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# Communication Genres For Dispersed Collaboration: Towards An Understanding of Presence and Awareness

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# COMMUNICATION GENRES FOR DISPERSED COLLABORATION: TOWARDS AN UNDERSTANDING OF PRESENCE AND AWARENESS

*Social, Behavioral and Organizational Aspects of Information Systems*

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## Abstract

*This paper suggests that in dispersed settings presence and awareness are continuously produced and reproduced by human agents through communication genres. Specifically, the paper argues that presence and awareness are two interrelated concepts. More specifically, it proposes four communication genres people intentionally or unintentionally draw upon in dispersed settings in order to create awareness. Furthermore, presence, understood here as a person's sensation of being perceived by others in whatever s/he is doing, is influenced by the awareness information imparted through the communication genres. However, at the same time does the sensation of presence shape the characteristics of the communication genres; therefore both concepts are better understood as closely interrelated. Moreover, the paper argues that emerging technologies may potentially modify existing communication genres and affect the sensation of presence in dispersed settings as its materiality may enable new forms of reification and participation with the life world.*

**Keywords:** Awareness, presence, communication genres, computer-mediated communication

## Introduction

With the intensification of globalisation, enabling the transmission of verbal and non-verbal information and the extension of organisations across time and space (cf. Giddens 2003), virtual forms of organization, such as virtual networks (cf. Klein et al. 2006; Monge et al. 2003), virtual organizations (cf. DeSanctis et al. 1999; Kock 2000; Mowshowitz 1997; Riemer et al. 2003), or virtual teams (cf. Lipnack et al. 1997; Malhotra et al. 2001; Townsend et al. 1998), have become of increasing importance. While it is argued that staying aware of people's activities comes almost naturally in collocated environments, maintaining efficient working relationships is a much more difficult endeavour in virtual settings where people rely on computer-mediated communication (cf. Gutwin et al. 1996; Gutwin et al. 2002). To understand how individuals in such dispersed settings manage to work, collaborate and stay aware of their counterparts, a growing body of literature has studied *awareness* in CSCW and *presence* in CHI. However, no consolidated body of knowledge exists for one of the two concepts, with existing definitions diverging significantly (cf. Gross et al. 2005). In addition, the main emphasis of most studies is on designing and testing technologies which aim at facilitating presence and awareness for virtual collaboration (cf. Borning et al. 1991; Boyer et al. 1998; Dourish et al. 1992; Scupelli et al. 2005). Furthermore, as most studies are based on a Cartesian worldview, they neglect to understand presence and awareness as a social accomplishment.

Diverting from generally held assumptions which distinguish between concepts of presence and awareness for the real world and those for virtual environments, I suggest in this paper that presence is an individual's perception and awareness actively produced and reproduced by human agents in both 'virtual' and 'real' settings. Genre analysis is suggested as theoretical lens for identifying communicative practices<sup>1</sup> – defined here as socially recognised types of

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<sup>1</sup> The terms *communication genre* and *communicative practice* are used synonymously throughout the paper.

communicative actions (cf. Yates et al. 1999) – which facilitate the production and reproduction of awareness in dispersed settings and affect the perception of presence. Due to its emphasis on written and verbal text, genre analysis presents itself as a promising tool for analysing collaboration in dispersed settings. The conceptual argument developed in this paper is informed through an empirical study of Jack White, an university professor who was affiliated with two universities and was working on several projects at the same time. Four communication genres are presented on which Jack and his colleagues drew during their everyday activities to develop a perception of presence and awareness for their dispersed counterparts' activities. However, ICT is not marginalized within this discussion rather it is shown that emerging technologies may modify the enactment of existing communication genres and thereby affect people's perception of presence and production of awareness.

To develop an understanding of presence and awareness as social products and to explain the implications of the two concepts for structuring collaboration in dispersed settings, the paper is structured as follows. In the next section, three different ontologies – that is the Cartesian worldview, phenomenology, and practice theory – which inform research on presence and awareness are presented and discussed. I then sketch out prior research on genre analysis which forms the backdrop of my empirical work. Conceptually, the paper uses the empirical study to weave together the practice theoretical understanding of presence and awareness on the one hand and genre analysis on the other which both draw upon Giddens' theory of structuration. This paper does so by briefly describing the research setting and research method before presenting the main findings. Finally, I conclude by summarizing the main findings and discussing future research directions.

## **Ontologies of Presence and Awareness**

In day-to-day life which is mainly dominated by face-to-face situation, concepts of presence and awareness are generally taken for granted and therefore seldom discussed at all. However, through the distanciation of time and space brought about by ICT (Giddens 1984), interaction nowadays involves more and more communication among dispersed parties. Consequently, the question if and how computer-mediated forms of interaction permit some intimacies of presence similar to co-located settings is one of increasing interest. Researchers have been particularly interested in the role of technology for facilitating presence and awareness in dispersed settings.

