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## 'Invisible Whispering': Instant Messaging in Meetings

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### Abstract

We use Goffman's characterization of "front" and "backstage" interaction practices to analyze how the use of instant messaging in both face-to-face and technology-mediated meetings alters the spatial, temporal, and social configurations of meetings. In an interview study of workers in two organizations, we found that workers used instant messaging during face-to-face meetings and telephone conference calls (1) to participate concurrently in "front" and "backstage" interactions, (2) to participate in multiple, concurrent, "backstage" conversations, and (3) to manage and influence front stage activities through concurrent backstage conversations. These interactions would be either physically impossible or socially constrained without the use of instant messaging. We draw on psychology, GSS, and communication studies to consider the implications for group work.

**Keywords:** Instant Messaging, IM, Computer-Mediated Communication, CMC, Collaboration, Interaction Boundaries, Goffman

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## Introduction

While information and communication technologies (ICT) have been used to transcend physical barriers to interaction, the use of these same technologies can also result in the creation of new boundaries, both physical and social, or the reconfiguration of familiar ones. As the boundaries of communicative processes change, so does the control over the content, tone, and direction of the interaction. This paper explores the implications of meeting boundary restructuring through the use of instant messaging by meeting participants.

Instant messaging (IM) is one of the most rapidly proliferating workplace communication technologies in use today (Economist, 2002; Shiu and Lenhart, 2004). Similar to email, in that interactions are typically text-based, and to the telephone, in that exchanges are near-synchronous and interactive, IM is unique in its capability to support multiple, simultaneous, synchronous conversations. The same affordances that support participation in multiple concurrent conversations also enable IM users to engage in communicative configurations that are not physically possible or socially acceptable in face-to-face contexts.

Because of its relative novelty as a workplace communication tool, IM has only recently captured information systems researchers' attention. Consequently, the handful of available studies offer limited commentary on the nature and consequences of IM use (Cameron and Webster, 2005; Dabbish and Kraut, 2003; Grudin, Tallarico, and Counts, 2004; Nardi, Whittaker, and Bradner, 2000; Quan-Haase, Cothrel, and Wellman, 2004). Research to date has focused primarily on understanding and describing *how* and *why* workers use IM in organizational contexts (Cameron and Webster, 2005; Isaacs, Walendowski, Whittaker, et al, 2002; Nardi et al, 2000), rather than its implications for the conduct and outcomes of their work (for an exception see Cutrell, Czerwinski, and Horvitz, 2001).

In this paper, we report findings from an exploratory interview study of IM use with members of two organizations. The study revealed a practice we call "invisible whispering," the use of instant messaging to communicate privately with others while engaged in another synchronous interaction. Our interest in this paper is the use of this practice in meetings where these 'others' range from participants in the same meeting, to information sources outside the meeting, to unrelated business and social contacts. These invisible conversations fundamentally alter the physical and social boundaries of the meeting itself and, thus, the temporal ordering of meeting-related interactions, including fact-finding, consensus formation, and decision-making. We first use "genre" as an analytic lens (Orlikowski & Yates, 1994) to identify the types of invisible whispering occurring in meetings. We then draw on the language of Erving Goffman (1959) to show how these conversations dynamically redraw the boundaries of the meeting as a social setting and alter the roles of the meeting participants. Finally, we examine prior study results in the psychology, group support system (GSS), and communication literatures to consider the [need adjective(s) here—organizational?] implications of these changes.

## Prior Research and Theory

We begin by describing the common affordances, or capabilities, of instant messaging applications and summarizing the key findings of instant messaging studies to date. Based on these studies, we believed that IM had the potential to alter many taken-for-granted "rules" for

workplace interaction and to enable new ways of interacting. In order to better understand the taken-for-granted rules as a basis for identifying and evaluating new practices, we drew on Erving Goffman's (1959) detailed analyses of interaction in public situations.

### Instant Messaging

As defined by Nardi *et al* (2000), IM is a "tool which allows for near-synchronous computer-based one-on-one communication" (p.2) between online parties. Though estimates and measures of IM penetration vary, all indications are that corporate IM use is significant and growing (Chen, 2003; Economist, 2002; Shiu and Lenhart, 2004).

