpt 40 (Conversation 762)

1. Kaithlin | 11:04 | did you have fun?
2. Elizabeth | 11:05 | i was just aiming with Jay - i got a sore throat on Friday and now have the full-blown runny nose coughy green stuff today!
3. Elizabeth | 11:05 | but fel ok otherwise
4. Elizabeth | 11:05 | !!!
5. Elizabeth | 11:05 | anyway -
6. Elizabeth | 11:05 | i had a call from Robert early this am!

Excerpt 41 (Conversation 152)

1. Fabiana | 06:44 pm | We have been set back by 1600 Euros
2. Fabiana | 06:44 pm | due to the Pakistan session
3. Fabiana | 06:44 pm |(company name) refuse to co-share
4. Fabiana | 06:44 pm | and claims it is not clear cut that this is a confirmed session

5. Fabiana | 06:45 pm | so we have to cough out 1600 more
6. Andrew | 06:46 pm | ??!...this is just dirty behavior on their part...if we had cancelled a session, they would have asked for cancellation saying that (*name*)'s time was booked already.

In Excerpt 40, a relational episode (as defined by Koester, 2006, p. 58) is taking place: the interactants are discussing what they have been doing in their free time before moving on to task-oriented conversation (5-6). Elizabeth has been addressed by Kaithlin in line (1) about her recent weekend. She describes her ill health in detail (2) and adds a reassuring comment in line (3) – perhaps to prevent Kaithlin being worried about her wellbeing. This comment is then followed by a sequence of exclamation marks in line (4), the punctuation marks constituting an individual turn. It is hard to speculate the exact meaning of this cue based on the immediate context, but it is evident that the usage creates a level of emphasis. However, this emphasis does not necessarily refer to the verbal content of the preceding message, but more to its function, therefore serving almost as a reassuring hand gesture or nod.

In Excerpt 41, Fabiana is talking about a business problem: she is holding the floor through lines (1-5) and adding more detail to her description in each line. In line (6), Andrew writes a combination of question and exclamation marks followed by an ellipsis mark, and then a verbal comment about the issue at stake. The sequence of punctuation does not appear along with a verbal message and is clearly separated from the following sentence by the use of an ellipsis mark – thus constituting a turn on its own. The function of these cues can be compared to facial expressions: for example, a raised eyebrow or widened eye to indicate either a problem of understanding or a personal reaction (Chovil, 1991/1992, p. 188). This usage indicates that non-conventional punctuation can be used both as a means of evoking prosody as well as representing facial gestures. The analyses of the above excerpts reveal that the nature of these turn-constructing typographic cues is very similar to that found by Goodwin and Goodwin about gestures in spoken interactions: they are mutually contextualising phenomena with conversation providing resources for the interpretation of the gesture while the gesture elaborates upon and further guides what is being said (1992, p. 88). This finding provides further evidence of the significance of non-verbal signalling during the contextualisation of messages in IM and, by proving that punctuation can

evoke visual non-verbal cues, provides more examples to answer the RQs about the nature of the strategies ‘translated’ from other spoken and written communicative genres.

Emphasis. Particularly in transactional interactions, when precise understanding of business critical data is of great importance, repeated punctuation is often used to indicate greater emphasis, perhaps as a visual way of further accentuating (the importance of) information.

Excerpt 42 (Conversation 520)

1. Cailey | 05:46 pm | pls open the docs that G sent out in invite
2. Cailey | 05:46 pm | do you have this
3. Cailey | 05:46 pm | impt that you understand
4. Andrew | 05:46 pm | I have and I'm reading it now.
5. Cailey | 05:46 pm | asia allocation = 254!!!!!!!!!!!!!!!!!!!!!!!!!!!!
6. Cailey | 05:46 pm | damn!
7. Cailey | 05:46 pm | that's >50% reduction
8. Cailey | 05:46 pm | @#\$%^&**()!!!...sigh!
9. Cailey | 05:47 pm | how are we going to do this?
10. Cailey | 05:47 pm | but...europe has 392!!!!
11. Andrew | 05:47 pm | I'm still in shock!! I thought I was reading it wrong!!

In Excerpt 42, Cailey is superordinate to Andrew and is revising some documentation about business results. Her communication strategies reveal that it is very important for her to get her message across: the quick succession of messages, high number of abbreviations and lack of punctuation in lines (1-3) suggest a high level of involvement. Her explicitness and directness are not out of order given that she holds the higher position and the action she requires from Andrew is probably a routine part of his job (cf. Holmes & Stubbe, 2003, p. 34), but there is still a level of consideration for Andrew’s face needs based on her use of the discourse marker *please*, as well as an attempt to lower the imposition of the request by providing an explanation in line (3). Based on Andrew’s response in line (4), it is clear that both partners are reading the same document, so the messages which follow refer to this. Cailey “reads out” a piece

of data and uses a long sequence of repeated exclamation marks. Her attempts to get her message across and communicate her feelings about the discussed issue is clear throughout the messages: an expletive *damn* followed by an exclamation mark (6), a non-figurative expletive again followed by a series of exclamation marks, an ellipsis and verbal action *sigh* (8), and a rhetorical question in line (8) for which no answer was anticipated as it is closely followed by another exclamation in line (10). The success of the communication of her goals, and in particular her surprise about the learned information, is proven in Andrew's positive response – again – further contextualised by a series of exclamation marks. It is clear, based on this excerpt, that exaggerated punctuation is used strategically by interactants to contextualise their messages through indication of the high importance of content. This strategy thus contributes to the communication of transactional goals, and also to the communication of relational goals in letting conversational partners know that they are highly involved in the matter at hand and the ways in which discussed issues affect them.

Affective involvement. As we can see from the excerpt above, the excessive punctuation indicates various levels of emotions. From a close reading of my data, I found that the signalling of affect is typical of interjections, apologies, thanking, expressions of joy, greetings and frustration. Often, as a part of a cumulative cue-set, the sequence of punctuation represents emotional or cognitive involvement, as below.

Excerpt 43 (Conversation 838)

1. Kaithlin | 14:08 | i have asked Aron if they work for her
2. Kaithlin | 14:08 | we got then this morning
3. George | 14:08 | ok
4. George | 14:08 | shit!!!!!!!!!!!!!!!
5. Kaithlin | 14:08 | finally :-)
6. Kaithlin | 14:08 | what?
7. George | 14:08 | (*name*) agreement
8. George | 14:09 | This means I will have to redo the demand plan
some time
9. George | 14:09 |thought so
10. Kaithlin | 14:09 | AGAIN!!!
11. Kaithlin | 14:09 | :-(

In this interaction, the partners are on the same level of the organisational hierarchy and are in the process of discussing a serious business issue. Based on the quick succession of messages it is clear that both participants are fully involved in the interaction (as opposed to, for example, dividing their attention or multitasking). In lines (1-2), Kaithlin has just finished her report, which is acknowledged by George in line (3). This positive confirmation is further acknowledged by Kaithlin in line (5), the verbal message *finally* used together with a smiley emoticon to contextualise the message as positive (as opposed to signalling impatience, for example). In line (5), George uses the expletive interjection *shit* followed by a sequence of exclamation marks. The repeated exclamation marks contextualise the force of the expletive and suggest George's high emotional involvement in the matter.

Kaithlin's direct interrogative *what?* in line (6) reveals that the reason for George's swearing is not clear at this point in the interaction. George's fragmented message in line (6) suggests that the reason for his frustration was a sudden realisation – this message is then followed by further elaboration on the consequences of the newly realised issue. Kaithlin's response *again* in line (10) contains two sets of paralinguistic cues: capital letters and repeated exclamation marks, followed by a third cue in line (11), a sad emoticon. The combination of these cues communicates her sympathetic emotional state, thus expressing her solidarity and reaffirming the friendly collegial relationship between herself and George. The instances of repeated punctuation in this extract provide evidence for RQ (g), addressing the role of non-verbal cues in the inscription of emotions and affect into IM conversations. However, an important consequence of the findings above is that, although the sequential use of punctuation can be closely associated with affective involvement, it might not always be the case that the usage of exclamation points is a sign of a positive emotional state (as stated in Hancock et al., 2007, p. 932).

5.2.1.2 Repeated full stops

I have indicated in the introductory paragraph of the present section that although the repeated full stop thematically belongs to the section on non-conventional punctuation, due to its significance both in the dataset and in the research literature I

discuss this particular cue in a separate subsection. In CMD, as pointed out by Simpson, ‘full stops sequences’ or ‘ellipsis marks/suspension dots’ are highly characteristic (2005b). The occurrence search of repeated full stops confirmed this observation for the current dataset: with 4240 occurrences this cue type is clearly the most frequently used non-verbal device in the corpus.

TABLE 11.

Type	Occurrence
..	401
...	3513
....	229
.....	40
.....	12
more than 6	45
ALL OCCURRENCES	4240

The high number of occurrences is not surprising if we consider the origins and numerous functions of ellipsis marks. Regarding their origin, ellipsis marks are well-known in other non computer-mediated written genres, mainly as a signal of the omission of words or phrases or to denote hesitation. In computer-mediated discourse, previous research has identified 3 main functions of ellipsis marks:

1.) Firstly, they have been found to function as punctuation, substituting periods or commas and thus signalling what Wallace (1988) calls “privately heard intonation units” represented in writing (Carey, 1980, p. 68; Ling & Baron, 2007, p. 295).

2.) Secondly, in interaction management, they have been found to take on floor management functions to facilitate coherence (Berglund, 2009, p. 20; Fagan & Desai, 2003; Simpson, 2005b) in turn-final positions, or to elicit turns (Ong, 2011) if they are turn-constructing.

3.) In terms of their communicative function, they have been found to denote pauses (Hård af Segerstad, 2002, p. 145; Simpson, 2005b; p. 145), signalling hesitation or contemplation.

My analysis of the conversations containing ellipsis marks revealed that the above quoted three functions can be further specified and refined in light of the specific functions this cue accomplishes during the course of interaction. My research revealed that, as punctuation devices, ellipsis marks can signal trailing-off of thought, thus changing an utterance into a hint, and using visual emphasis to create a higher level of expressiveness. As a device contributing to the creation of interactional coherence, the ellipsis mark is used at a discourse level as a cohesive device and, at a pragmatic level, as a signal of ongoing cognitive activity. Finally, as a pause marker, an ellipsis mark enacts important work on a relational level, particularly in FTA situations. Such functions include hedging and signalling topic changes. As will be demonstrated through close linguistic analyses, however, these functions do not occur in isolation and the roles they fulfil are highly context-dependent and often overlapping: an ellipsis mark placed at an internal or terminal juncture taking on a punctuation function can serve as an indication of hesitation or contemplation, or signal that more is to come. These findings from the analysis of conversations containing ellipsis marks therefore further strengthen the claim that non-verbal cues are multi-layer and context-dependent, but also demonstrate their wide range of interactional functions they accomplish. The analysis below confirms the findings of previous scholarship regarding the roles of ellipsis marks as punctuation devices, cohesive devices and devices to signal hesitation, but also extends these findings in light of the refined interactional functions identified in the dataset.

Trailing-off. Also called suspension points (Simpson, 2005b), the three dots in this sense do not represent a pause or omission, but rather a figure of speech called aposiopesis: the sudden breaking off of a sentence with an indication of further, unsaid thoughts or a faltering of ideas. If used in this way in IM, suspension dots enable the speaker to imply ideas and consequently draw the conversational partner into his or her thinking process.

Excerpt 44 (Conversation 1074)

1. Jones | 12:38 | i know
2. Kaithlin | 12:38 | what a nasty way of putting it
3. Jones | 12:38 | she really has it in for us...
4. Kaithlin | 12:39 | i know
5. Kaithlin | 12:39 | put that in you pipe and smoke it
6. Jones | 12:39 | you know what.... data tells the truth

In Excerpt 44, Jones and Kaithlin, who are both on the same level of the organisational hierarchy, are complaining about a colleague – the discussion reveals that both partners are emotionally involved in the discussion: they repeatedly express their agreement and sympathy (1, 4) and use idiomatic language (3, 5) which has been found to reinforce solidarity (Koester, 2006, p. 103). They also use evaluative lexis (2). The ellipsis mark further emphasises the subjective stance: at the end of line (3), the suspension dots function as punctuation replacing full stops, but also signal that more could have been said about the subject. In line (6), again, the ellipsis mark functions as punctuation, signalling the end of a – what is intended to be a rhetorical – question. In both cases, the ellipsis mark functions as a device to signal aposiopesis, thus eliciting the cognitive involvement of Jones’s partner. This strategy is best understood from a CofP perspective if we consider the importance of mutual engagement in virtual teams (see section 4.1.2). By using strategies that enable interactants to signal or elicit involvement, mutual engagement can be reinforced, thus contributing to the creation of an effective group and efficient working environment.