In fact, the concepts of presence and awareness have been extensively discussed within the CHI and CSCW communities, however, even within the two single lines of research, definitions of both concepts are far from being unanimous (cf. Gross et al. 2005). In the following, three ontologies are presented upon which varying definitions of presence and awareness draw. Rather than introducing novel definitions of presence and awareness, this section attempts to reveal the underlying traditions behind current definitions. By doing so, networks of meaning of presence and awareness are developed for the Cartesian worldview, phenomenology and practice theory. While the Cartesian worldview is influential for the design and development of technologies, it falls short of explaining how presence and awareness are socially produced and reproduced over time. In order to overcome this shortcoming, I select and elaborate the phenomenological and practice theoretical approaches, with the latter building upon and extending the former one.

### ***The Cartesian Worldview***

The Cartesian worldview is the predominant research strand both within CHI and CSCW. The fundamental assumption of this approach is the distinction between the subjective/mental and objective/physical, with reality being defined as a set of objects located outside of the mind (Mantovani et al. 1999; Zahorik et al. 1998). Within CHI, the concept of presence first described individuals' perception of Virtual Reality – i.e., technological devices intended to simulate the 'real world' – but was later extended to include interpersonal computer-mediated communication (cf. Ijsselstein et al. 2003; Riva 1999). While the Cartesian view perceives 'real' presence as an individual's experience in the physical world, 'virtual' reality is defined as presence in an environment mediated by information and communication technology (Steuer 1992). Information richness theory (Daft et al. 1984; Daft et al. 1986) is one representative of this rationalistic tradition. Based on the *conduit* metaphor, the theory assumes that ideas (objects) can be put into words and send via a conduit to the hearer who takes the meaning out of the words (Lakoff et al. 1980). Information richness theory distinguishes between real and virtual presence insofar as it is argued that real presence, i.e., face-to-face meetings, shows the greatest capacity for transferring rich information whereas technologically mediated information is always less rich. In addition, rather than perceiving different ICT channels as complementary, information richness theory defines the richness of each channel in isolation and, by

doing so, fails to appreciate people's experience of the ICT landscape as a whole and consequently the importance of ancillary technologies (Kelly 2005).

Within the Cartesian tradition it is assumed that people cannot become aware of something without deliberately paying attention to it; consequently relevant aspects need to be made explicit (Leinonen et al. 2005). The quality of virtual collaboration is affected by the fidelity with which ICT recreates the objective/ physical world and makes relevant aspects explicit as to facilitate collaboration (Flach et al. 1998; Leinonen et al. 2005; Lombard et al. 1997). Leinonen et al. (2005), for example, argue that awareness of collaboration can be enhanced solely by making the different project phases of virtual collaboration transparent. However, rational approaches have been criticised for drawing upon research methods unsuitable for social science and for its dualism between the real, physical world and the subjective, mental one (cf. Mantovani et al. 1999; Rogers 2004; Zahorik et al. 1998).

### ***A Phenomenological Understanding***

Disavowing the dualism between the objective and the subjective world, phenomenology argues that 'being-in-the-world' is the primary mode of existence (Winograd et al. 1987). Distinguishing between the subject and the object means that one has already stepped back from the pre-reflective form of experience and understanding (ibid.). It is assumed that people, while being immersed in their everyday activities, first, do not hold stable mental representations of the objects of their environment, second, beliefs and assumptions cannot all be made completely explicit, third, a practical understanding is more fundamental than a detached theoretical understanding, and fourth, that meaning is fundamentally social and can not be reduced to individual subjects (cf. Mantovani et al. 1999; Robertson 2002; Winograd et al. 1987). 'Being' and 'action' are understood as two sides of the same coin, since 'being' is defined as action within a worldly context. Following this line of reasoning, it is argued, technology should facilitate purposeful action (Zahorik et al. 1998). More than depending on the richness and fidelity of images, the sensation of presence is affected by the interaction /interactivity enabled by virtual and real environments (ibid.).

Awareness is understood as an active embodied process that is generative of meaning and which is experienced by people as they immerse themselves in their lived world (Robertson 2002). It is argued that awareness is a learned, embodied, skilful action which is why awareness can never be a property of any technology (ibid.). Awareness can only be achieved by the skilful activities of participants in a shared space who draw upon publicly available resources which function as sources for awareness. For instance, representations of coffee cups are used by some designers as publicly available awareness resources. However, it is important to recognize that the meaning of those icons is not pre-given, rather people learn and negotiate the meaning over time. Phenomenology therefore shifts the focus from interpreting presence and awareness as characteristics of technology to appreciating it as an active product of human agents and a state of "being-in-the-world".