The popularity of IM stems largely from its several unique affordances. Using Sproull and Kiesler's (1991) characterization of communicative media as a guide, we identified five features that, in combination, differentiate instant messaging from communication via other one-to-one workplace media, enabling new communicative practices and patterns: *presence awareness*, *visual alerting*, *polychronic communication*, *silent interactivity*, and (perceived) *ephemeral transcripts*.

*Presence awareness*, the ability to detect when others are accessible for communication via the network (Panteli, 2004), is enabled by a dynamic directory of currently online IM users. The directory allows a worker to determine whether a coworker is currently logged onto the system, whether or not the person is accepting messages, and, in many cases, whether or not the person is working on his or her computer, e.g., "active" or "idle." Based on this information, users can estimate the probability of success in making contact with the desired person (Cameron and Webster, 2005).

*Visual alerting*, the use of visual cues to notify recipients when a new message arrives, is achieved in IM through the use of "pop-up" windows superimposed on a recipient's computer screen over all other open applications (Cutrell et al, 2001). Even if a user configures the application to minimize IM to a toolbar icon, the initial message of a new conversation still arrives as an open "window" in most applications, with subsequent messages causing the toolbar icon to flash. Similar to a hand signal when someone is on the phone or an "excuse me" when interrupting someone at their desk, this feature is intended to attract the recipient's attention.

*Polychronic communication*, the participation in multiple concurrent conversations (Turner and Tinsley, 2002), previously required the use of multiple media, e.g., doing email while talking on the telephone. In contrast, IM users can participate in multiple simultaneous IM conversations without their communication partners being aware of or distracted by the other conversations. In the case of meetings, the context of interest here, IM users could be engaged simultaneously in conversations with other meeting participants, their bosses (who may not be in the meeting), subordinates outside the meeting, and their spouses. Each conversation "scrolls" through its own pop-up window on the worker's device screen, undetectable to each of the worker's other communication partners.

*Interactivity*, the experience of real- (or near-real) time feedback and turn-taking, is another characteristic of IM communication that users value as an advantage over email (Cameron and Webster, 2005; Grudin et al, 2004; Lovejoy and Grudin, 2003). Though similar to a telephone conversation, IM exchanges are *silent* rather than spoken aloud, allowing users in public situations to interact without either being overheard or disturbing others.

Finally, the perceived *ephemerality of IM transcripts* contributes to many users choosing IM over email (Lovejoy and Grudin, 2003), which is commonly archived, or voice mail, which can be saved and forwarded on corporate phone systems. In most currently-used IM systems, the

interaction transcript is erased automatically when the users close the conversation window unless the users actively save it. This characteristic contributes to a sense of privacy and informality no longer associated with email (*ibid*). This "feature" may soon disappear, however, as developers add archiving and transcript-searching capabilities to new versions of IM applications in response to managers' concerns that using IM may put the organization's intellectual property at risk or contribute to excessive socializing (Griffith, 2002; Poe, 2001).

Coming versions of IM also promise to enable audio- and video- messaging, asynchronous and broadcast delivery modes, application and file-sharing, and archived message transcripts, taking on many of the characteristics of email as well as online collaboration tools (Chen, 2003; Economist, 2002). The organizations included in this study, however, used interactive text messaging applications characterized by the features we have outlined here and representing the most common form of IM in use in the workplace today (Shiu and Lenhart, 2004).

Numerous studies of workplace technologies have demonstrated that a technology's consequences stem both from how it is used, however, as well as from its features (Barley, 1986; DeSanctis & Poole, 1994; Orlikowski, 1992; Markus, 2005). Most of the studies of IM to date have focused on its use. For instance, in a large-sample study of IM conversation logs, Isaacs, Walendowski, Whittaker, et al (2002) found differences between the purposes of IM conversations for "light" versus "heavy" IM users and for "frequent" versus "infrequent" communication partners.