Visual impact. The second instance, when the ellipsis mark has a predominantly punctuating function, is when it is used in excessive format to make a visual impact. Similarly to letter repetitions (section 5.1.2.2) and other punctuation repetitions (section 5.2.1.3), the extent of the repetition of the periods can further contextualise the message and add a visual impact to the force of the utterance, as in Excerpt 45.

Excerpt 45 (Conversation 845)

1. Kaithlin | 14:45 | how r u feeling?
2. George | 14:45 | klinching.....

3. George | 14:47 | sweat dripping....red in the face
4. Kaithlin | 14:47 | go
5. Kaithlin | 14:47 | i will tell you what happened tomorrow

This relational conversation takes place between equals, who are discussing the wellbeing of George. The interaction preceding the segment above revealed that George had been complaining about being unwell, continuing the same topic in his replies in line (2) and (3). In both lines he uses elongated ellipsis marks, which could function as visual signals of the ongoing nature of the described processes, or as an indication of trailing-off to elicit his partner's sympathy. Kaithlin, in line (4), uses an imperative *go*, followed by a sequence of ellipsis marks. Her choice not to use exclamation marks was perhaps motivated by an effort to avoid being seen as too direct and commanding. However, her long line of dots still creates a visual impact and thus contributes to signalling the force of her directive. This usage provides further evidence of the awareness IM users have about the communicative functions of various non-verbal strategies, and demonstrates the way in which these cues are utilised for the communication of relational goals.

Cohesive device. The next main function of the ellipsis mark that has been identified in the research literature plays an important role in the creation of coherence in IM. The uses I have found in the data work at two levels: at a discourse level, as a cohesive device to indicate an utterance break and, at a pragmatic level, to indicate a thinking process or involvement in the task.

Excerpt 46 (Conversation 1127)

1. Thais | 16:52 | And between us...
2. Thais | 16:52 | BI requested to add in

Although some researchers have found that the ellipsis mark is not used to punctuate utterance breaks (Baron, 2010), a different line of research has indicated that the mark is used to signal that “more is to come” (Simpson, 2005b; Berglund, 2009, p.

20). This function is important in the creation of coherence in an otherwise “incoherent” medium (cf. Herring, 1999), as we can see in the extract above. The ellipsis mark at the end of line (1) clearly marks its unfinished nature, functioning as a floor-holding device and signalling that Thais wishes to continue her talk in the next line. This usage provides further evidence for the claim that non-verbal cues are used strategically as devices to aid interactional coherence and interaction management, as hypothesised in RQ 4.

Cognitive involvement. In the literature about workplace IM, the ellipsis mark has been identified as indicating that the current speaker is dealing with a task, thus signalling cognitive involvement (Fagan & Desai, 2003, p. 134). This role has also been identified in the dataset, as in the excerpt below.

Excerpt 47 (Conversation 549)

1. Cailey | 12:26 pm | Andrew?
2. Cailey | 12:26 pm | do me a favour?
3. Andrew | 12:26 pm | Hi...tell me.
4. Cailey | 12:26 pm | can you please send me the (*abbr*) word doc that you completed for parkistan? so that I can cut & paste, thanks!
5. Andrew | 12:27 pm | (*abbr*)?
6. Cailey | 12:28 pm | erm...that security document. travel security advisory
7. Andrew | 12:28 pm | okay...sure, on its way.
8. Cailey | 12:28 pm | would also be good to know who i should email the (*abbr*) to...
9. Cailey | 12:28 pm | i have the name,but it would be easier if you can forward the email so that i don't have to search for it
10. Andrew | 12:28 pm | sure.

In this extract, we can observe the use of ellipsis marks for several functions: firstly, as a mitigation device to introduce a directive (this will be discussed below), secondly, as a token of thinking and, finally, as a trailing-off mechanism. This conversation is taking place between unequal team members: Cailey is Andrew’s superior and she is contacting Andrew to request a favour. Although Cailey’s opening

utterances lack hedging and politeness markers, the interaction history of the interactants suggests that this is probably due to the urgency of her request and not her lack of consideration for Andrew's feelings and face. Cailey presents her request in line (4), this time, however, using an indirect form and the formulaic politeness markers *please* and *thanks*. In the following line Andrew repeats a part of her previous message to indicate the source of his lack of understanding and requesting a repair. Cailey, in line (6), uses two non-verbal cues: a non-lexical token (see section 5.1.1.1) and an ellipsis mark to reflect her internal cognitive processes (see for example Goldman-Eisler, 1961, p. 25). Andrew's use of the ellipsis mark in line (7) accomplishes a similar function, although here the cue signals the result of the cognitive process, the uptake, rather than the ongoing nature of thinking. Finally, in lines (8-9), Cailey gives Andrew another task in a highly mitigated form: line (8) starts off as declarative and not directive, using a modalised form, de-focalising the agent as the subject of the request, and is finished with ellipsis marks to work as a hint in order to involve Andrew in the cognitive process. This is followed by a justification in line (9). The great effort invested in mitigation of the directive indicates Cailey's careful consideration of Andrew's face needs – a typical phenomenon in white-collar workplaces (Holmes & Stubbe, 2003, p. 32). These findings show the important function of ellipsis marks as signals of cognitive involvement during the course of relational work invested in the maintenance of friendly, collegial relationships in the workplace, thus providing further evidence for research questions addressing the role of non-verbal signalling during the enactment of relational work and politeness.

Finally, the last function described in previous literature is the signalling of pauses or hesitations (Hård af Segerstad, 2002 p. 145; Simpson, 2005b, p. 145). Interestingly, although the extension of the function of ellipsis marks from punctuation to indication of in-turn silences or pauses has been acknowledged in the literature (Ong, 2011, p. 3), little is known about the interactional or relational work this usage accomplishes. This aspect, however, should be of particular importance if we consider the function of hesitation in spoken interactions: apart from signalling intent to hold the floor when the speaker wants to indicate that he or she needs time to think about his or her next utterance or find his or her next focus (Locher, 2004, p.120), hesitation can also serve as device to mitigate a directive intent (Holmes & Stubbe, 2003, p. 32), a

hedging device to signal topic change, or as a device to express deferential politeness, in the case of an apology, for instance (Darics, 2010b, p.839). My research has also confirmed the strategic use of ellipsis marks in these functions, as will be shown below.

Hedging device. Above, in Excerpt 47, I have already shown that the use of the ellipsis mark forms part of the repertoire of devices used in an aposiopetic sense to give way for non-speakers to finish sentences, thus working as an implication, rather than a direct utterance, about the task to be done. This linguistic strategy to reduce obligation aimed at the addressee is itself a mitigation technique. Below, the ellipsis mark is used to mitigate a request at the inset of the asking (Excerpt 48) and to mitigate a refusal (Excerpt 49).

Excerpt 48 (Conversation 1083)

1. Kaithlin | 16:20 | do you want to talk about the sm report now if you ahve time
2. Kaithlin | 16:20 | i really want to make your life easier not harder
3. Sue | 16:21 | sure - if u have a few ...can u dial me at (*phone number*)?

Excerpt 49 (Conversation 1016)

1. Kaithlin | 16:29 | vic wants a favour
2. Jones | 16:30 | i don't normally do that sort of thing... i have a strict list of clientelle...
3. Kaithlin | 16:30 | can you pls check if you can get the no of people who have done books 24

In Excerpt 48, both speakers are at the same level of the organisational hierarchy, and it is therefore not surprising that when Sue and Kaithlin need to cooperate, they use a range of devices to negotiate their directives (see section 4.2.1): the ellipsis mark preceding the question and functioning as a request is one of these devices. In line (1) Kaithlin invites Sue to discuss a report: although her question starts off as an offer, with an opportunity for Sue to make a choice about the discussion, the

second half of the sentence – *now, if you have time* – reveals that Kaithlin is not proposing the option whether or not to discuss, but rather the time of the discussion. In line (2), her justification is a sign that she feels the need to attenuate the strength of the obligation imposed by her preceding utterance. Sue agrees to the discussion, and this time she makes an effort to mitigate her utterance, first by saying *if you have a few* to attenuate the imposition of the request, followed by an ellipsis mark to signal ‘hesitation’ before proceeding to her request for Kaithlin to call her.

In Excerpt 49, the ellipsis mark is used to attenuate the force of refusal. Here, Kaithlin presents a request to Jones in line (1), who uses a cumulative set of devices to mitigate the response that is potentially not preferred by his partner. First, he provides an explanation which distances the refusal from himself and portrays his actions as prototypical, followed by an ellipsis mark to further attenuate the threat of refusal. The second part of his message is a further elaboration – an explanation for the implied refusal, completed with an ellipsis mark. The significance of this use is best understood from a relational work perspective in that the mitigating nature of the ellipsis mark lies in its ability to signal hints, which means that face-threatening acts do not have to be directly communicated but rather can be inferred by the addressee (on hints in the workplace cf. Holmes & Stubbe, 2003, pp. 50-52).

Topic change. In my research, I have also found that the ellipsis mark is strategically used in the dataset to mark topic changes. Two functions can be ascribed to this use: at an interactional level as a floor holding device to signal that more is to come and, at a relational level, as a hedge before a topic change, as in Excerpt 50.

Excerpt 50 (Conversation 1015)

1. Jones | 10:21 | he asked if we could attach the pre-work and i said no, it was an online questionnaire they had to complee
2. Kaithlin | 10:21 | OH
3. Jones | 10:21 | yep
4. Jones | 10:22 | anyway... i have been trying to speak to one or two students to see if they can actually access the pre-work

Topic changes are seemingly face-threatening, particularly if they are initiated one-sidedly. It is not surprising, therefore, that team members employ various devices to mitigate the threat. The ellipsis mark often occurs after verbal, lexical signals of topic change, such as *well*, *anyway* or *and*, in order to aid signalling of re-orientation to a new frame by the addressee. The relational work performed by the use of the ellipsis mark lies in its association with hesitation, which – as I have explained above – is a mitigating device in itself.

The analysis focussing on the use of ellipsis mark to signal ‘hesitation’ has proved that this strategy enacts important work during the achievement of politeness. By assuming a politeness and relational work perspective, the analysis has proved that ‘hesitation’ in IM works to mitigate either directive intent, refusal or face-threats created by the prospect of a topic change. This finding is significant in that it provides further evidence for the range of cues utilised in relational work, as outlined in RQ (f).

5.2.1.3 Other keyboard symbols

In section 5.2.1, I pointed out that research into punctuation conventions used in CMD as a means of paralinguistic signalling has been unbalanced, and some punctuation marks in particular have received only scant attention (cf. Carey, 1980; Riordan & Kreuz, 2010). Below, I discuss three types of keyboard symbol previously identified in the CMDA literature as cues acting as non-verbal devices: asterisks, parentheses and symbol swearing.

My aim in this section is, firstly, to provide further evidence of the range of cues that are used as non-verbal signalling in CMD and, secondly, to identify how these particular cues contribute to the communication of the transactional and relational goals of participants. The discussion of each of the addressed cues starts with a short review of the relevant background literature – either drawing on the study of CMC or of other communicative genres – to establish what is known so far about the interactional functions these cues fulfil. Through a CA-informed analysis of representative data excerpts, I then illustrate the functions of the identified cues in the interactions of the researched virtual team. The findings presented below prove that an IS and relational work-informed methodology accounts for the interactional significance of non-verbal

signalling in workplace IM: asterisks have, for instance, been found to be used as tools to disambiguate content, parentheses contribute to signalling the importance of messages, and symbol swearing is used as a discursive strategy to present swearing in a socially acceptable format in the workplace.

Asterisks

Asterisks have traditionally been used in synchronous CMC to signal performatives (Herring, 2001, p. 623; Cherny, 1999, p. 110) or in other written genres as means of censorship to replace letter(s) in expletives (cf. Wajnryb, 2005). However, due to the essentially non-social nature of the interactions examined in this thesis, asterisks have not been found to be used in these functions.

Other traditional functions for which asterisks have been found to be used include calling attention to words and establishing confidence in order to disambiguate meaning (Riordan & Kreuz, 2010, p. 1816; also Fagan & Desai, 2003, p. 140) or signal error correction (Haas et al., 2011, p. 396; Fagan & Desai, 2003, p. 140). In the excerpt below, the interactants are discussing a deadline, and so Andrew's mistake in line (1) could wrongly influence the decision they are about to make.