### ***A Practice Theoretical Understanding***

A practice theoretical understanding emerged from the work of authors such as Giddens, Bourdieu, the late Wittgenstein, Heidegger or Foucault. Generally speaking, practices can be defined as a "routinized type of behaviour which consists of several elements, interconnected to one other: forms of bodily activities, forms of mental activities, things and their use, a background knowledge in the form of understanding, know how, states of emotion and motivational knowledge"(Reckwitz 2002: 249). Practice theory treats practices as the smallest unit of analysis, with single individuals as 'carriers' of socially shared practices (ibid.). Consequently, Giddens argues that social science should concentrate on social practices as to overcome the dualism between the 'individual' and the 'society' (Giddens et al. 1998). While my conceptual understanding of social practice theory is informed by Giddens' theory of structuration, I also draw upon supplemental work of other authors where needed.

Unlike phenomenology, a practice theoretical perspective overcomes the dualism between agents and structure as it understands structure as both the medium and outcome of the practices they recursively organize (Giddens 1984). By doing so, the practice theoretical understanding appreciates the ambiguity of everyday situations and the role cultural frameworks hold in managing the complexity of everyday life. People's perception of presence – both within a natural or computer generated environment – is a product of contextually situated communities with their very own interpretive schemes, norms, knowledge and artefacts.

Referring to Goffman, Giddens defines presence<sup>2</sup> as a sensation agents have whenever “they are close enough to be perceived in whatever they are doing, including their experiencing of others, and close enough to be perceived in this sensing of being perceived” (Giddens 1984: 67-8). The notion of ‘being close’ is not limited to physical proximity, rather Giddens argues that computer-mediated communication also permits some of the intimacies existing in unmediated contact between those who are physically present (ibid). In fact, the perception of *closeness* depends on creating a social context for social actors that facilitates communication, collaboration and the development of a sense of community (Riva et al. 2000). In addition, the concept does not solely take account of people’s socially shared experience of reality in form of cultural frameworks, rather, the perspective appreciates that, as human agents engage with the world, cultural frameworks are continuously produced and reproduced over time. The application of a practice theoretical approach for studying how presence is produced and reproduced over time has been neglected until recently, Panteli (2004) being one of the few exceptions.

From a practice theoretical perspective, analysing awareness cannot be separated from human action but should rather be interpreted as an integral aspect of practice, with ‘being aware of something’ as one aspect of these practices (Heath et al. 1992; Heath et al. 2002; Schmidt 2002). Accordingly, to know what a person is aware of can only be answered with reference to the practice s/he is engaged in. The practice theoretical perspective presents individuals as competent agents who are actively involved in activities which are meaningful to them and who ascribe the same meaning to events if they share common experiences (Schmidt 2002)<sup>3</sup>. Because of shared stocks of knowledge and a contextual understanding of their surrounding, individuals’ observations take on an almost effortless appearance. That is to say, while agents are involved in activities, they observe at the same time aspects which are only peripherally relevant to their ongoing activities.

The practices through which awareness is established are always cooperative in character in that they intend to align people’s interdependent activities (Schmidt 2002). Cooperative practices interpret displaying and monitoring not as mutually exclusive aspects of practices on which people draw for the production of awareness, rather both are defined as complementary. Displaying and monitoring form a duality with both concepts relying on each other, as monitoring aspects of activities that are relevant for one person requires that those aspects are intentionally or unintentionally displayed by other actors. Consequently, awareness means, on the one hand, that a person is aware of those activities of others that are meaningful to him/her. On the other hand, the very same person engages in displaying activities s/he reckons are meaningful for others. To sum up, the practice theoretical approach suggests that presence describes people’s sensation of closeness, i.e., the perception that their activities and their sensing of being perceived is perceived by others, which depends on creating a social context that facilitates communication, collaboration and the development of a sense of community. In addition, from a practice theoretical perspective awareness is understood as an integral aspect of social practices, with human agents skilfully displaying and monitoring their activities.

In this section, I introduced three ontologies which inform research on presence and awareness. Although the Cartesian worldview makes a valuable contribution for the development and design of new technologies, it was criticised for its over simplistic understanding of ICT, for the dualism between the objective and subjective, and finally for drawing upon research methods unsuited to the studies of individuals and groups interacting with ICT. While the phenomenological approach overcomes the aforementioned problems, its concentration on ‘subjective acts as interpretations of agents’ (Reckwitz 2002) fails to explain how individuals’ activities are informed by social structures and how social structures are produced and reproduced over time. A practice theoretical approach emphasises the importance of institutionalized practices for the production and reproduction of awareness and the perception of presence. In the next section, genre analysis, which is also informed by Giddens theory of structuration, is introduced as a theoretical lens. Due to its emphasis on written and verbal text, genre analysis presents itself as a promising tool for analysing collaboration in dispersed settings, as by nature they draw heavily upon written and verbal text (cf. Im et al. 2005; Panteli 2004).