### **Goffman's Dramaturgical Frame**

Erving Goffman's (1959) detailed studies of face-to-face interaction revealed complex but ordered processes by which social actors regulate their interaction with others. Though sometimes accused of being atheoretical, his work nonetheless provides a vocabulary for describing and comparing interaction configurations across media. The portion of his work particularly relevant to the phenomenon under consideration here is the conceptualization of social action as theater, segmented into "front" and "back" regions, each characterized by particular behavioral expectations and relationships among those present in the same region.

"Front" regions are characterized by the perception that one is in the presence of an "audience," people who expect one's behavior to be consistent with one's official role or espoused relationship to the audience. Consequently, behavior tends to be modified to be more consistent with an idealized notion of that role, i.e., team leader, technical expert. For instance, members in a particular organization may share a conception of a good team leader as someone who is "on top of things, keeps everyone informed, and runs a good meeting." The team leaders in that organization, when in the presence of their team members, will try to behave in ways that they believe demonstrate these capabilities.

"Back" regions, in contrast, are characterized by interactions among "teammates," people who share the same role with respect to the audience or who collaborate to foster the same impression. In these regions, actors relax the illusion of the 'ideal' and act in ways that may be incongruent with a previously projected "front" persona. For instance, the same team leader in the presence of other team leaders and out of visual and auditory range of team members may acknowledge that he or she feels insecure about managing an emerging situation.

In face-to-face situations, which were the focus of Goffman's work, social actors are constrained, socially and physically, to participate *serially* in front and back region interactions, to behave consistent with *either* one's front *or* one's backstage persona at any point in time. In

fact, we depend upon the audience segregation afforded by physical barriers to enable variations in our behavior across roles.

The integration of mediated interaction into co-present contexts alters the boundaries between front and back regions, offering new possibilities for combining, segmenting, and blurring one's front and back stage presentations. So far, these boundary changes have gone largely unexamined. In this study, we explore the use of instant messaging during both co-present and technology-mediated meetings. We describe how this alters the boundaries between front and back regions and discuss the implications of these boundary shifts for meeting effectiveness.

## Method

### Participants

The study participants were 22 managers and workers from two U.S.-based, globally-distributed organizations whose members use instant messaging on a daily basis. The two organizations offered variation in both industry and work tasks while the participants were reasonably matched with respect to education and their experience with instant messaging.

Globalnet, a high-tech company, manufactures and sells networking and communications products and consulting services to corporations, public institutions, and small businesses on a global level. The ten GlobalNet participants—three managers and eight individual contributors ranging in age from 22 to mid-50's—worked in the Educational Services unit with roles in program development, operations support, and systems administration. The members of the systems administration group were co-located with one another and with their manager, but the members of the program development and operations support groups were geographically-distributed. Even members who lived in the same city and based in the same organizational campus considered themselves distributed from one another because they often worked from home on differing days of the week. All three groups served remote internal and external customers with whom they communicated through a combination of media including telephone, email, and IM. At the time of our study, the Educational Services unit had been using the AmericaOnline instant messenger application (AIM), a free software available through the internet, for approximately three years. The newest members to the group had adopted the tool "within days" of being hired approximately a year prior to our study. Though the participants' use of instant messaging varied, each participant reported using instant messaging more than once/day.

PharmaCo, a pharmaceutical manufacturer, researches, develops, and sells a broad spectrum of drugs and other pharmaceutical products. Twelve PharmaCo members—two managers and ten individual contributors ranging in age from 22 to mid-50's—represented two subgroups of the Information Technology services (ITS) group: systems administration and IT auditing. The members of the systems administration group were co-located and worked with and for co-located internal customers. The members of the auditing group were based in the same office but worked remotely from other PharmaCo Co sites on an ad hoc basis when performing audits. Both groups communicated among themselves daily via face-to-face meetings, telephone, email, and instant messaging. At the time of the study, the PharmaCo participants had been using Lotus SameTime, an instant messaging application bundled with

Lotus Notes, for about 18 months. Though the intensity of use varied among the study participants, everyone reported being a daily user.