Excerpt 51 (Conversation 108)

1. Andrew | 10:06 am | let's see...we have till end of November to complete this and so it's completely impossible.
2. Andrew | 10:06 am | sorry *not completely impossible*
3. Andrew | 10:06 am | what a goof!
4. Fabiana | 10:06 am | haha
5. Fabiana | 10:06 am | no worries
6. Fabiana | 10:07 am | its a tough month, hang in there
7. Andrew | 10:07 am | thanks, needed that :-)
8. Fabiana | 10:07 am | :-)

In light of his trying to avoid communicating wrong information, it is not surprising that Andrew employs a series of strategies to redress the mistake. Following a formulaic apologetic term *sorry*, he uses asterisks to mark the error correction (2). By using double asterisks, this device also creates a visual emphasis to draw attention to

the correction. In line (3) he makes a self-deprecating comment about the mistake. Fabiana's laughter (4), formulaic reassurance (5) and comment shifting the blame from Andrew to the circumstances followed by an encouragement (6) are clear signs of Fabiana's appreciation of the error corrections as well as of the work she has invested in saving Andrew's face (Sifianou, in press). The significance of these interactional moves becomes evident if we consider the proneness of workplace interactions to miscommunication, particularly when the task involves decision-making (cf. Cornelius & Boos, 2003). The excerpt above proves that in addition to verbal means, interactants also utilise non-verbal signalling for the disambiguation of content, as hypothesised in RQ 2.

Parentheses

The use of parentheses is typical of written language and is used to signal less important or additional information. Although previous research addressing its use in CMC claims that the most common use of parentheses is to signal the tone in which messages should be understood (Carey, 1980), my data suggests that their de-emphasising or 'additional information' function is just as prevalent. In addition to these functions of parentheses in written discourse, they can also accomplish interactional work in IM as a way to indicate personal comments or meta-markings (Haas et al., 2011), referring to the communicative situation (as in Excerpt 52) or inner thoughts of the speaker (as in Excerpt 53).

Excerpt 52 (Conversation 354)

1. Jones | 12:15 pm | that sounds acceptable (sorry a call came in)...so what you're saying is that DSMs will still be emailed on session confirmation, but their acceptance will no longer be a condition to loading of a session.

Excerpt 53 (Conversation 354)

1. Andrew | 12:27 pm | your action accepted unconditionally, I can adapt to any set of rules...and please calm down (I can see the vein on your forehead bulging).

Both of these uses highlight the immediacy of the interactions in that two ongoing processes are encoded in one message: in Excerpt 52 an explanation for a late response and in Excerpt 53 a personal observation based on the previous exchange between the conversational partners. The embedded nature of these comments signals their de-emphasised nature in terms of the content of the messages. However, they accomplish important relational work by providing the possibility of displaying personal emotions and observations simultaneously with the ongoing interaction, thus reinforcing the concept of the ongoing mutual engagement. This strategy also contributes to the creation of the illusion of personal contact, thus removing the interaction from 'virtualness' (compare with Fagan & Desai, 2003, p. 130). These findings demonstrate that users of IM utilise non-verbal signalling originating not only in spoken genres but also in existing written genres, providing further evidence for the RQs that address the range of signals available for interactants in the virtual work environment.

Symbol swearing

Expletives have been found to be a part of workplace discourse (Baruch & Jenkins, 2007), taking on various communicative functions, such as the forceful expression of subjective stances (Koester, 2006, p. 129) or signalling in-group solidarity (Daly et al., 2004; Wajnryb, 2005). I have mentioned various manifestations of expletives briefly in section 5.2.1.2, demonstrating how non-verbal cues can function to strengthen or modify their force. The expletives discussed here are similar to comic-strip sounds (section 5.1.1.2) in that they originate in the popular culture of comics, where a string of symbols is intended to represent expletives. Apart from making swearing acceptable (see for instance Wajnryb, 2005) the use of this unconventional

creative writing strategy also allows participants to reflect on their own interactional strategies, as in Excerpt 54.

Excerpt 54 (Conversation 838)

1. George | 14:09 | We just told everyone that we will no we won't
2. George | 14:09 | !@#\$\$%^&*()_
3. George | 14:10 | we should have never planned for it
4. Kaithlin | 14:10 | can we go ahead with the stuff that needs to be translated
5. George | 14:10 | nope
6. George | 14:10 | that is part of the interm ageement
7. Kaithlin | 14:10 | thought so
8. George | 14:10 | no escrow courses eitehr
9. Kaithlin | 14:10 | so israel still onhold
10. George | 14:11 | looks like itI will ask in the call
11. George | 14:16 | SHIT!!
12. Kaithlin | 14:16 | _)(*^%\$\$#\$^&*)(_)*(&^%\$\$#\$%^&())_*%\$#%\$^&*()
13. George | 14:16 | !@#\$\$%^&* (say that again
14. George | 14:17 | I can just hear Keren...
15. George | 14:17 | She is going to cry..

This segment is the continuation of Excerpt 39 analysed in section 5.2.1.1: George and Kaithlin are discussing a serious business issue and their emotional involvement is clear throughout the interaction (see for instance the quick succession of messages and the lack of consideration for correct spelling in lines (6), (8), (14)). In line (2) George uses a non-figurative expletive to voice his frustration. Further down the conversation Kaithlin replicates George's symbol swearing, in a highly exaggerated format (12), as a means of expressing her own emotional stance but also as a way of reinforcing her solidarity with George (cf. Daly et al., 2004, p. 959) and validating the paralinguistic cue used by George. In line (13), George repeats a part of Kaithlin's expletive, asking her to repeat the string again. The use of symbol swearing and the meta-discursive comments enable the participants to divert their attention from what seems to be a stressful conversation, thus contributing to the maintenance of a friendly, collegial atmosphere. The excerpt also proves that this particular writing technique is

highly unconventional, and participants negotiate its meaning and form through meta-discursive comments. The unconventional nature of typographic non-verbal cues is further discussed in section 6.2.3.3.

5.2.2 Emoticons

Emoticons are widely used – and arguably the most well-known – typographic means of compensating for the reduced audio-visual contextualisation available in CMC. In the section below I offer a review of what is known about this paralinguistic cue in the scholarship on CMC and propose an interactional sociolinguistic approach to account for the wide range of functions they accomplish. Based on the findings of research into the interactional functions of facial expressions, and drawing on the findings of IS and relational work, I then examine their roles as means of displaying affect, as discursive and linguistic devices, as cues with identifiable semantic meanings, as devices to aid interaction management and, finally, as devices to accomplish socio-pragmatic functions.

In CMDA studies, despite the popular view that emoticons are the most prominent cues used in computer-mediated genres (see Newman, 2011), research has found that they comprise a relatively low percentage of the non-verbal cues used in CMD (Haas et al., 2011, p. 395; Ling & Baron, 2007, p. 296). In the current dataset I have identified 2004 instances of positive emoticon use (:), :-), ;), ;-), :-D), 95 instances of negative emoticon use (:(:, :-(-), 68 instances of “tongue-in-cheek” (-P) emoticons, and a small number of other types of emoticons (for example O:-), 3:-), :’-(, :-], :-0).

Previous scholarship has mostly focussed on emoticons as indicators of affective state (Cakir, Bichelmeyer, & Cagiltay, 2005; Derks, Bos, & Grumbkow, 2007; Herring, 2001). However, more recent findings identify other uses, for instance the modification of the tone of utterances or conversations (Haas 2011), pragmatic uses (Dresner & Herring, 2010) and as markers of end-turn or syntactic units (Provine, Spencer, & Mandell, 2007). From a discourse analytic point of view, findings include the idea that emoticons “strengthen the verbal part of a message” (Derks, Bos & Grumbkov, 2008, p. 101; Dresner & Herring, 2010, p. 256), and that they “prevent

misunderstanding” (Cakir et al., 2005, p. 14). With the notable exception of Dresner and Herring (2010), who draw on speech act theory and argue that emoticons are indications of an intended illocutionary force, research has so far failed to account for the conversational and interactional effects of emoticons. As stated by Walther and D’Addario:

It is still not clear how emoticons are interpreted in CMC: as iconic and unconscious like nonverbal facial expressions or, like wording, as deliberately encoded elements of intentional communication (2001, p. 7; on the complexity of emoticons see also Thompsen & Foulger, 1996, p. 239).

The linguistic analysis of the various functional roles of emoticons below proves that the conversation analytic and interactional sociolinguistic approach upon which this thesis draws can offer deep insights into how exactly emoticons function in interactions and examine the work they accomplish in the communication of transactional and relational goals. A critical tenet for this approach is the definition of emoticons as representations of facial expressions. Based on this tenet, I argue that the function of emoticons should be comparable to the functions of facial expressions in face-to-face interactions. In light of this realisation, I approach emoticons along the lines of the findings about the interactional functions of facial expressions, particularly to provide evidence for the research questions (RQ 2, 3, 4) addressing the range of functions non-verbal cues accomplish during the achievement of the various highly complex communicative goals of the members of the virtual team. Research into discourse-oriented facial expressions in conversation identifies five main functions of facial displays:

1.) Emotional/affective display – in particular involuntary facial expressions, for instance enjoyment and smiling (Ekman, 1989, p. 155), to depict the emotional state of interactants.

2.) Discursive function – when taking on this function, facial displays modify or refine the meaning of verbal utterances, providing an empirical basis to judge the intentions of speakers, for instance a “smile voice” to signal irony (Holmes, 2000, p. 163).

3.) Linguistic function – facial displays contribute to the signalling of grammatical information, such as emphasis or the completion of an utterance (Chovil, 1991/1992, p. 164).

4.) Semantic function – this category means that facial displays convey information, either accompanying verbal messages and thus intensifying message content, or standing alone (Chovil, 1991/1992, pp. 179-184).

5.) Interactional management function – this means the use of facial expressions as backchannel signals, or any message conveyed via facial movements that contributes to the sequential organisation of conversation (Chovil, 1991/1992, p. 164).

Research into conversations containing emoticons in the dataset has revealed that emoticons also play a crucial role in the social and relational aspect of communication. This aspect is discussed below along with the five functions listed above. It also has to be noted that as with previously discussed paralinguistic cues, the use of emoticons is also highly context-dependent, and their functions are at times complex, multi-layered and overlapping. The analysis offered below therefore draws on the multi-perspectival theoretical framework outlined in Chapter 4 to account for this complexity and demonstrate the functions of emoticons at various levels of workplace interaction.

Emotional/affective function. This function is what Dresner and Herring call “iconic, rather than pragmatic” (2010, p. 257). This use is the closest equivalent to a spontaneous, unintentional facial display in face-to-face conversation: a smile signalling, for example, enjoyment or a wink signalling winking. It is also important to note that because emoticons are never produced involuntarily, they work as conscious communicative signals of emotion, not necessarily representations of actual emotions or facial displays. The importance of this distinction is made clear below.

Emotional and affective emoticons are often accompanied by other paralinguistic cues as in the excerpt below.

Excerpt 55 (Conversation 610)

1. Andrew | 02:43 pm | I also received the quotation from the Mumbai venue. Hoping to close that also today.
2. Chitra | 02:44 pm | Good!!!!!!:) Thanks so much

In Excerpt 55, Andrew and Chitra are discussing a business issue, and Andrew shares some good news with his conversational partner. Chitra's stance is inscribed in the reply in several ways, firstly verbally, then in the usage of repeated exclamation marks and, finally, a smiling emoticon. The emoticon here is clearly used to further emphasise the positive emotional state of the speaker.

Excerpt 56 (Conversation 1006)

1. Jones | 13:10 | damn :(
2. Jones | 13:12 | OK - i'm projecting now...
3. Kaithlin | 13:12 | LOL
4. Kaithlin | 13:12 | i thought the call was at 1:30
5. Kaithlin | 13:12 | WTF

A similar process but different emotion is represented in Excerpt 56. This is the beginning of their conversation: Jones's first utterance is an expletive followed by an emoticon aiming to depict his affective state. The conversation refers to an online meeting, and reveals that Jones's anger is generated by a technological problem. In line (3), Kaithlin's *LOL* (laughing out loud) and lack of sympathy suggests that she did not consider Jones's irritation in line (1) to be a depiction of real feelings but, rather, as a signal of annoyance in response to the technical hitch. This use of emoticons provides evidence that although there is a strong link between real-life emotions and emoticons, the actual inscription process is always conscious and voluntary, meaning that emoticons function as contextualisation cues to indicate emotional states and NOT as representations of actual emotions. However, whether or not representing real feelings and emotions, the written representation of affective state is very important in the virtual workplace, as hypothesised in RQ (g), because – as previous research indicates

– the revelation of emotions and their spread within the group has a direct effect on cooperation, conflict and task performance (Barsade, 2002, p. 668).

Discursive function. This function is what Dresner and Herring (2010) call the signalling of illocution or in other words – in IS terms – contextualisation of how messages should be interpreted. This use is similar to the one described of textual laughter (section 5.1.1.2) in that it is produced by the current speaker to signal the ‘tone’ of the message.

Excerpt 57 (Conversation 231)

1. Andrew | 04:28 pm | I already finished today morning...I'm just waiting for your's and Cailey's files.
2. Kristie | 04:29 pm | o... sorry sorry. I feel better knowing Cailey have not completed:-P
3. Andrew | 04:29 pm | hahahaha....no problem, I have come ready today for a long long night.