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<sup>2</sup> Giddens (1984) actually distinguishes between *presence* and *co-presence*. While presence refers to the situation of the active body oriented towards its tasks, co-presence describes agents’ sensation of how they are perceived by others. However, in the following, I use the term presence to describe the latter concept.

<sup>3</sup> Boland (1996) argues that there is nothing such as shared meaning or values since the stock of knowledge people share does not determine their individual meanings or values. To put it in another way, people can use the same interpretive schemes, which present a common understanding, but that does not say anything about the meaning people derive from these interpretive schemes.

## Prior Research on Communication Genres

Genre analysis derived from rhetoricians and literary critics where the genre concept was first applied for classifying types of rhetorical discourse and literary work. Recently, genre analysis has also been applied to examine different ICT mediated forms of communication. Adapting the concept of genre from rhetorical theory, an understanding of genre analysis, which is informed by Giddens' structuration theory (Giddens 1976; Giddens 1979; Giddens 1984), explains organisational communication as structuration processes (cf. Yates et al. 1992). Taking such an approach, genres are defined as:

"socially recognized types of communicative actions that are habitually enacted by organizational members over time to realize particular social purposes in recurrent situations. Through such enactments, genres become institutionalized templates that shape members' communicative actions. Such ongoing genre use, in turn, reinforces those genres as distinctive and useful organizing structures for the community. (...) Whether used explicitly or implicitly, genres powerfully influence the discursive norms of organizational interaction." (Im et al. 2005: 93)

Genres can thus be described as socially recognized written or verbal text or, to put it in another way, as communicative practices, such as meetings, memos, reports, or seminars. The normative scope of communities may differ from industrial nations, organisations, trans-organisational groups, organizational or corporate culture, and intra-organisational groups. A genre may be identified by its purpose, which is constructed and recognized by the relevant organizational community, or its form, which refers to communication medium, structural features or linguistic features. Furthermore, rather than identifying genres at only one level of analysis, it is suggested that genres exist at various levels of abstraction. These different genres can in some cases be linked together and, by doing so, constitute a more coordinated communication process. Linked genres then form genre systems whose interdependent individual genres are enacted in some typical sequence in relation to each other.

Following a structurational understanding, genres as social institutions are produced and reproduced over time (Yates et al. 1992). A reciprocal relationship exists between genres and organisational communication, as genres both shape and are shaped by communicative action. Consequently, genres are not stable, rather genres might change over time as individuals modify explicitly or implicitly some of the established genres, which may be triggered by material or perceptual changes in particular contexts (ibid.). For example, changes in media use can either result in *migration* – unreflected action that reproduces genres established in one medium or community within another medium or community – or *variation* – departure from established forms of social interaction by introducing some changes in the genres enacted within the new context (Yates et al. 1999).

Genre analysis has been applied for analysing a broad range of ICT mediated forms of organisational communication. Yates and Orlikowski (1992) used the genre approach in their historical examination of the memo genre of internal business correspondence, starting from the business letter genre of external correspondence in the late 19<sup>th</sup> century to the influences of the memo genre on communication in electronic mail. Yates et al. (1999) analysed the enactment of communication genres for a newly introduced conferencing system and found that in the respective R & D project, first, a small group of self-selected team members shaped genre norms for the whole project community, and, second, project members tacitly enacted genres in their local teams. Yates and Orlikowski (2002) illustrated how the communication genres of three teams structured interaction in Lotus Notes Team Rooms. Im et al. (2005) investigated the role of communicative genres for the temporal coordination of activities in a small software development start-up whose members were geographically dispersed. The authors identified three communication genres that were explicitly used for temporal communication, namely status report genre, bug/error genre, and update notification genre. Furthermore, for planning and conducting phone meetings three further genres were identified, namely meeting logistics, meeting agenda and telephone conference.

## Methodology

### *Research Site*

Over a period of a month (June 2005), I monitored the communication patterns of Jack White (all names are pseudonyms), a university professor affiliated to two European universities in different countries. During that month, Jack was working with several people on multiple projects and administrative tasks, he attended conferences,

workshops, supervised PhD students located at different institutions, and visited several universities. To conduct his work, Jack travelled to four different locations throughout Europe. For his daily work, he used a broad range of ICT, such as mobile phones, landline phones, e-mail and Skype. Skype was used as an exclusive medium in so far as Jack's buddy list contained only a selected group of people who were then able to contact him via Skype.