### **Data collection**

Due to the limited number of published studies of workplace IM use, we designed the study to be an exploration of IM use in the workplace, intended to capture the full range of its use. Using an interview protocol (available upon request) based on the uses of IM described in the few prior studies (Carpenter, Just, and Reichle, 2000; Dennis, 1996; Martin, Gardikiotis, and Hewstone, 2002; Quan-Haase et al, 2004) as our starting point, we conducted semi-structured interviews of each of the 22 participants at his or her workstation with the exception of one person interviewed over lunch and one person who requested to be interviewed in a conference room to avoid disturbing the people in neighboring cubicles. During the interviews, we encouraged participants to open the application and demonstrate as they talked with us about their use of IM to prompt articulation of practices that might only be evoked through activity and to tell us about any additional ways they used IM that were not covered by our questions. In addition, the participants also often received instant messages during the interview, providing an opportunity to observe their response practices and to ask additional questions about what we observed. Each interview lasted approximately one hour. During the interview, we made handwritten notes which we then transcribed.

### **Data analysis**

We began coding the interview transcripts in NVivo using the topics of the interview guide as our initial categories. One author who had not been involved in the data collection coded the interviews independently, developing working definitions of each category and adding new categories as necessary to fully represent the data. Another author who had participated in the interviews then reviewed the category definitions and coding, identifying interpretive disparities using a sample of interviews. The two authors discussed each disparity to refine definitions, including merging some categories and splitting others. The initial coder then used the new coding scheme to recode the full set of interviews. This process was iterated three times until both authors agreed on both the category definitions and the data coding using the categories.

## **Findings**

The extent of invisible whispering differed across the two organizations studied, as well as among the members in each organization. Nonetheless, the reasons for using instant messaging during meetings and the practices described were quite similar across locations. We begin by comparing the extent of invisible whispering in GlobalNet and PharmaCo and describing attitude variations within each organization. Then we describe each of the communicative types.

### **Variations across Organizations**

Invisible whispering was a more prevalent practice at GlobalNet than at PharmaCo. In GlobalNet, seven of the ten people interviewed, or 70%, reported invisible whispering as a

common practice, while only four out of twelve, or 33% of the PharmaCo members interviewed, acknowledged using instant messaging in meetings.

While we do not have extensive information on the cultures of the two organizations or their influence on communicative practices, interviewee comments suggest that invisible whispering is a more taken-for-granted practice at GlobalNet than at PharmaCo. For instance, one GlobalNet interviewee told us: "IM is planned as a background activity [in meetings]." In addition, several interviewees reported that meeting facilitators often provided instructions for IM communication either prior to a meeting, in the meeting announcement, or at the start of a meeting:

"The conference host will sometimes request that participants use the chat feature of Web Ex [electronic conferencing technology] rather than AIM to communicate with him or her...Occasionally a meeting host will ask meeting participants to refrain from using IM altogether..."

In contrast, at PharmaCo, interviewees indicated that invisible whispering was less commonplace:

"Most face-to-face meetings do not have laptops but occasionally when we bring laptops into face-to-face meetings, SameTime [instant messaging] is used."

Another PharmaCo interviewee's comments suggested that instant messaging during meetings became tolerated largely as a less-disruptive way to respond to pressing extra-meeting demands:

"My project team (SAP) is a high visibility...very important project within the company, so people understand when I use instant messenger...People understand the need to take pager messages or phone calls when they're in face-to-face meetings, and instant messenger is less disruptive than these two, so it is understood that instant messenger is OK."

Two apparent differences in the structure and practices of the groups studied could account, at least in part, for the reported differences in practice. First, the GlobalNet participants worked in geographically-distributed teams, increasing the proportion of their meetings occurring via technology-mediated channels, making the tools for invisible whispering readily available and their use less apparent. In contrast, the members of the PharmaCo groups studied are co-located, except during the auditors' short-term assignments at remote locations, so the majority of meetings were face-to-face. In addition, the use of laptops and handheld devices was less commonplace in PharmaCo meetings, providing less opportunity to engage in invisible whispering.