In Excerpt 57, the two equal members of the team discuss an approaching deadline for which Andrew is responsible. They mention a third colleague, Cailey, who is higher up in the hierarchy and who has not yet submitted her part of the work. In line (2), Kristie apologises and uses a range of linguistic devices to communicate the intensity of her apology: an eye-dialect related to sound to introduce her apology, an ellipsis mark and the pragmatic marker *sorry* repeated twice. She then adds a comment followed by a ‘tongue-in-cheek’ emoticon to signal the teasing tone in which the message should be interpreted. This strategy enables the conversation to take a light-hearted diversion in spite of the seriousness of the topic, thus contributing to the maintenance of the friendly, collegial atmosphere in the virtual team. Additionally, from a relational work and politeness perspective, the jocular abuse can also be considered to be an acceptable strategy for team members to contest power (Holmes, 2000, p.178), as we see in Kristie’s comment about her superior, Cailey.

Emoticons in discursive functions are not limited to signalling humorous, ironic or sarcastic intent. Below, the ‘sad’ face denotes sympathy.

Excerpt 58 (Conversation 1095)

1. Sue | 14:10 | also hope u don't mind that I sent u the exceptional expense form earlier in the week - i'm on vacation thur - tues however will check in a few times while away
2. Kaithlin | 14:10 | sorry
3. Kaithlin | 14:10 | have been ill
4. Kaithlin | 14:10 | but will look at it this week
5. Sue | 14:10 | no worries i know u have :(
6. Kaithlin | 14:11 | will try to get a final version out tomorrow

In Excerpt 58, Sue and Kaithlin, who are both on the same level of the organisational hierarchy, are engaged in transactional discussion when they divert to a relational episode about Kaithlin's wellbeing. In the interaction she reveals that she was not able to look at a form earlier due to her illness. In line (5) Sue reassures her using a formulaic *no worries* as well as a 'sad' emoticon, to signal her sympathy and understanding. This usage shows a display of care for another team member's feelings, which is of paramount importance in virtual work, particularly if viewed through a CofP lense, because it contributes to the creation and maintenance of solidarity and trust, the lack of which has a significantly negative effect on the cooperation of teams (Crossman & Lee-Kelley, 2004).

Linguistic function. Provine et al. (2007) examine emoticons positioned at grammatically significant locations and conclude that emoticons have a punctuating effect. This realisation partly coincides with my findings regarding emoticons being used as marks for closing conversations (Darics, 2010b). However, this particular function is never utilised alone and although the positioning of the emoticon might aid interactants during the processing of syntactic structures, the choice of emoticon will nonetheless contextualise the message, as in Excerpt 59.

Excerpt 59 (Conversation 27)

1. Andrew | 02:14 pm | Can I call you now? We could then wrap up sooner :-) and you can go home.

2. Fabiana | 02:15 pm | thanks :-) but rushgin some stuff
3. Fabiana | 02:15 pm | 5pm,can?
4. Andrew | 02:15 pm | okay :-)
5. Fabiana | 02:16 pm | thanks :-)

The above extract exemplifies mid-turn and end-turn usage of emoticons. Lines (1) and (2) are particularly useful illustrative samples as the emoticons are placed at the internal juncture of a complex sentence. In lines (4) and (5), the utterances are also finished off using emoticons, thus indicating the terminal juncture of the utterances. It is possible to argue that these emoticons function as markers of syntactic structures. However, on a relational level, they also accomplish important work. The first occurrence in line (1) adds an emotional level to the content, indicating the affective stance of Andrew about the content. The second occurrence (2) could also be interpreted as an expression of emotion but also of acknowledgement of the friendly intent communicated by Andrew in line (1). Lines (4) and (5) further exemplify the acknowledgement of supportive communication that has taken place between the participants. This excerpt proves that it is not always possible to isolate the various functions of non-verbal cues because – as Holmes notes – as with other parts of verbal messages these cues also function in a multi-layered way (2000, p. 166).

Semantic function. The semantic function refers to the use of emoticons when they either further strengthen the verbal part of a message or convey information on their own, as in the excerpt below.

Excerpt 60 (Conversation 779)

1. Kaithlin | 10:29 | did you get my triage report yesterday
2. Elizabeth | 10:30 | how are you today? O:-) or }:-) ?
3. Elizabeth | 10:30 | i did, not opened yet
4. Kaithlin | 10:30 | O:-)
5. Elizabeth | 10:31 | cooooooool

In Excerpt 60, Elizabeth is uses an ‘angel’ and a ‘devil’ emoticon to enquire about Kaithlin’s wellbeing. She does not elaborate on the meaning of any of these

emoticons but the preceding question and her listed options provide a good base for the interpretation of the meaning of these signs. The decoding of Elizabeth's message is clearly done correctly by Kaithlin, who selects one of the emoticons as a lone-standing reply (4), a 'naked emoticon' (Provine et al., 2007). Kaithlin's response generates a positive acknowledgement from Elizabeth, further contextualised by the multiplication of vowels (section 5.1.2.2). The usage of these emoticons introduces a level of creativity and playfulness (cf. Danet et al., 1997), thus contributing to the creation of a light-hearted and informal communicative environment.

In the dataset, the semantic function was frequently associated with non-conventional or less frequent emoticons, such as :-!, :-S, :'-(as in the extract below.

Excerpt 61 (Conversation 773)

1. Kaithlin | 11:18 | You are remaining my supervisor and coach right?
2. Kaithlin | 11:18 | yes
3. Elizabeth | 11:19 | only if you want me to :>
4. Kaithlin | 11:19 | please can you
5. Kaithlin | 11:19 | I don't want to lose you
6. Kaithlin | 11:19 | :-S
7. Kaithlin | 11:19 | it would :'-S
8. Elizabeth | 11:19 | the only person in this kind of thing who's not reporting to me is Andrew
9. Kaithlin | 11:19 | I would :'-S

When interactants use rarer emoticons, the chance that the addressee will not decode the meaning in the intended way is higher because the speaker cannot be sure whether his or her partner actually knows the emoticon. This level of arbitrariness has already been identified as a source of communication problems (Azuma & Ebner, 2008, p. 976) in previous research, and the discourse strategies used by the interactants in the dataset further support this view. In the extract above, Kaithlin uses a "crying" emoticon in order to further emphasise her sadness over the possibility of losing Elizabeth as her supervisor (7). It is not clear whether she makes a typing mistake in line (7) or finds the message ambiguous, but nonetheless she decides to repeat it in a corrected form in line (9), this time using the emoticon as a verb that refers to the

pronoun *I*. Above, I have pointed out that, by using creative emoticons, team members create an informal communicative environment. The usage illustrated in Excerpt 61 is a means of communicating emotions without the need to use direct emotion verbs (cf. Harris & Paradice, 2007) and provides proof that the traditional view on emoticons, namely that they only convey emotional information, does not always stand.

Interactional management function. As backchannel signals or acknowledgement tokens, emoticons function very similarly to textual representations of laughter (as in section 5.1.1.2) and, as with turn-constructing non-conventional spelling (section 5.2.1.2), to signal uptake of the humorous intent of preceding messages but also as a way to signal listenership without the need for a more evasive interruption.

Excerpt 62 (Conversation 1170)

1. Zita || have you seen the triage? what else should i add dear?
2. Dorothy || that should be fine
3. Dorothy || Elizabeth offered to polish
4. Zita || ok, great
5. Dorothy || I took that offer :-)
6. Zita || :)
7. Dorothy || we just should really try to get more input from instructor

The above extract is from a primarily task-oriented conversation between a regional lead and a specialist. They are discussing a work-related issue in a light-hearted tone. Zita, who is in a lower rank of the organisational hierarchy, is enquiring about further steps in the work process in line (1). She then uses acknowledging pragmatic markers to respond to Dorothy's answer (2) and commentary (3). In line (5), Dorothy further elaborates upon her own answer, this time using a smiley emoticon to signal her subjective stance, emotional state or the humorous intention of her verbal message. Zita uses a 'naked' emoticon in line (6) as a way to signal her uptake of the humorous intent and acknowledge the previous messages. This smile is clearly not related to any of Zita's previous messages and so is turn-constructing in its own right,

functioning as a friendly, supportive smile or nod would in face-to-face interactions. This function of emoticons as backchannel signals or acknowledgement tokens shows that written non-verbal signals do inscribe visual cues into writing as means of representing facial expressions.

Social-pragmatic function. Emoticons have long been identified as tools to mitigate face threats (Mey, 2001; Thompsen & Foulger, 1996). The present dataset has also produced numerous instances when emoticons were used to perform politeness functions, for example as mitigations of directive intent, as in Excerpt 63.

Excerpt 63 (Conversation 240)

1. Andrew | 03:44 pm | I'm on a semi-leave tomorrow and will be working out of home...call me on my cell if you need anything :)
2. Kristie | 03:47 pm | Thanks. I hope you had caught up with your rest well.
3. Andrew | 03:47 pm | I haven't, but I hope to do so tomorrow.
4. Kristie | 03:50 pm | Must :) OK?
5. Andrew | 03:50 pm | yes ma'am
6. Kristie | 03:50 pm | haha

In this extract, both interactants are on the same level of the organisational hierarchy. They are engaged in a relational episode during the closing sequence of their conversation. Kristie, in line (2), expresses her concern about Andrew using the deontic modality marker *hope*. When Andrew responds to her wish using the same level of modality in line (3), Kristie uses the modal verb *must* to express a stronger directive aspect. However, using directives between equals requires the consideration of politeness (Holmes & Stubbe, 2003, p.40), as we can see in the example, even in cases when the directive is on the borderline of friendly teasing. Kristie uses a smiley emoticon following the word *must* to signal humorous intent but also to mitigate the authoritative force of the modal verb. The proof for the existence of the overlaying commanding effect is in Andrew's response (5), when he addresses Kristie as *ma'am*, signalling a hypothetical authoritative power. The episode and the interaction are both

finished by Kristie's textual laughter in line (6), confirming the humorous nature of the interaction. The findings about the use of emoticons as mitigation devices confirm the findings of an earlier study detailing their significance in relational work in virtual teams (Darics, 2010b). This proves that non-verbal signalling is an important resource for the enactment of relational work and linguistic politeness, as hypothesised in RQ (f).

CHAPTER 6

DISCUSSION

6.1 Summary of findings

In the introductory chapters of this thesis I established that my main goal was to shed (new) light on the non-verbal cues used in text-based, computer-mediated interactions particularly through exploration of their functions in the highly complex communicative environment of a virtual workplace. My aim was, firstly, to establish the range of cues used for signalling non-verbal information in IM, with special focus on how paralanguage originating in other spoken or written genres is utilised in this new communicative environment. Secondly, by drawing on a multi-perspectival framework that accounts for various aspects of context, the team and its membership, as well as the relationship between interactants, explore the work that written non-verbal cues accomplish during contextualisation of message content and intent, during relational work and during the creation of interactional coherence in IM. In order to achieve my goals, in the previous chapter I conducted close, interpretive linguistic analyses of naturally occurring conversations collected in a virtual work environment. In the following sections I sum up the findings of this analysis. In section 6.2 I then offer a discussion of how these findings relate to the research questions from Chapters 2 and 3, as well as the specific questions addressing various aspects of interactional practices in a virtual team, as outlined in Chapter 4.

6.1.1 Eye dialect related to sounds

The analysis in section 5.1.1 provided evidence that team members communicating via IM utilise a wide range of non-verbal signals adopted from the paralanguage used in spoken interactions. The CA-informed, close linguistic examination of the data excerpts containing examples of *eye dialect related to sounds* demonstrated that non-verbal auditory cues – similarly to their spoken counterparts – accomplish a wide range of functions during workplace interactions. Based on the review of research into non-verbal auditory cues in speech, I established that interjections, laughter and other non-lexical tokens in spoken discourse are often spontaneous and immediate responses during conversations and highly context-dependent, and that their interpretation relies heavily on the intonation of the tokens and other non-verbal signs (Norrick, 2009). The findings from the analysis of the data excerpts proved that users of IM employ *eye dialect related to sounds* consciously in every instance, using creative spelling techniques in an attempt to capture a hypothesised vocal intonation or prosody (see for example Riordan & Kreuz, 2010, p. 1816), drawing on interactants' previous experiences of the written forms of these tokens often represented in other written genres (see for example Walpole, 1974). The comparison of non-lexical tokens in CMD with their spoken counterparts was therefore not always self-evident, but the analysis proved that they are *on par* with their spoken counterparts in terms of importance as pragmatic markers and contextualisation cues. These functions are discussed in more detail below.