In contrast to other studies which were either conducted in intra-organisational settings with established ICT infrastructure and/or in settings with only one communication medium, this analysis spans both organisational boundaries and several ICT media. By doing, so, the study reflects the working conditions of many of today's mobile professionals (cf. Kakihara et al. 2003) who not only interact in physical and virtual settings with a wide range of people but who also need to constantly monitor ongoing progress made on several projects for which they draw upon a wide collection of information and communication channels. Consequently, aspects of awareness and presence are of paramount importance for these mobile professionals.

### Research Method

I tracked all incoming and outgoing communication events via the mobile phone, Skype<sup>4</sup>, SkypeChat, SkypeOut, e-mail, and all outgoing calls via the landline phone over a period of a month. While I had full access to work related communication events, private conversations were excluded from the analysis. For each of the remaining communication events, I noted the date, location, initiator and recipient, time and duration. It was not possible to automatically capture the subject matter of voice based communication events – i.e., mobile phone, SykpeOut, Skype, and landline. It was not possible to track calls received on the landline phone, or mobile phone nor was it possible to determine if people who were contacting Jack were using SkypeOut. However, the records of e-mails and IM sessions helped to build up an understanding of how Jack and his colleagues coordinated their work. In addition, supplemental interviews with Jack allowed to identify his main projects, which further helped to categorise communication events. Furthermore, the interviews gave indispensable information on his interpretation of dispersed collaboration.

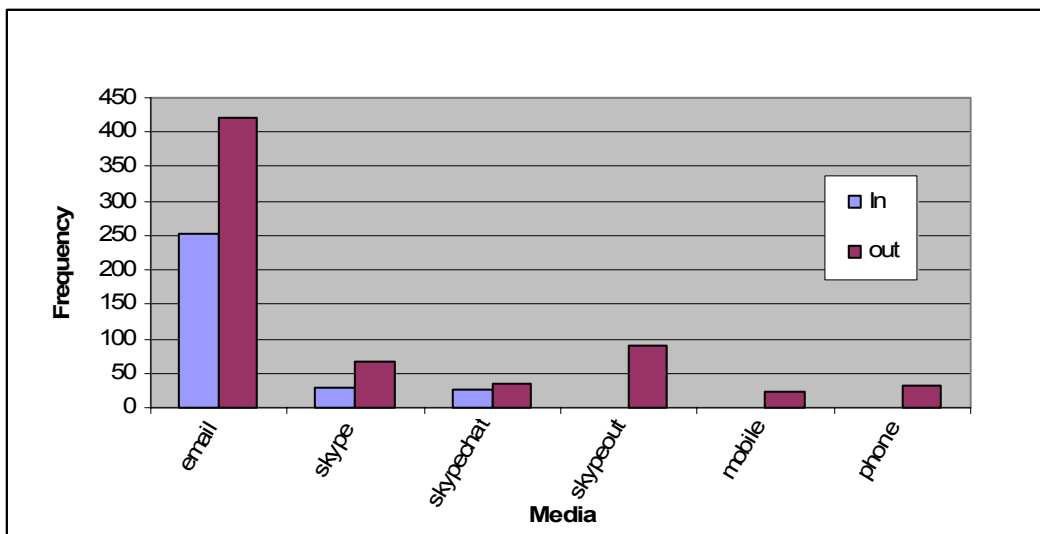


Figure 1. Distribution of Media Use

During a one month period from 1 June until 30 June 2005, I identified 977 communication events (see figure 1). Once communication events were recorded, I read all e-mails and SkypeChat sessions as to identify different communicative threads within the data. As e-mails and SkypeChat sessions offered a rudimentary contextual understanding of most communication events, I was then able to link related communication events and follow how

<sup>4</sup> Skype is an application which offers VoIP telephony with other Skype users (Skype), instant messaging services (SkypeChat) and calls to landline or mobile phones (SkypeOut) (see [www.skype.com](http://www.skype.com)).

the flow of conversations developed over time. I then analysed the e-mails and communication threads with a view to identifying communication genres sensitised by methods inferred by my readings of the literature.

‘Rules’, that is “techniques or generalizable procedures applied in the enactment/ reproduction of social practices” (Giddens 1984: 21), are applied to enact communication genres. Knowledgeable actors employ in the course of their daily activities these rules as to negotiate routinely the situations of daily life. However, such knowledge does not specify all the situations an actor might encounter in detail, rather, it provides the “generalized capacity to respond to and influence an indeterminate range of social circumstances” (Giddens 1984: 22). Drawing upon the understanding of rules, the applied coding scheme for identifying communication genres was based on socially recognized purposes (e.g. motive and content) and form (e.g. linguistic style, structure, formatting features). In the next section, four communication genres are identified, which contain generalized communication procedures for the production of awareness.