### **Variations *within* Organizations**

Within each organization, the desire to participate in invisible whispering and tolerance for the practice also varied, ranging from no interest at all to having seemingly no limit to the number of conversations that could be juggled. Though invisible whispering was commonplace at GlobalNet, one member explicitly said she would not send and receive IM during meetings because she found it "too distracting." Another reported that her ability to participate in simultaneous IM conversations during meetings was limited:

"During hot meetings, there might be 3-5 windows open at once. That tends to overwhelm me, and I start shutting them down."

We observed one of her coworkers, however, who routinely kept six to ten IM conversations open while working, including one group chat window. She kept these conversation windows open during meetings as well (unless requested to log off IM by the meeting facilitator) in addition to any new conversations that might occur during the meeting.

Similarly, at PharmaCo, two participants described themselves as disinterested in invisible whispering, saying they perceived it to be "too much multi-tasking," while other participants reported it as a common occurrence.

### **Invisible Whispering as a New Genre**

The rhetorical concept of "genre" has also proven useful as an analytic device in the study of organizational communication (Yates and Orlikowski, 1992). As defined by Yates and Orlikowski (1992), communicative genres are "socially recognized types of communicative actions—such as memos, meetings, expense forms, training seminars—that are habitually enacted by members of a community to realize particular social purposes" (Orlikowski and Yates, 1994: 242). Genres are distinguishable from one another by both their "substance and form." "Substance" refers to the social motives, themes, and topics being addressed in the communication" (Yates and Orlikowski, 1992: 301), while "form refers to the observable physical and linguistic features of the communication (Yates and Orlikowski: 301). Though "distinct from communication media" (*ibid*: 299), the media employed can be a defining feature of the form, and changes in communication media may catalyze either changes in an existing communicative genre or the emergence of a new genre. In addition, communicative genres are associated with particular recurrent, socially-defined and, thus, socially recognizable situations (Yates and Orlikowski, 1992).

We are proposing that invisible whispering constitutes a new communicative genre, typified by the use of instant messaging (form) to communicate privately (purpose) during synchronous interaction with one or more others (recurring situation) who may or may not be a participant in the "whispered" exchange. Though a close cousin of the age-old practice of unmediated whispering, the use of the instant messaging technology enables sufficient differences in the form, purposes, and audiences of the whispered interaction as to be recognized as a new communicative form. The distinction between unmediated whispering and IM could be seen as similar to that between an email, a memo, and a letter—communicative types with similar features but socially distinct forms, purposes, and contexts of use.

"Subgenres" are recurring communicative actions socially recognizable as a particular genre, but distinct from other examples of that genre in either purpose or form. For instance, the rhetorical act of a "verbal request" is recognizable by its purpose as belonging to the genre "request" but differs in form from a "written request" or a "request for proposal," communicative acts that invoke different social rules and, thus, evoke distinct social responses. Alternatively, subgenres may be similar in, and recognizable by, their form but vary in purpose, as we will describe here.

We focus on the particular case of invisible whispering in the context of organizational meetings. In our data, we identified six distinct subgenres of invisible whispering associated with this context: *attending to the meeting*, *providing focal task support*, *providing social support*, *directing the meeting*, *participating in a parallel meeting*, and *managing extra-meeting activities*. These represent communicative actions similar in form—all use the automatic format

provided by the instant messaging application—that vary in purpose. In the remainder of this section, we describe each subgenre in more detail and consider its implications for the structuring of the communicative boundaries of meetings.

**Attending to the Meeting.** A common use of invisible whispering among study participants was attending to the meeting. This subgenre is characterized by communicative exchanges between meeting participants intended to check or improve their understanding of the meeting content. Examples of conversations in this category include messages requesting clarification of a point made in the meeting or checking the accuracy of a fact. Participants reported that these exchanges helped them to follow or stay engaged in a meeting by having their questions answered in real time:

“If there’s something in a meeting you don’t understand, you can send a quick IM, ‘Hey, so and so said this, what does he mean?’”