In section 5.1.1.1, I addressed five types of non-lexical token that have previously been addressed in research into spoken interactions: *hm/mm*; *oh/uh/ah*; *uh/eh?*; *err/erm* and *yep/yeah/yup/yip*. These tokens have been described in research into spoken interactions as tokens to primarily signal communicative cooperation through backchannelling, acknowledgement or indication of 'change-of-state' (Heritage, 1998). The data analysis, however, revealed that although these cues do accomplish important work during the signalling of communicative cooperation, they play an equally important role in the enactment of relational work and as contextualisation cues of the intended meaning both on the level of content and of relational intent.

In terms of interaction management, the written variants of non-lexical tokens have been identified as accomplishing a similar role to their spoken counterparts: *hm* was used as an acknowledgement (Excerpt 1), *ah* as a change-of-state token (Excerpt 8) and variations of *yeah* as backchannel signals (Excerpt 15). Regarding this latter occurrence, I have pointed out that due to the technicalities of IM, parallel backchannel signalling is not possible in IM, but also demonstrated through analyses of data samples that interactants still use tokens to provide backchannel signalling even if they risk interrupting the current speaker (as in Excerpt 15). This usage provides evidence of the importance of signalling attention in the virtual realm because, as has been discussed in detail in section 3.2.4.1, due to the lack of physical contact participants often face difficulties in gauging whether their conversational partner is present or whether he or she is devoting his or her full attention to the conversation.

In terms of the interactional roles of non-lexical tokens, the interpretative analyses provided evidence that several of the cues were used systematically to enact relational work, particularly during the course of the subtle and careful negotiation of communicative intent in unequal encounters. *Mm/hm*, for instance, was identified as functioning as a device used by a subordinate to indicate attention without forcefully claiming the floor (Excerpt 1), or generally used by both parties as a non-obtrusive indication of speakership-incipiency (for example in Excerpt 2). Other tokens, for instance *oh*, were used to signal uptake before moving on to the next topic, thus allowing the supervisor to avoid being seen as too direct in their topic changes (Excerpt 8). I also found that people higher up in the organisational hierarchy requested clarifications (*eh?*, as in Excerpt 12) or gave affirmative responses (*yeah*) using *eye dialect related to sound* (Excerpt 17): these strategies enabled mitigation of the force of face threats or attenuation of imposition created by power differences between interactants.

In section 5.1.1.2, I addressed interjections, laughter and comic-strip sounds, and showed that they also fulfil a wide range of interactional roles in IM conversations, including interaction management, contextualisation and relational work. Based on their emphasised emotional nature in speech (as pointed out by Fraser, 1990, p. 391) analyses confirmed that interjections, laughter and comic-strip sounds have a prominent role in the inscription of feelings and affective involvement in text-based conversations.

In particular, through their function as ‘performances’, interjections, laughter and comic-strip sounds provide insights into feelings, emotions and the mental states of interactants, thus contributing to the written signalling of socio-emotional content.

The findings regarding the use of the two syllable version of textual laughter as opposed to the elongated version (Excerpt 21 and 22) or the use of *huh?* in Excerpt 20 provided evidence that interactants have an awareness of the various interactional functions of their chosen variants of non-verbal devices. This indicates that non-verbal cues are intentionally used by interactants for the achievement of their communicative goals.

To sum up, section 5.1.1.1 demonstrated that tokens depicting *eye dialect related to sounds* fulfil a role of great importance during the course of text-based conversations, and it is clear that they need to have their rightful place in systems describing computer-mediated discourse (for example Herring, in press). However, to illustrate and discuss their – often overlapping – functionalities they always have to be viewed and interpreted within the closer and wider contexts of their use (compare with Kalman & Gergle, 2010).

6.1.2 Eye dialect related to words

In section 5.1.2, I gave an account of the creative writing techniques used for altering the spelling of conventional words with the aim of capturing auditory information: I firstly identified instances of the typographic manipulation of writing to create non-standard capitalisation and, secondly, examined orthographic manipulation of writing to create non-standard spelling. The conducted research and the quoted samples have illustrated how these eye dialect cues facilitate the conveyance of complex and often subtle transactional and relational goals in the virtual workplace.

Analysis of the use of capital letters in particular has shed light on the complex ways in which transactional goals are negotiated alongside relational goals. I have identified that the use of capital letters, for instance, can add emphasis to content and contextualise messages as unmitigated, overtly direct requests (Excerpt 26). The analysis showed that this strategy was used as a means of negotiating power relations in

that the overtly direct capitalised form reinforced the superior hierarchical position of the conversational partner. At the same time, however, the message written entirely in capital letters was shown to convey heightened affective involvement, thus contributing to the relational work invested in the interaction in order to maintain a familiar and equal working relationship (Excerpt 27). In addition to their function to add emphasis and express affective involvement, I demonstrated that using capital letters achieves important functions during the course of interaction management. The CA analysis of the non-verbal technique employed as a way to clarify or request clarification demonstrated the process that IM – similarly to speech – is shaped or affected by the ongoing talk, and provided evidence for the role of capitalisation during the interactional accomplishment of conversational goals (cf. Schegloff, 1982, p. 73). Finally, through demonstration of the capitalised use of conjunctions, I have shown how this strategy provides visual links between clauses or consequent sentences, thus contributing to the creation of interactional coherence within IM.

The second part of the analysis focussed on non-standard spelling – in particular the repetition of letters. I have shown that the previous approach to the description of letter repetitions based on pronunciation is not appropriate in all cases, and proposed a theory that describes letter repetitions based on their paralinguistic nature and functions, and not their relationship to spoken discourse. I have shown that, as with the previously discussed non-verbal cues, letter repetition is also a way for IM users to display affect and involvement, thus contextualising the message for the addressee. I have also found that, in some cases, letter repetition is a display of relaxed grammar, a sign of informality which has been found to lessen the force imposed by the authority of the ‘boss’. This strategy conveys an atmosphere of intimacy (Nardi et al., 2000, p. 81) and consequently contributes to the creation of an efficient working environment. The eye dialect’s contribution to the creation of “nearness or intimacy between the communicators” (Androutsopoulos, 2000, p. 515) can also be attributed to the fact that letter repetitions evoke auditory information by drawing on a hypothesised sound effect (see Darics, 2010b), thus allowing the interaction to be removed from the “virtualness”. Based on the analyses and the summary above, it is arguable that both strategies of *eye dialect related to words* contribute significantly to the construction of a cooperative environment and informal and close working relationships, consequently also

contributing to the effective cooperation of the team. In addition, they function as cues to aid the encoding and decoding of relational and transactional messages, thus contextualising the messages and contributing to the effective communication of a virtual team.

6.1.3 Typographic cues

Although his paper on typography focuses on the function of typography in relation to the discursive creation of identity, Androutsopoulos's claim is relevant to typographic non-verbal cues in IM: Androutsopoulos argues that typography is a situated code choice, which is always part of a specific genre (here, IM in the workplace) in a specific communicative situation (2004, p. 381). This statement implies that typographic cues function as contextualisation cues, in that they do not have a referential or fixed meaning and can only be interpreted in relation to the wider (cultural as well as situational) and closer context of their use (see also Auer, 1992). In section 5.2, I examined how typographic cues contribute to the contextualisation of text-based interactions: firstly examining punctuation and various keyboard symbols, and, secondly, emoticons. The close analyses – as with the section on orthography – proved that typography is involved in a wide range of interactional tasks as a resource for communicating non-verbal information and emotions.

In the first section, I addressed punctuation and found that Chafe's claim about authors of written genres using punctuation as a resource to enhance the effectiveness of their writing (1988, p. 397) also holds for the computer-mediated environment. Firstly, as with the findings of section 5.1, the signalling of affective involvement has been found to be a function of high importance: both repeated punctuation marks (for example Excerpt 39), symbol swearing (Excerpt 54) and emoticons (for example Excerpt 55) were found to betoken (the intensity of) emotions. The findings have shown that the range of emotions represented by typographic non-verbal signalling is wide, thus disproving previous scholarship that claims that non-conventional punctuation is strategically used to communicate positive emotions (for example, Hancock et al., 2007).

On a discourse level, typographic cues were identified to clarify content, for example by marking emphasis (repeated punctuation and asterisks in Excerpts 40 and 51), or by punctuating messages and signalling syntactic structures (ellipsis marks and emoticons in Excerpts 46 and 59). Analysis of the excerpts of conversational data has also shown that exaggerated punctuation is used strategically by interactants to contextualise their messages (for example Excerpt 42), by indicating the level of importance of content. Several of the discussed cues also contributed towards the creation of interactional coherence: both repeated punctuation (for example Excerpt 43) and emoticons (Excerpt 62) were found to be used for a backchannelling and acknowledgement function, inscribing the equivalent of facial displays and gestures into the written text: a combination of exclamation marks and question marks were used to betoken a puzzled look (Excerpt 41), or a 'naked' emoticon not related to a preceding verbal message by the same speaker represented an encouraging smile. Ellipsis marks were also found to contribute to coherence at a textual level, when they were used end-turn to signal that a continuation was to be expected (Excerpt 46).

From a relational perspective, typographic cues have also been found to contribute towards the enactment of relational work and linguistic politeness: the analysis of ellipsis marks in IM showed that 'hesitation' works as a mitigation, either of directive intent, refusal or the face-threat created by the prospect of a topic change. Similarly, emoticons were found to accomplish interactional work as hedging devices in Excerpt 63.

The analyses in section 5.2.2 proved that emoticons can accomplish interactional work on 5 levels of communication: they can function as markers of affect and emotion; for disambiguation – contextualising message interpretation; on a linguistic level as punctuation; as individual messages with their own semantic meanings; as acknowledgement tokens and as hedging devices. Humour and humorous intent have also been recurring themes in this section, particularly during the discussion of emoticons. This is not surprising, since the vast majority of the identified emoticons were smiley emoticons denoting positive emotions. It was proven that the use of smiley and creative emoticons contributes to the (re)creation of a light-hearted and informative interactional scene (cf. Nardi et al., 2000, p.81), with subtle humour used for both

‘doing power’ and subverting the power structure, or expressing disagreement (cf. Holmes, 2000).

As with the orthographic cues discussed in the previous section, typographic cues were found to be highly context-dependent, able to be interpreted in multiple ways. However, as the analyses showed, if they are interpreted in the intended way, they contribute significantly to the communication of the complex communicative goals typical of the virtual realm.

6.2 Discussion of findings

6.2.1 Non-verbal cues are multi-layered and context-dependent

The previous summary confirmed that people using IM employ a wide range of written devices and techniques in order to communicate non-verbal information, as in spoken interactions. Examination of the language data proved that the discussed cues operate in multi-layered and multi-dimensional ways, on a wide scale of interactional, relational and pragmatic levels. I have proved that the same cues can accomplish various functions, and that the same functions can be performed through heterogeneous or combined devices. These findings show that the discussed non-verbal cues are multi-modal, highly diverse, context-dependent and ubiquitous (also stated by Kalman & Gergle, 2010). I argue that in this sense they are identical to the contextualisation cues previously identified in spoken interactions, in that they do not have distinguishable referential meanings, but rather a ‘signalling value’ dependent on the discourse context and on the previous experiences of the listener (Gumperz, 1982, p. 104). Based on these findings, therefore, we can conclude that the information conveyed by paralinguistic cues is dependent on the context in which they occur and that the discussed cues are inseparable from the verbal content of the message. Contextualisation cues in spoken interactions as well as in CMD do not thus function as isolated signs, but co-occur with and are mapped onto or paradigmatically tied to,

lexical signs (as in Gumperz, 1992). The most important implication of this realisation is that the devices discussed above cannot be treated in a way so that the same cues accomplish invariably the same function (compare with Atkinson and Heritage 1984, p. 298) in every communicative situation: it is not valid to claim that there are generalised paralinguistic codes (as in Lea & Spears, 1992, p. 324; Thurlow, 2001) to express emotions and meaning, but rather they have to be viewed as context-bound manifestations (compare with Riordan & Kreuz, 2010, p. 1817). However, it is also important to reiterate that the reliance of contextualisation cues on verbal messages is by no means one-sided: in Gumperz's words, contextualisation cues "carry some of the weight of selecting among a variety of possible interpretations by directing the listener among shades of meaning inherent in the semantic range of the words used" (1982, p. 100). The previous chapter provided evidence of just how important contextualisation cues are in the enactment of relational work, the disambiguation of message content and the management of interactional coherence. To demonstrate this importance, I below re-visit the main research questions that resulted from the identification of gaps in CMD research as well as business communication research into the paralanguage of IM, and the specific questions articulated as a result of the theoretical grounding in Chapter 4, to introduce the specific communicative functions.