## **Communicative Practices and the Production of Presence and Awareness**

In this section, I first present four genres which were enacted by Jack and his colleagues supporting them in maintaining awareness. The genres are socially recognized types of communicative actions with Jack and his colleagues as carriers of these genres. The production of awareness is therefore manifested in the socially shared communicative practices which are presented below. In the second part, it is suggested that changes in the technological infrastructure resulted in variations in existing communication genres which ultimately affected the perception of presence between Jack and the others. In the final part of the section, I will then explicate the recursive relationship between awareness and presence.

### ***Genres for the Production of Awareness***

I identified a system consisting of four communication genres (news, notification, temporal planning, coordination), used by Jack and his colleagues, which supported them in maintaining awareness of each other’s working context. Communication genres were assigned to 47% of the 977 identified communication events, with the news genre constituting 24%, the notification genre 30%, the temporal planning genre 13% and the coordination genre 33%. In the following, these communication genres and their roles for organizing people’s work are presented.

Jack was consciously at pains to inform his colleagues on events, opportunities and tasks that might be relevant for their work, a communicative practice which I will call *news* genre. While enacting the news genre required Jack to proactively impart information, on the other hand, this *news* genre ensured that Jack was peripherally aware of ongoing activities as he received news about ongoing events. Being updated on peripheral events allowed Jack to actively intervene, if required. Rather than occurring on a regular basis, people drew irregularly upon the *news* genre. Examples of the *news* genre are disseminating minutes, recommending books or articles, or highlighting advertisements. E-mails were the preferred medium for this genre (e-mails often had the pre-fix ‘FYI’ in the subject field); however, some examples were found of SkypeChat being used for sending hyperlinks. The news genre shows how monitoring and displaying are mutually related activities of the news genre. Through reading e-mails Jack monitored ongoing events and activities which were – due to his work practices – meaningful to him. On the other hand, shared common experiences and the resulting contextual understanding of other people’s work also prompted him to disseminate information to potentially interested parties. Consequently, although awareness may be taken to mean to be informed about people’s activities and contextual situation, it implies not only a monitoring process but also the involvement in displaying information.



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Date: 18.06.2005  
From: Jack White  
To: Adam Green  
Subject: MIS Q 2005

Hi Adam,

This may be of interest.

Best regards  
Jack  
(...)  
[followed by a list of articles]

---

While the news genre was irregularly applied to inform others on events and activities that might only be peripherally relevant for their work, the *notification genre* was directly relevant for ongoing work processes and intended to keep the recipient, from whom no direct input might be expected, informed on the status of ongoing work. In contrast to the news genre, the notification genre functioned in dispersed collaborative settings as lubricant for maintaining fluid working processes. The notification genre assumed participants to have mutual knowledge of each other's mediated and immediate environment since the verbal and non-verbal messages were highly contextualized. The work context was produced and reproduced as agents exchanged e-mails, instant messages or phone calls to notify each other on events and activities.

---

Date: 15.06.2005  
From: Jenny Elvers  
To: Jack White  
Subject: Project Personnel Costs

Hi Jack,

Attached is a first draft of the personnel costs report for the project. I've based it on the account reports.

Ignore my e-mail re the bulletin - Peter told me that the original is available on the project Web site (Documents > Marketing > Dissemination Material > Posters).

Regards,  
Jenny

---

Due to his involvement in multiple projects and frequent travelling to different locations throughout Europe, organizing meetings, conversations and get-togethers were obviously a difficult task for Jack who needed to balance multiple temporal demands. Besides playing an important role for structuring long – and short-term activities in dispersed settings (e.g. negotiating time slots for immediate conversations – which Nardi et al. (2000) coin *outeraction* - or planning the attendance of conferences and workshops), the *temporal planning genre* also prompted people to display their extended social context. For example, through discussing time slots for meetings, people did not only display their availability but also the work practices they were involved in. By saying that they had lunch or parallel calls on the landline phone, people gave arguments for rejecting communication request for immediate communication via Skype. In addition, this gave the initiator an understanding of the recipient's immediate environment and/or the involvement in additional virtual projects which facilitated virtual collaboration through managing and negotiating expectations and engagements in partly conflicting tasks. Encompassing small talk, gossip, and *outeraction*, the temporal planning genre shows that talking about an individual's *situatedness* not only describes the context or emergent circumstances of action, rather it also emphasises a person's disposition and mood (Ciborra 2004).

---

Date: 13.06.2005  
From: Jack White  
To: Charly Lowtzow  
Subject: Project Personnel Costs

Hello Charly,

When would you have time for a brief meeting this week?

Best regards  
Jack

---

SkypeChat: 16.06.2005 11:36:46  
Kevin Deling: do you have time?