One PharmaCo participant reported that most of his invisible whispering conversations were of this type and helped him stay engaged in meetings.

When participating in these conversations, the meeting attendees are primarily in the role of audience members—e.g., listening to others with the intention of understanding the interactions in the front-stage arena. In contrast, participants engaged in *providing task support*, *providing social support*, and *directing the meeting* play more active roles that affect the front-stage activity of the focal meeting.

**Providing Focal Task Support.** Conversations that facilitated the focal task typically occurred between meeting attendees but also included requests from a meeting participant to someone outside the meeting for needed input. These conversations were intended to help the group accomplish its work and to minimize process losses. Examples of this type of exchange include contacting someone outside the meeting for information, or even inviting the person to join the meeting briefly:

“IM can be used to bring people from outside into a meeting for more information.”

Another common practice for keeping the meeting moving ahead was “pinging” a coworker suspected of not paying attention with a brief IM saying he or she is about to be called on. The following quote represents recurring comments:

“[When we’re meeting], I’ll ping her so she’ll know that she needs to get on the call or will be called on [to produce numbers, explain a situation, etc.]”

When participating in conversations that provide focal task support, meeting attendees act in the role of a stage manager, looking ahead to the next “scene” and getting the necessary people and resources in place. Without the concurrent use of instant messaging during the meeting, this type of work would typically precede the meeting of, if not done, would result in delays during the meeting. As an adjunct to pre-meeting planning, this seems to be a constructive use of invisible whispering, enhancing meeting engagement and efficiency. Some study participants suggested, however, that over time the practice had also had an unanticipated negative effect:

"...The downside is that people may be less prepared for meetings because they know they can get it [any needed information] in real time during the meeting."

**Providing Social Support.** Invisible whispering conversations that provide social support are defined as those occurring between meeting attendees to address the affective dimension of meeting participation. IMs "polling" other meeting participants were a common example of this type of invisible whispering. Members might poll others before introducing a topic for reassurance that their position will be supported:

"People can be shy about bringing up problems in meetings without approval from their peers; background IM enables them to check before they bring it up."

Other conversations recognizable as providing social support are those inviting quieter members to contribute. Similar to calling on quieter participants in face-to-face meetings, IM was used to privately encourage someone to contribute without the risk of public embarrassment that some people experience when called upon publicly.

Invisible whispering conversations that provided social support resemble the conversations an actor might have backstage with the director or an acting coach either just before going onstage or just after coming off. These conversations bolstered confidence and provided a reality check for one's perceptions. Though these same conversations may have preceded or followed a meeting in an environment not supplemented with IM, the immediacy of the interaction to the focal event is significantly different than that experienced through invisible whispering.

In summary, the invisible whispering conversations for providing both task and social support facilitated the meeting interaction in ways that might have been handled through pre-meeting coordination or note-passing, side-bar conversation, or explicit meeting interventions in non-IM supported contexts. A recurring theme in the interviews across organizations, however, was the perception of invisible whispering as a "less intrusive" or "more polite" way to accomplish the same objectives.

**Directing the Meeting.** Invisible whispering conversations intended to direct the meeting are characterized language intended to influence the content and direction of the meeting. Messages typically included instructions about what to say or not say, the order to say it in, or other actions to take to achieve a particular outcome or create a particular impression. Meeting contexts where these exchanges occurred included interviewing a job candidate, evaluating a technology vendor, and making a pitch to senior management. This quote describes a particular example of this type of communication:

"One of my managers was presenting in a global conference call and had a hard time keeping the attention of other members...One of the other team members used SameTime [IM] to send a message saying 'you're losing them' and gave the manager pointers on how to regain their attention."

One member used the term "virtual ventriloquism" to describe her experience of "feeding lines" to a member of her group during a presentation to management then "hearing my words come out of his mouth a few minutes later." This practice resembles that of the "prompter" in

live theater whose role it is to feed lines and stage directions to an actor in the event that he or she verbally stumbles.