6.2.2. Writing strategies and devices functioning as non-verbal cues

In RQ1 I asked:

1. *In naturally occurring, text-based workplace interactions do interactants employ cues designed to communicate the non-verbal information that is traditionally used in spoken interactions? If so, what forms do these cues take? What range of functions do they fulfil?*

The summary of findings in the previous section provided unequivocal proof that interactants do employ a wide range of creative writing strategies and devices that

function as non-verbal cues in spoken interactions. As regards the forms these cues take, the present analysis focussed on the cues identified by previous research, as outlined in the CMC cue framework in section 4.2.2, and identified 3 main types of devices functioning as non-verbal devices.

Linguistic or other signs functioning as paralinguistic devices in their own right. This group of paralinguistic cues consists of non-lexical tokens, interjections and comic-strip sounds, as well as emoticons. As regards the first set of cues, labelled as *eye dialect related to sounds* in the analysis, I have shown in Chapter 2, the literature review, that although previous research has acknowledged the existence and usage of these devices in text-based CMC (labelled as “vocal segregates” by Carey, 1980, p. 67; identified as “backchannel signals” by Cherny, 1999, p. 182; and analysed as a “conventional eye dialects related to sound” by Haas et al., 2011, p. 387), their treatment was not methodical, and previous research did not take into consideration findings of research into the same cues in spoken interactions. The CA-informed approach taken in this thesis, and the consideration given to the findings of research into non-lexical tokens and interjections in spoken interactions enabled me to provide a comprehensive account of the cues representing *eye dialect related to sounds* as well as their range of functions during the course of interactions.

The other type of cue that has been found to function as a non-verbal device in its own right is the emoticon. In section 5.2.2, the review of literature showed that emoticons have been extensively researched, but several questions regarding their use – for instance their relationship to facial expression – remain unanswered in literature (see Dresner & Herring, 2010, p. 263). The CA approach taken in section 5.2.2, drawing on the findings of research into facial expressions in spoken interactions, have shown the complex functions emoticons can accomplish on an interactional, relational and pragmatic level. The significance of this approach, as well as the approach to *eye dialect related to sounds*, is the reliance on previous research into paralinguistic cues in spoken interactions, which allowed for a comprehensive description of the various types of cue present in IM interactions and identification of their functions during the interactions.

The modification of previously existing linguistic signs. In section 2.2.1, I pointed out that creative writing techniques – in particular strategies that deviate from the normalised forms of language – have been the subject of academic exploration from the early stages of CMC research (Carey, 1980; Danet, 1997; Lea & Spears, 1992) and remain key features when the ‘typical language’ of CMD is addressed (Thurlow, 2001; Haas et al., 2011, Riordan & Kreuz, 2011; Herring, in press). In the previous chapter, I specifically addressed the use of capital letters and unconventional spelling (labelled as *eye dialect related to words*, section 5.1.2) and unconventional punctuation (section 5.2.1.2) functioning as non-verbal cues during interactions. In section 5.1.2.2, I pointed out that the exploration of non-conventional spelling, for instance in previous scholarship, was predominantly based on hypothesised pronunciation of altered words, but the analysed extracts (Excerpts 33-37) proved that deviant spelling in itself functions as a cue, irrespective of the prosody it evokes. This finding buttresses the argument of Haas et al., who argue that, although the multiplication of letters could be an attempt to evoke the sound features of words, it does *not* represent speech written down because the representation of oral features is not consistent (2011, p. 394).

The existence or lack of existence of cues. The third group of linguistic strategies and devices functioning as non-verbal cues only becomes evident if a sample of language employing non-verbal cues is contrasted with language that does not, or a sample of language not employing them is contrasted with language that does. This means that, in some cases, the use of certain devices has signalling value, as I have shown in the analysis of Excerpt 38. Here, the analysis showed that, during a highly task-related interaction, participants made great efforts to punctuate their messages in a conventional manner, as a part of their repertoire of linguistic and discursive devices used in order to disambiguate the meanings of their utterances. The findings resulting from the analysis proved Kalman and Gergle’s point that, in CMC cue research, it is important to consider all variations – not only those that deviate from the norm (2010).

The *lack* of strategies has also been found to carry a signalling effect in previous CMD scholarship (for example Peuronen, 2011, p. 165), and the use or non-use of capitalisation in the preceding analysis was a good example of this. Traditionally,

capital letters to begin sentences or used for proper names have been found to be rare in IM (Haas et al., 2011, p. 386; Nardi et al., 2000, p.81), particularly because changing between cases might slow conversations down (Greenfield & Subrahmanyam, 2003, p. 728). My dataset revealed that although the usage of capital letters in their traditional roles is incidental, contrastive usage might serve as a contextualisation of emphasis (Excerpt 29) allowing interactants to orient themselves during interpretation of messages.

6.2.3 The interactional functions of paralanguage

The review of literature about computer-mediated discourse in Chapter 2, and the review of business communication literature about communication in virtual teams in Chapter 3, resulted in the articulation of research questions addressing the specific functions of non-verbal cues during interactions. These questions were as follows:

2. *Is there evidence that these cues contribute to the achievement of the communicative goals of the participants, to impression formation, and to the creation of coherence?*
3. *How are non-verbal linguistic devices and strategies 'translated' from face-to-face interactions or previous written genres utilised in the workplace IM environment? What non-verbal cues (if any) do virtual team members use to contextualise their messages and communicate their relational and transactional communicative goals?*

In order to provide comprehensive answers to the questions above, I now discuss the findings of the analysis relating to the specific research questions set out as a result of the theoretical grounding in Chapter 4.

6.2.3.1 Contextualisation of transactional goals

- (a) Are written non-verbal cues used as contextualisation cues in IM interactions?

(b) If so, how do they contribute to the contextualisation of the transactional and relational goals of team members?

Questions (a) and (b) address the work accomplished by non-verbal cues as devices to contextualise the various communicative goals of interactants. It is clear from sections 6.1 and 6.2.1 that written non-verbal cues contribute to the contextualisation of messages on multiple levels: both as signals of relational intent and as cues to disambiguate message content. As several of the research questions set out below focus on the work non-verbal cues enact during the communication of relational intent, in this section I focus on the discussion of the functions of non-verbal cues during communication of transactional goals.

The analysis of the data in Chapter 5 has shown that non-verbal strategies are closely connected to the accomplishment of work tasks and to the communication of transactional goals in the virtual workplace, and function on two levels: interactional and textual. Cues to accomplish interactional work signal, for instance, cognitive involvement (such as non-lexical tokens and ellipsis marks). The importance of this usage lies in the paralinguistic signalling of the thinking process or that the speaker is dealing with the task. On a broader level, this strategy functions to signal cooperation. As I have pointed out in the literature review in section 3.1, indication of cooperation is particularly important in the virtual team as collaboration between team members does not occur in the same physical environment, and participants cannot make contextual presuppositions about delays or gaps. Also, when reviewing the current state of literature on the communicative effects of multitasking while using IM (as outlined in section 3.2.4.1), I posed a question about the roles of non-verbal devices in the coordination of timing and in the signalling of anticipated delays. The analysis in Chapter 6 provided evidence that paralinguistic cues (such as non-lexical tokens, for example *hm/err/erm*, ellipsis marks and parentheses) are in fact purposefully used for this function, to signal that work processes are ongoing and communicative channels are open.

The second group of signals that participates in the achievement of primarily transactional goals works on the textual level, as tokens to clarify or disambiguate meaning. Capital letters, repeated punctuation and other keyboard symbols such as

asterisks have been found to function as markers of disambiguation or emphasis. In the literature review I pointed out that the computer-mediated work environment is particularly prone to miscommunication (cf. Cornelius & Boos, 2003), so strategies to avoid miscommunication become of extreme importance both in terms of content and at an interpersonal level. Clearly, in the workplace setting, miscommunication in either of these situations is unacceptable, as both can have a negative and costly impact on the efficiency of the group. The findings from the analysis of excerpts in section 5.1.2.1 on the usage of capital letters, section 5.2.1.1 and Excerpt 42 on non-conventional punctuation and the use of asterisks in section 5.2.1.3 provided evidence that interactants strategically use paralinguistic devices to aid the disambiguation and contextualisation of meaning. The CA-informed analytical approach also disclosed that these paralinguistic cues were successfully de-coded by addressees and that they thus contributed to the achievement of the communicative goals of the speakers, without the need for “extensive verbalization or time-consuming substitutes” (Thompson & Coovert, 2003, p. 136). This provides evidence that claims introduced in section 3.2.4 about “low quality” non-verbal substitutes (Thompson & Coovert, 2003, p. 136) or “costly verbal feedback” (Cornelius & Boos, 2003, p. 151) necessary for successful communication online do not stand firm.

6.2.3.2 The signalling of professional identities

The next set of research questions addresses the various functions of non-verbal cues in the interactional signalling of identities, in particular during negotiation of power differences in organisational hierarchies.

- (c) Do team members use non-verbal cues as a means of signalling their professional roles within the team?
- (d) Do non-verbal devices contribute to the negotiation of power relations, either as a means of enacting power or as means of mitigating the imposition created by power differences?

In section 2.4 and more specifically in section 4.1.1, I have shown that previous scholarship has identified language as an important tool for signalling and negotiating professional identities and power relations in the virtual work environment (see also Adkins & Brasher, 1995; Switzer 2008). I have also pointed out that *social constructivism*, and discursive approaches to identity negotiation in particular, address communicative practices that contribute to the signalling and negotiation of professional roles, such as leadership (in sections 2.4 and 4.1.1; for example Skovolt, 2008; Clifton, 2006). The findings of the analysis in Chapter 5 provide further evidence for this line of research, particularly regarding the importance of paralanguage during interactional signalling and negotiation of professional roles and power. I have found, for instance, that interactants in higher hierarchical positions systematically employ non-verbal cues to create an atmosphere of informality, and thus maintain the informal, friendly work relationships between themselves and their subordinates. In some cases, exemplified by uses of the spelling variant of *yeah* (Excerpt 17) or the non-conventional spelling in Excerpts 35 and 36, relaxed writing style functions as a way to attenuate impositions created by the higher positions of speakers. Other strategies, such as the combined cue sequences in Excerpt 10, were identified as strategies to communicate lack of confidence, and thus elicit sympathy from the person in the lower hierarchical position. Several non-verbal communicative practices were identified during negotiation of directive intent: the non-conventional spelling in Excerpt 37 was, for example, used to mitigate the face threat created by the imposition of the assigned task, and the ellipsis mark in Excerpt 47 was used strategically to communicate a directive in the form of a hint.

In terms of the signalling of lower organisational positions in an interaction, I have observed the use of acknowledgement tokens and emoticons as means of unobtrusive signalling of listenership (as in Excerpts 1, 16, 62). Emoticons were also found to be used to convey humorous intent in the dataset – a strategy that has been identified as an important means of negotiating power relations (see section 4.2.1, or Holmes, 2000). The findings about the functions of emoticons thus proved that humour – even if communicated through non-verbal means – is an equally important discursive strategy in text-based communicative encounters (see for instance the challenging of power in Excerpt 57 by means of a ‘tongue-in-cheek’ emoticon).

6.2.3.3 Conventionality and the negotiation of meaning

Questions (e) and (f) reflect on the issues raised in section 2.2.1 and address the conventionality of non-verbal cues.

- (e) Is there evidence that these paralinguistic devices are not conventional?
- (f) If so, how do people negotiate their meaning, and does this negotiation contribute to the creation of a shared repertoire, and consequently to the marking of team boundaries?

The preceding chapter confirmed the findings of previous research (see Nardi et al., 2000) that IM interactions share many of the characteristics of informal face-to-face communication, being opportunistic, brief, context-rich and dyadic. Several of the cues discussed in the previous chapter further emphasise this link: the usage of non-lexical tokens and interjections, which are traditionally spontaneous and immediate responses in spoken interactions, *eye dialect related to words* to inscribe prosody into written text, and non-lexical tokens, laughter and emoticons functioning as acknowledgement tokens and backchannel signalling. As well as these links to spoken discourse, the data revealed that IM adopts numerous techniques from written discourse. Firstly, the usage of eye dialects in literary writing or in the transcription of speech originates in the written tradition (as delineated in section 4.2.2) and reflects a long-established need for inscribing auditory information into writing (cf. Walpole, 1974). Secondly, both conventional and non-conventional punctuation, including ellipsis marks, parentheses and symbol swearing, have their origins in written genres. The analysis in Chapter 5 provided evidence that although these cues originate in previously existing communicative modes, non-verbal cues are not conventional. My claim is based on the fact that when interactants aim to inscribe prosody or pronunciation, they may choose between spelling variations (for instance the written representation of the *schwa* sound as *err* or *uh*), or they can choose to freely create spelling variations (see sections 5.1.1.1 and 5.1.2.2). The strongest evidence for the unconventional nature of paralinguistic

devices found in the dataset is the interactional negotiation of the meanings of cues in instances when shared understanding is not guaranteed. In Excerpts 18 and 19 I have demonstrated that the repetition of the device within close proximity of the first use was such a technique. Other examples, such as Excerpt 54, proved that interactants negotiate meaning and form through meta-discursive comments. Such comments and the interactional negotiation of meanings also proved that writing techniques aimed at capturing elements of spoken interactions, in particular prosody and gestures, fulfil an important function in the creation of a shared, linguistic repertoire (compare with section 4.1.2) and consequently common ground for communication (cf. section 3.1). This is because the auditory or visual cues the written strategies evoke are only hypothesised, and communicators have to rely on their background knowledge acquired through past communicative experience in spoken interactions to both produce and infer what was intended (Gumperz, 2005; see also Darics, 2010a). Through engagement in interactional negotiation of the meanings of non-verbal cues, members create a shared repertoire of communicative practices that consequently contributes to the internal identification of the group itself (compare with section 4.1.2).