SkypeChat: 16.06.2005 11:58:39  
Kevin Deling: I am going for lunch now, it's about of the Toolkit [a software program] (...) Maybe we can skype later on.

[Jack contacts Kevin via Skype at 13:36:00]

SkypeChat: 10.06.2005 13:37:17  
Kevin Deling: I am on the phone talking to Peter, I contact you immediately

SkypeChat 10.06.2005 13:37:23  
Jack White: ok

---

The *coordination* genre refers to the need to organise work and responsibilities in different projects and to clarify required future steps. Through discussing and coordinating activities, existing ambiguity was reduced and preparations were made for joint work and physical meetings. By doing so, the genre functioned as a shared sense making process as the involved parties expressed their opinions regarding certain issues by which meaning was socially negotiated and renegotiated. Consequently, this genre involved several related messages as people attempted to express their current interpretation and tried to come to an agreement. Knowing through verbal and non-verbal communication the coordinative tasks individuals were engaged in – such as coordinating workshops or arranging the structure of a presentation – other people in dispersed settings could tell what these individuals were aware of.

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Date: 01.06.2005  
From: Jack White  
To: Ulrich Pickard  
Subject: Structure for a presentation

Dear Mr. Pickard,  
as discussed, I send you a short description of a possible structure for the presentation in December. Could you please critically review the description and inform me, if it fundamentally fits in the context of the workshop

Kind regards,  
Jack White

---

Date: 15.06.2005  
From: Jack White  
To: James Iha  
Subject: Re: Theories on internet economics

Dear Mr Iha,

>did I understand you correctly that the module „internet economics“ is only introduced with the master program?  
There are lectures on internet economics within the newly structured bachelor program. However, your lecture is supposed to be for the master level.

Best wishes  
Jack White

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### ***Mediated Communication and its Implication on Awareness and Presence***

In this section, I sketch out how media are routinely used for certain communication genres and how the materiality of media shapes the production and reproduction of awareness. Jack's working relationships differed from peripheral to close relations and he was working with some people on several projects at the same time. Therefore, rather than defining Jack's membership in communities by subjects, topics or projects, community membership in Jack's case is better understood by the intensity of the working relationships, i.e., a community of core relationships and one with more peripheral relationships.

I found variations of the temporal planning genre between the core group which made use of Skype and the broader community which mainly used e-mails for temporal coordination. Skype is an exclusive tool as people have to reciprocally opt-in to add someone to a buddy list. The group of Skype users was therefore limited with many of them being members of Jack's core community (while outlook contact list has > 700 entries, Skype list has < 30).

Within this group the temporal planning genre had an additional short-term perspective which was not found in the other community. It intended to negotiate availability for immediate communication, either face-to-face or via other media. This indicates that Skype, as a newly introduced media, enabled variations of the temporal planning genre which were then specific to the core community. Jack and his colleagues did not only negotiate available time slots with a more short-term perspective, but they also exchanged more informal information which displayed aspects of their immediate environment. That is, not only did people indicate their intention to communicate, the subject matter, or alternative time slots for conversations but they also disclosed the current activities they were involved in and made passing remarks on their disposition and mood.

Furthermore, SkypeChat sessions, the preferred genre form for the short-term temporal planning genre, were often followed by verbal conversations via Skype or SkypeOut. For the community of core relationships the findings indicate that the short-term temporal planning genre and the coordination genre were closely linked, enabling smooth and short-term negotiations for further coordination (Frößler 2006).

This might suggest that new technologies may potentially bring about variations of existing communicative practices which alter the dynamics of interactions. But not only do these altered communicative practices affect ways of monitoring and displaying within dispersed settings, they also potentially alter individuals' perception of their virtual working environment. Jack remarked that after taking on a job at a second university, the morale in the research group at the first university deteriorated, even though a regular flow of e-mail exchanges and occasional phone conversations was maintained. It was only with the introduction of Skype that the atmosphere changed in both universities. Little routines about signalling and outercation were developed which increased Jack's visibility and approachability. Although Jack commented that Skype increased his already high communication volume, the perception of presence and the raised awareness through regularly disseminating contextual information helped to quickly address and solve issues. As the findings indicate, people are prompted to display and monitor more information about each other's immediate context or additional work and, therefore, share more detailed information about their social context and activities, a process which may strengthen the perception of presence. Indicating how closely the two concepts of presence and awareness are, in the next section, a tentative concept is offered which delineates the relationship between presence and awareness.