Similar strategies are also employed in diplomatic-style meetings where the meeting delegates, sitting in an inner circle, are surrounded by aides who whisper in the delegate's ear or pass notes to him or her throughout the meeting. Alternatively, delegates may pass notes to the aides to be delivered to another delegate's contingent. The practices described here, however, differ substantially from this co-present practice by being invisible. Not only is the *content* of the messages unknown to parties outside the exchange, but even the *occurrence* of the exchange remains unknown unless one is a party to it.

***Participating in a Parallel Meeting.*** This communication type is typified by subgroups of meeting attendees engaged in backstage conversations catalyzed by the focal meeting but independent of its current content and flow. Two types of instant messaging conversations identified in our data illustrate this subgenre. Several participants described participating in conversations critiquing either the meeting or other participants' comments. These conversations are sufficiently distinct, characterized by the exchange of personal opinion and the absence of an objective, as to represent a subtype of the parallel meeting subgenre. In addition to being potentially distracting, these conversations run the risk of inadvertent exposure as illustrated by this quote:

"Sometimes you type the wrong message in the wrong [IM conversation] window when you have multiple windows open."

Another type of parallel meeting consisted of a subgroup discussion triggered by a meeting topic but decoupled from the ongoing meeting content. These conversations differ from critiquing conversations by the existence of an objective, even if only an implicit one. Typically a subgroup of the meeting participants enter into a problem-solving or strategy-development conversation in response to new information received in the meeting. At least some participants perceived this use of instant messaging to be a time-saver, as illustrated in the following quote:

"Use of IM in the background shortens meeting times because it prevents subsequent meetings to enable some teams to draw conclusions. For example, one group in a meeting can have private conversations to reach a conclusion that would normally require adjournment and a subsequent meeting to discuss."

A theatrical analogue to this conversation type might be a meeting of the stage hands to develop a system for labeling props or minimizing prop misplacement, seemingly oblivious to the current show on stage. The difference here is that the stage hands are also "actors," standing on the metaphorical stage of the focal meeting while obviously engaging in backstage interaction.

***Managing Extra-Meeting Activities.*** Conversations to manage extra-meeting activities are characterized by interactions between meeting attendees and others outside the meeting about topics unrelated to the focal meeting. Though some participants used the features of the technology to designate themselves as "away" or "busy" when participating in meetings, these designations block messages in AIM, so it was common among GlobalNet employees to remain "available" during meetings unless instructed to do otherwise by the meeting facilitator. For instance, participants frequently received IMs during our interviews. Typically, they

immediately acknowledged the message with a quick answer or a promise to respond later. One GlobalNet participant noted that the chances of receiving a response from someone engaged in a meeting were about "50/50." As a previous quote suggested, this practice was also commonplace at PharmaCo among those who did use instant messaging during meetings.

A common justification for engaging in this practice by managers was the need to be accessible to their subordinates. Due to the large proportion of managerial time spent in meetings, instant messaging was a manager's only access to his or her subordinates—and vice versa—for several hours at a time. One manager described "training" new employees to use instant messaging to contact her due to the proportion of her workday devoted to meetings.

While the use of instant messaging to interact with others outside the meeting about unrelated topics may detract attention from the meeting, the study participants who described this practice to us gave the impression that being able to monitor extra-meeting activities made them feel less trapped by their extensive meeting obligations. Prior to the use of instant messaging, secretaries would bring messages into meetings, call attendees out to take phone calls, and more recently, meeting attendees receive cellular phone calls. Rather than just substituting for these earlier practices, however, invisible whispering differs from these practices in that the "actors" remain physically on stage while giving instructions to backstage personnel—or conversing with their spouse.

In the next section, we consider how these communicative practices collectively affect the boundaries of meeting interaction. We then draw on prior studies to consider the implications of invisible whispering for group effectiveness.