6.2.3.4 Non-verbal cues enacting relational work

The final set of questions addresses the roles of non-verbal cues in relational work.

- (g) Do non-verbal cues play a role in text-based CMC during the enactment of relational work and politeness?
- (h) Is there evidence that paralanguage is used to express affect and emotional involvement as a means of enacting friendly, collegial relations?

In section 4.1.3 I have shown that the tension between the sometimes conflicting transactional goals of getting work done and the relational goal of maintaining a friendly relationship results in interactants displaying a range of linguistic strategies to demonstrate concern for the face of others (also in Stubbe et al.,

2003, p. 359). The analysis has shown that paralinguistic cues accomplish considerable interactional work as mitigating devices. I have identified non-lexical tokens functioning as a non-obtrusive indication of speakership-incipiency or as tokens to indicate less preferred responses or contradictions. The emphatic nature of using capital letters in words or phrases was found to act as a face threat – this usage can be associated with the traditional view of all capital letters, namely that using them betokens shouting and is thus impolite (Ooi, 2009, p.105). However, the analysis also revealed that the same paralinguistic cue can function as a marker of emphasis to display concern for the face needs of a conversation partner. Other cues, such as ellipsis marks and emoticons, have been identified as important tools for mitigating FTAs: in section 5.2.1.2 on ellipsis marks and in section 5.2.2 on emoticons I demonstrated the work they accomplish in attenuating directive intent, mitigating refusal and marking changes of topic.

The inscription of involvement – particularly affective or emotional – has been one of the most prominent functions re-appearing during the analysis: without exception all of the previously discussed tokens, the *eye dialect related to sounds and words*, as well as typographic cues, were used strategically in the dataset to betoken or capture emotions or feelings. The importance of this strategy is twofold: on the one hand, the emotive cues are signalling devices that evoke contextual presuppositions that affect message interpretation. I have shown this, for instance, in section 5.1.1.2, where textual laughter was used to indicate how the following message should be interpreted by the addressee. On the other hand, non-verbal cues are systematically used to disclose the emotional state of the speaker (without eliciting a response from the conversational partner). This usage is of particular importance if we consider that the level of disclosure of emotions in a work team increases or decreases with the psychological distance between the interactants (cf. Caffi, 1999, p. 883) and thus has a direct influence on cooperation and the effectiveness of business interactions (also pointed out by Koester, 2006, p. 52), and, consequently, contributes to the enhancement of team efficacy (as pointed out by Crossman & Lee-Kelley, 2004; Pauleen & Yoong, 2001). The emotional-affective expressiveness identified throughout the dataset indicates that theories which label text-based CMC as impoverished and ‘cues-filtered-out’ (for example Kraut et al., 1990; Rice & Love, 1987; Sproull & Kiesler, 1986) and which are

still heavily quoted in the business communication tradition, should be revisited and replaced by theories that account for the mounting evidence that CMC is being used extensively and effectively in contexts requiring subtle interpersonal and socially-oriented communication (for example Kalman & Gergle, 2010, also Rintel & Pittam, 1997, p. 511).

6.2.4 Interaction management and communicative cooperation

It has been long established that non-verbal communication, such as “nods, smiles, eye contact, distance, tone of voice and other non-verbal behaviours give speakers and listeners information they can use to regulate, modify and control communication” (Reid, 1991), and the lack of these cues in text-based CMC has already generated great interest (for a review see section 2.3.1). Previously, I have pointed out that the examination of strategies contributing to the creation of interactional coherence has been unbalanced and, in the thesis, I set out to explore how paralinguistic cues contribute to interaction management. My findings gave countenance to previous findings in that ellipsis marks (Berglund, 2009; Ong, 2011; Simpson, 2005) can take on the function of linking sequences to foster conversational coherence (see section 5.2.1.2). Also, as I have previously pointed out, ‘backchannel signals’ have been found to fulfil a similar function in previous studies, although their identification and description lacked academic rigour (Cherny, 1999; Herring, 1999). The conversational analytic approach in this thesis revealed that a much wider range of non-verbal cues contribute to interaction management, both on the level of achieving textual coherence and ensuring the establishment and maintenance of communicative contact. In spite of the inability to produce simultaneous parallel backchannels due to the technicality of the medium, several of the discussed non-lexical tokens accomplished the same work as their spoken counterparts: *hmm* functioned as an acknowledgement token, *oh* as a change-of-state response token and *erm* as a floor holding device. In section 5.1.2.,1 I described how capitalisation is used as a floor-holding device to reinforce the link between the previous and following message. Finally, my findings regarding emoticons used as punctuation and response tokens

provided a deeper insight into the contextualising nature of emoticons, contributing to the line of research that argues that emoticons are not merely used as expressions of emotions (Dresner & Herring, 2010; Provine et al., 2007). Based on the above findings it is thus clear that although text-based CMC genres are traditionally viewed as incoherent (Rintel & Pittam, 1997; Herring, 1999; Greenfield & Subrahmanyam, 2003), interactants have a wide range of devices and strategies at their disposal to communicate cooperative intent and create conversational coherence.

6.2.5 CMC Paralanguage in a new light

When discussing interjections, Ameka claimed that “they form a significant subset of those seemingly irrational devices that constitute the essence of communication” (Ameka, 1992, p. 102). Based on section 6.2, a similar observation can be made about paralinguistic cues in computer-mediated communication. In a sense, paralinguistic cues in CMC are “seemingly irrational” considering that they are re-created through orthographic and typographic means in a written environment and, although they are intended to evoke auditory and visual cues and through them the spontaneity or responsiveness of speech, they are always used voluntarily, reformulated creatively from and drawing on the experiences of speakers from previous communicative situations in spoken or written interactions. I have pointed out before that this creativity has long intrigued researchers (cf. Danet et al., 1997; Herring, 1999), and the labels used for the description of paralanguage, such as “esoteric marks” (Lea & Spears, 1992, p. 324) or “language play” (Peuronen, 2011) reflect CMDA’s heuristic approach to them. The arguments in this thesis have demonstrated, however, that although seemingly playful on the surface, the purposeful usage of paralanguage in CMC for contextualisation of the content and relational intent necessitates a more serious approach, which reflects the importance of paralanguage and its nature as an organic part of computer-mediated discourse. As with interjections, CMC cues should not be viewed as “accompaniment(s) to language or communication, but rather being a form of communication themselves” (Ameka, 1992, p.112). The general view on computer-mediated discourse should reflect the realisation that, in CMC, verbal and

non-verbal communication are inseparable and co-existent, just like verbal and non-verbal communication in speech. The findings of this thesis thus form part of the line of research that sets out to achieve this paradigmatic change (see also Kalman & Gergle, 2010).

Having seen the wide range of functions of non-verbal cues during text-based interpersonal interactions, it is not surprising that their importance has long intrigued researchers. The systematic examination and description of their usage presented in this thesis thus takes us closer to the understanding of their functions. This understanding is essential for anyone who uses Instant Messaging for communication because, as Reid has pointed out, “successful communication within IRC (internet real chat - an early version of IM - from ED) depends on the use of such conventions as verbalised action and the use of emoticons. Personal success in IRC therefore depends on user ability to manipulate these tools” (1991). This claim, along with further implications of the findings presented in this chapter are further explored in Chapter 7.

CHAPTER 7

CONCLUSIONS

In the previous chapter, I have shown how the findings of the research presented in the analysis in Chapter 5 addressed the questions posed in Chapters 2, 3 and 4. In this chapter, I present the conclusions that can be drawn with reference to these questions and summarise how the findings of this study relate to the issues and agendas of the broader field of computer-mediated discourse analysis and business discourse studies. In section 7.1, I provide a short summary of the research presented in this thesis. In section 7.2, I demonstrate the relevance of the findings presented here for both CMDA and business communication research and in section 7.3 I concede the limitations of the study and indicate areas for further research. Finally, in section 7.4, I conclude the thesis by demonstrating its relevance for business communication experts and practitioners when preparing professionals for IM encounters in the virtual work environment.

7.1 Summary of research

In Chapter 1, I introduced three aspects of communication in the virtual realm. Firstly, I introduced the world of virtual work and described the role of synchronous messaging in the overall communication ecology of the virtual workplace. I then gave an account of the concept of business discourse, highlighting the highly complex nature of workplace interactions. Finally, I discussed the unconventional nature of computer-mediated communication and the obstacles the new communicative technology creates during the communication process. Following a synthesis of these three aspects of communication, I demonstrated that by obtaining a deeper insight into the

communicative practices of the members of a virtual work team, we can obtain a better understanding of how team members achieve the complex communicative goals of a virtual work environment and can learn about the linguistic and paralinguistic strategies and devices that ensure the success of communication and, consequently, the efficiency of teams. In order to establish what the above mentioned communicative practices entail, in the chapters which followed I gave an account of the state of the scholarship of CMDA and business communication studies.

In Chapter 2, I explored how the changing focal theoretical concerns of the various stages of CMD research affected research into paralanguage in IM. I found that CMC research influenced by the homogenising descriptive tradition of the ‘first wave’ of scholarship acknowledged the importance of non-verbal signalling in writing but failed to explore the issues in a methodologically systematic way (Carey, 1980; Crystal, 2001; Cherny, 1999; Lea & Spears, 1992; Thompsen & Foulger, 1996). The review of the CMC research influenced by the technological determinism of the ‘second wave’ identified the importance of non-verbal signals as tools for interaction management and means of creation of interactional coherence, but the lack of a systematic and comprehensive descriptive method, yet again, was evident (cf. Berglund, 2009; Garcia & Jacobs, 1998; Herring, 1999; Ling & Baron, 2007; Markman, 2005; Simpson, 2005a). Finally, I explored how the ethnographically oriented focus of the ‘third wave’ of CMC research shifted the focus of scholarship to online discursive practices, particularly from the point of view of the role of these practices in the creation and negotiation of online communities and identities. I concluded that an insight into the use of non-verbal cues would provide useful information about the creation and negotiation of professional roles in the virtual work environment (based on, for example, Adkins & Brashers, 1995). The review of CMDA scholarship has also shown that exploration of the conventionality of non-verbal signalling (Dresner & Herring, 2010; Riordan & Kreuz, 2010) and the scale and nature of the linguistic data used for empirical studies (Baron, 2010; Herring 2007; Martins, Gilson, & Maynard, 2004) have been identified in recent research as in need of further exploration. Based on the areas I have identified as requiring further research, the questions that became imminent addressed the type and range of cues that are used for communication of non-verbal

information in writing, and the role of these cues in the achievement of the communicative goals of IM users.

As a means of linking the findings of the review of CMDA research to the context of the virtual workplace, in Chapter 3 I reviewed the literature on communication in the virtual work environment. The review has provided evidence that the lack of audio-visual non-verbal signalling has been found to have a major effect on the interaction of virtual teams (cf. Chesin et al. 2011; Cornelius & Boos, 2003; CW3 Cultural Wizards, 2010; Thompson & Coovert, 2003; Vroman & Kovacich, 2002). The introduction of the new communicative situations created by the use of IM technology at work – presence awareness, the persistence of transcript, multitasking and polychronic communication – raised important questions about the norms of language use in this new communicative environment, particularly regarding the role of paralanguage in these situations. I then reviewed what is known about linguistic and discursive practices used in the communication of virtual teams, and found that a high number of studies addressing these issues are based on theoretical considerations, interviews, experience reports and case studies, rather than empirical findings (Berry, 2011; Fagan & Desai, 2003; Lam & Mackiewicz, 2007; Nardi et al., 2000; Reinsch et al., 2008; Woerner et al., 2007). I have also criticised studies addressing paralanguage in the communication of virtual teams which lack methodological rigour and make subjective and negative assumptions (Byron 2008; Cornelius & Boos, 2003; Thompson & Coovert, 2003; Vroman & Kovacich, 2002), and concluded that a systematic description of non-verbal cues and an account of their interactional functions would enable me to challenge these assumptions. The areas the review of the scholarship identified as in need of further exploration led to the formulation of a set of modified research questions, specifically addressing the non-verbal cue system that is used during the IM interaction of virtual team members for the achievement of the complex communicative goals typical of the virtual work environment.