### ***Towards an Understanding of Presence and Awareness as Recursively Related Concepts***

In this section, the paper proposes a tentative concept as to bridge the existing gap between awareness and presence. Rather than perceiving awareness and presence as two separate concepts, both are better understood as recursively related. As argued before, presence is understood as the sensation people have whenever they are “close enough to be perceived in whatever they are doing, including their experiencing of others, and close enough to be perceived in this sensing of being perceived” (Giddens 1984:67-8). It was further argued that the sensation of presence is informed by the social context which shapes communication, collaboration and the development of a sense of community. Furthermore, I argued that awareness is an integral aspect of communicative practices, with monitoring and displaying as two sides of the same coin.

As illustrated in the *temporal planning genre*, people of Jack’s core community not only negotiated their short- and long-term availability, rather the genre also mediated a person’s involvement in other tasks and his/her *situatedness*. Consequently, people displayed and monitored aspects of each other that previously remained concealed in e-mail exchanges, such as other phone conversations, lunch time, etc. This kind of information gave people a better appreciation for each other’s situation and enabled actors to adjust their actions accordingly. Intended or not, the discussions went beyond the immediate objective of the interaction to include group members’ extended context, i.e., “all that has happened before or after, retrospectively and prospectively, and all that might have happened instead” (Scheff 1990). Ultimately, a sensation of presence may quite likely result from the extensive exchange of awareness information if a person senses closeness towards others in that he believes that others perceive what s/he is doing. However, such a sensation of closeness and intimacy may at the same time shape communicative practices whose form might be altered accordingly as people enact variations of existing communicative practices.

While awareness neither concentrates on the ‘subject’ nor the ‘society’ but on communicative practices, presence focuses more strongly on the individual with its personal disposition and perception of closeness. However, human agents do not exist in isolation, rather they are carriers of social practices whereby their perception of presence is ultimately shaped by their communicative practices. On the other hand does people’s perception of presence affect the enactment of communicative practices.

Due to its implications for communicative practices, ICT plays a central role in the process described above. Within the core community, Jack and his colleagues used Skype to display and monitor information on their immediate environment or their involvement in additional projects. Consequently, members of this group were aware of aspects that previously remained concealed and the communicative practices provided some intimacies which were not previously conveyed with the use of other technologies. However, emphasising the role of technology is not to put forward a technologically essentialist position which treats technology as straightforwardly facilitating or constraining (Grint et al. 1997). Rather, I attempted to show that presence, awareness and the enactment of technology are deeply rooted in and informed by the social context.

### **Conclusion**

This paper attempted to contribute to the discussion of presence and awareness. Specifically, it aimed at developing an understanding of presence and awareness as socially products and to elucidate the role of both concepts for structuring collaboration in dispersed settings. Weaving together a practice theoretical understanding of presence and awareness on the one hand and genre analysis on the other, the paper identified four communicative practices which people employed intentionally or unintentionally so as to mediate awareness in dispersed settings. In addition, the empirical findings emphasize the paramount importance an extended context has for people’s sensation of presence. Through sharing additional information on other projects and non-work related issues, the participants created a familiarity and intimacy which evoked a sensation of presence.

Consequently, I suggested a tentative concept that, rather than interpreting presence and awareness as separate concepts, understood both as recursively related. The information imparted by communicative practices may evoke a sensation of presence which again has implications on the communicative practices. Or to put it differently, the concept focuses on the analysis of strategic conduct and the modes in which social agents draw upon structural properties in the constitution of social relations (Giddens 1984). By doing so, the concept touches the individual and social level of analysis. ICT takes up a central role in this process, in that the material form of ICT mediates and shapes social interaction, with novel ICT potentially enabling new forms of reification and participation with the life world (Kelly 2005).

Future research may therefore investigate how, by integrating several ICT channels, Skype and similar technologies mediate the way people communicate and organize their work. In addition, with a view to the mounting popularity of the web 2.0 and internet platforms such as myspace.com, future research could apply the previously introduced tentative model to investigate whether their attractiveness lies within the communicative practices myspace.com and other platforms enable and the sensation of presence they evoke.

However, as to understanding the enactment of ICT *in situ*, it is necessary to take the social protocols into account which inform its use. Ethnographic field studies are suggested to develop a more grounded and differentiated understanding of the interplay between social protocols and novel ICT, such as Skype. In addition, while genre analysis allows a fine-grained analysis of communicative practices, ethnographic research should scrutinize the recursive relationship between presence and awareness in more detail, especially the emotional perception of presence in dispersed settings. For example, Sahay (1997) argues that time and space acquire both emotional and rational meaning during processes of meaning construction. The interpretation of what it means to be at one place and not another or the understanding of 'now' and 'then' is open to change (*ibid.*). Moreover, as ICT influences people's access and distancing to social practices, it may redefine individuals' feeling of being included or excluded within a social organization (*ibid.*). Research is therefore needed to analyse the interplay among ICT, the spread of social practices across time and space, the production of awareness and the perception of presence.

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