As a means of combining the theoretical approaches of the discourse-oriented CMDA scholarship and the communication-oriented business communication scholarship, I proposed a multi-perspectival theoretical and analytical framework. Drawing on interactional sociolinguistics, on the framework of communities of practice, on linguistic politeness and relational work, and applying the analytical

methodology of conversation analysis, the proposed multi-perspectival approach resulted in a set of analytical tools capable of accounting for the complexities of the CMC of a virtual team. Based on the general research questions resulting from the reviews in Chapters 2 and 3 and the specific questions constituting the multi-perspectival analytical framework addressing various aspects of paralanguage use in interpersonal interaction, I have established the need for a corpus of naturally occurring interactions. I have additionally pointed out that the need for research into naturally occurring CMC interactions in a work environment has also been articulated in previous scholarship (Baron, 2010; Bargiela-Chiappini et al., 2007, p. 178; Martins et al., 2004, p. 823). As a final stage in setting up my methodology, for the purpose of identifying paralanguage in IM, I proposed a CMC cue system based on the findings of previous CMDA scholarship.

In my analysis, I then conducted an occurrence search of the cues identified in the previously outlined CMC cue system and, following a close reading of the scripts which contained the identified non-verbal cues, I indicated the various uses and functionalities of these cues. In the second stage, 63 illustrative data samples were chosen and analysed, applying the methods of IS and CA in order to explore how non-verbal cues function in IM conversations in a business environment. The qualitative, interpretative method of CA enabled exploration of the meaning-making processes inherent in the conversations themselves and also enabled analysis of the interactional roles of non-verbal signalling within their close and wider contexts of use. The framework of IS provided the conceptual basis for the definition of the concept of *contextualisation* and allowed for the identification of contextualisation cues as well as for the description of the roles of cues in the interpretation of both transactional content and relational intent. The application of the CofP framework enabled me to find evidence about how non-verbal cues are used in the creation and negotiation of the roles of members and accounted for the socio-cultural implications of the negotiation of unconventional linguistic and discursive strategies, while the relational work (and politeness) framework enabled me to address questions about how non-verbal cues contribute to the signalling of polite, cooperative intent and explore the work they accomplish during the negotiation of power relations in the workplace and, finally, the

CA perspective enabled me to focus on the roles of non-verbal cues in interaction management and the creation of interactional coherence.

7.2 Summary of findings and academic implications

The main finding of the analysis has shown the significant roles of non-verbal signals in the conveyance of complex transactional and relational communicative goals of interactants. Based on the analysis of the presented data, I have shown that written non-verbal cues function as contextualisation cues in text-based CMC – as signals “directing the listener among shades of meaning inherent in the semantic range of the words used” (Gumperz, 1982, p. 100). The parallel I have drawn between contextualisation cues of spoken interactions and the paralinguistics of CMC resulted in a tenet that written non-verbal signals are context-bound and their signalling function depends on the close and wider contexts of their use. I have therefore contended that it is not meaningful to treat the paralinguistics of CMC as a list of isolated signs or as generalised paralinguistic codes (as in Lea & Spears, 1992, p. 324; Thurlow, 2001), but rather a system that is inseparable from and coexistent with the verbal parts of messages. The findings about the diversity, ubiquity, and discursive and pragmatic importance of contextualisation cues provided further evidence for the line of research that claims that paralinguistics is not something that is ‘added’ to IM messages. The summary of the devices and strategies that can function as paralinguistics provided clear evidence for this. The discussion in section 6.2.2 highlighted that non-verbal cues can be devices in their own right (for instance *eye dialect related to sounds* or emoticons), but also orthographic or typographic modifications of verbal signs (such as *eye dialect related to words*), or – as also pointed out by Kalman and Gergle (2010) – the existence or lack of existence of cues can achieve contextualisation (such as the normative use of punctuation). By outlining a systematic description of the various occurrences and types of paralinguistic signalling, this thesis thus provides a useful contribution to the line of academic enquiry aiming to describe, in a comprehensive way, the paralinguistics

of CMC (for example Haas et al., 2011; Kalman and Gergle, 2010). On a broader level, this approach also represents a useful contribution to CMDA research, in that it provides “a systematic, meaningful characterisation of the discourse in emergent mediated environments” (Herring, 2007, p. 7) and a description of the “situated practices of new media users” (Thurlow & Mroczek, 2011, p. xxi).

Regarding the range of interactional functions of non-verbal signals, the findings proved that paralinguistic signs have an important role in the disambiguation of content, in the communication of relational intent and relational work, and in the creation of interactional coherence and the signalling of interactional cooperation. One of the most important findings has been, for example, the role of non-verbal signals in the communication of affect and emotional involvement. The emotional-affective expressiveness identified throughout the dataset provided evidence that the theories which label text-based CMC as impoverished and ‘cues-filtered-out’ (for example Kraut, et al., 1990; Rice & Love, 1987; Sproull & Kiesler, 1986) and which are still quoted in the business communication tradition (as also pointed out by Kalman and Gergle, 2010; section 4.5) should be replaced by theories that acknowledge the interactional importance of non-verbal signalling in text-based CMC. By combining a set of theoretical frameworks into a multi-perspectival analytical framework and, through a highly usage-centred, context-dependent view of paralanguage, this thesis provides a useful basis for the creation of such a theory. From a business communication perspective, the usage-centred, contextually-determined approach to paralanguage taken in this thesis, and the empirical description of the range of cues used for the achievement of communicative goals, challenged previous assumptions about the “extensive verbalization or time-consuming substitutes” (Thompson & Coover, 2003, p. 136) or the “costly verbal feedback” (Cornelius & Boos, 2003, p. 151) that are thought to be required for effective communication in the virtual work environment.

The findings regarding the role of non-verbal signalling during enactment of relational work demonstrated that this study of language is grounded in a concern for broader socio-cultural practices (as set out by Thurlow 2011; p. xxi). The findings revealed a range of functions of non-verbal cues as means of signalling and negotiating workplace identities, particularly through the enactment of politeness and the

interactional creation of ‘informality’ in the workplace (cf. Nardi et al., 2000; Fagan 2003). These findings are of particular relevance for discursive business communication studies in that they contribute to the systematic description of the linguistic devices and strategies that are used for the enactment and negotiation of professional identities in the virtual workplace. These findings also serve as bases for generalisations about CMD in the virtual work environment – the practical implications of this are further elaborated upon in section 7.3.

A final noteworthy finding of the analysis was the prominent use of non-verbal cues for the signalling of interactional cooperation and for the creation of interactional coherence. On a discourse level, a high number of paralinguistic cues have been found to contribute to the communication of cooperative intent, signalling attention, acknowledgement or cognitive involvement, even if such signalling led to the interruption of the speaking participant. These findings – particularly by shedding light on the participants’ awareness of the possible consequences of the lack of backchannel signalling – contributed to our understanding of the consequences of the new communicative situations created by the usage of IM in the workplace (as detailed in section 3.2.2.1). By providing a description of the non-verbal techniques used for signalling attention, filling pauses or indicating the ongoing nature of work, this thesis also contributed to the understanding of yet unexploited issues of “physical co-presence and embodiment, sharing (or not) of an immediate context, synchronicity (or not) of interaction” (Georgakopoulou, 2006, p. 550). On a textual level, the range of non-verbal cues used as cohesive devices and the apparent effort invested by interactants to create coherence suggest that perhaps the traditional view of the medium as incoherent does not stand (cf. Rintel & Pittam, 1997; Herring, 1999; Greenfield & Subrahmanyam, 2003) and that academic exploration should focus on the strategies and devices aimed at creating coherence instead of descriptions of the effects of IM technology on the process of communication. On a general level, this agenda supports the goals of Ledbetter, who maintains that online communication should be viewed as a “medium affording a set of resources that allow communicators to pursue their (...) goals” (2008, p.13), and it is this “set of resources” that should be at the centre of academic exploration. The systematic description of the types and functions of non-verbal signalling in this thesis provides a useful contribution to this academic effort.

7.3 Further directions

Above, I have described the areas where the present thesis contributes to furthering academic debates, and I have shown that one of the biggest contributions of the present work to scholarship interested in the paralanguage of CMC has been the systematic approach taken to the description and analysis of non-verbal cues. I have repeatedly highlighted the importance of a comprehensive approach to the description of both the occurrence and functions of contextualisation cues. In order to achieve this comprehensiveness, it is necessary to mention a cue that has not been addressed in this thesis. Although I indicated in Chapter 2 the importance of chronemic – time-related – cues as means of contextualising messages, due to space considerations this type of cue was not included in the analysis. However, in order to be able to provide a comprehensive system of devices and strategies used as paralanguage in text-based CMC, further research clearly needs to address the roles of chronemic cues as contextualisation cues in IM. I have started this exploration in a recent study (Darics, in press) focussing on the (conventionalisation of the) conversational norms regarding timing in the new communicative situations created by the use of IM in the workplace, but further exploration of the interactional functions of chronemic cues, for example during the enactment of relational work, is still needed.

A second recommendation regarding possible future directions for research is the consideration of a wider range of socio-cultural variables of the virtual team. In the present thesis I postulated that interactants' company roles and their hierarchical positions might affect their discursive choices, and the analysis provided evidence that non-verbal cue use does reflect the position people hold within an organisational hierarchy. However, other socio-cultural variables that might affect the discourse of interactants – such as gender, cultural or educational background, time spent at the company or familiarity with IM – due to space considerations, have not been addressed. Further research could therefore explore whether these socio-cultural variables affect the use and interpretation of non-verbal cues and contribute to academic strands

addressing, for example, gendered language use or the influence of cultural backgrounds on CMD.

My final recommendation for further research refers to the further development of the analytical methodology. Previously, I have shown that the multi-perspectival approach taken by this thesis addresses the needs of both the fields of business communication and business discourse (Bargiela-Chiappini et al., 2007, p. 58) and computer-mediated or new media discourse studies (Thurlow & Mroczek, 2011) in that it offers a multi-disciplinary approach to the discourse of workplace IM. I have also proved that my chosen method, the close interpretive analysis of a specific data set, was a fruitful method for the exploration of the contextualisation accomplished by non-verbal signals within a virtual team, and I have argued that the complex, multi-layered nature and highly context-dependent use of non-verbal cues do not lend themselves to quantification. However, as Georgakopoulou points out, in order to “ensure robust findings and generalizable claims about patterns and routine ways of doing things” (2006, p. 551), in future research the present qualitative work could be complemented using quantitative methods, particularly where research addresses the differences between communicative patterns in different virtual workplaces. This study might serve as a starting point for such comparisons or even generalisations about non-verbal cue use across various CMC channels (cf. Riordan & Kreuz, 2010, p. 1816). Importantly, too, this study might provide a basis for generalisations that have practical implications for businesses and communication experts. This final conclusion is presented below.

7.4 Practical implications

Previous research has proven that effective communication is the key to successful virtual teams (Pauleen & Yoong, 2001). In section 3.1, I reviewed the challenges created by the mediated communicative environment and, based on the review of scholarship, I maintained that in research there is an overarching consensus

about the requirements for effective communication in virtual teams: communication that does not result in breakdowns and which consequently enables the successful accomplishment of work tasks. An essential condition of this was defined as a 'common ground': a shared repertoire of linguistic and discursive strategies to successfully achieve communicative and relational goals (see for example Dickey, 2006). The most important practical implication of the present study is thus its contribution to our understanding of the specific linguistic and discursive strategies used in real interactions for the achievement of communicative and relational goals. On the one hand, the selected data excerpts provide a basis for raising awareness of the range of devices and strategies used in text-based CMC. This process is an important starting point for the "appreciation of the differences between virtual and face-to-face" – or other communicative genres –, which has found to be "essential in developing and facilitating effective communication in the virtual team" (Berry, 2011, p. 198). The interpretative approach of the analysis, on the other hand, has introduced the various manifestations of paralanguage and, through detailed linguistic analysis, has demonstrated the complex interactional functions of these cues. These examples and awareness of these functions might be of great importance for communication experts and business professionals, particularly if they prepare people to communicate in the virtual work environment. After all, as Holmes and Stubbe asserted, "however simple or complex the underlying cause, ineffective or problematic communication in a workplace can have highly visible and costly negative outcomes, both for the individuals concerned and for the organisation as a whole" (2003, p. 138). I hope, therefore, that this thesis will not only contribute to scholarship and motivate further studies that will enhance understanding of paralanguage in CMC, but also serve as a starting point for work that provides practical knowledge that can enhance the communication effectiveness of business interactions in the virtual work environment.

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