### Discussion and Implications

We return now to Goffman's theatrical metaphor to consider how the uses of IM described in the previous section affect the structure of meeting boundaries. Based on the communicative purposes identified in this study, the use of instant messaging enables meeting attendees to participate simultaneously in front and back stage interactions, to participate in multiple, concurrent, back-stage interactions, and to influence front-stage activity through real-time backstage communication. Said differently, in any given meeting, participants may play the roles of (1) "actor," performing the main business of the meeting, (2) "audience member," following the focal meeting as a performance to be understood and internalized, (3) "stage manager," cueing actors and positioning "props" in the form of information for use by others, (4) "director" and "prompter," invisibly shaping the events unfolding on the front stage, (5) "critic," commenting on the meeting as if they themselves did not play a role, and (6) "disinterested bystander," interacting with others on topics unrelated to the meeting. In addition, participants may be playing many of these roles near- synchronously by participating in multiple concurrent IM conversations.

While users overall seemed to perceive invisible whispering as contributing to their individual and collective productivity, we do not have data to evaluate the outcomes of the meetings described. The psychological literature on multi-tasking and cognitive load (Carpenter et al, 2000; Shellenbarger, 2003), however, and prior GSS studies that have identified the limitations of meeting participants to attend simultaneously to overly abundant information input (Dennis, 1996; Dennis and Garfield, 2003), suggest that effectiveness may suffer. At the same time, instant messaging may overcome some limitations of previous GSS tools because messages

are predominantly brief one-to-one exchanges, making it easier for participants to identify and retain relevant pieces of information (Dennis, 1996; Dennis and Garfield, 2003).

We consider the case of a group job interview as a particular example of the more general case of a group decision process. In the example reported to us, meeting attendees participated simultaneously in front and multiple backstage conversations with the goal of reaching a consensus decision. Participants reported that they found the process very efficient: "We were able to reach a decision during the interview rather than having to schedule a follow-up meeting like we would have done without instant messaging." It is unclear, however, whether they were effective in terms of making the best decision regarding the interviewed candidate. Taking this as our point of departure, we consider how the alteration of communicative boundaries through the use of instant messaging might alter the processes of information sharing, impression-formation, and decision-making.

In a face-to-face group interview situation, participants would have presumably developed questions and some plan for asking them backstage, prior to the interview. Front stage, the candidate's responses would have likely prompted additional questions. This process would have continued for some until the questions or time were exhausted. During the interview, each interviewer is front stage. So though forming impressions, he or she keeps these to him or herself until after the interview. Once backstage again, the interviewers would have exchanged impressions, finding ways to synthesize their ideas and resolve differences of opinion. Based on our experiences in organizations, this exchange of impressions and information might have occurred in a face-to-face context immediately following the interview, some days after the interview, or through a combination of telephone calls and emails. Impressions would have been formed first, followed by information-sharing and negotiation.

In contrast, in a communicative environment supplemented with instant messaging, the front and backstage interactions occur simultaneously. As the interviewee responds to questions, interviewers share their impressions with one another: "He doesn't understand X!"; "She seems really good at Y." In the case reported to us, all interviewers were logged into the same group IM, or "chat," session, so comments were shared with all group members simultaneously.

This restructuring of the process to collapse front and backstage interactions raises several questions about the quality of the resulting process. First, what are the implications for the conduct of the interview itself, here a proxy for the information-gathering stage of any decision process? Does the exchange of early impressions foster a more multi-dimensional, and, therefore, potentially superior information-gathering process, or does the members' splitting their attention between the front and potentially multiple backstage interactions result in missed cues in one arena or the other?

Another challenge in decision processes is the sharing and assembling of distributed information. Use of the group "chat" would seem to circumvent this problem. However, members also had the option of sending instant messages to individuals, potentially creating new information asymmetries. So another question regarding the use of instant messaging to supplement meeting-related communication would be whether it results in improved, unchanged, or worsened information asymmetries (Brashers, Adkins, and Meyers, 1994; Dennis, 1996; Dennis and Garfield, 2003)?

Another line of inquiry concerns the consequences of sharing impressions during the interview—or any other information gathering process—rather than afterward. Psychological studies have shown that judgment is strongly influenced by salient information (Barge and Keyton, 1994; Brashers et al, 1994). The expression of a strongly positive or negative opinion

early in the process during impression formation could act as an “anchor” for others’ judgments around which they adjust their own evaluation only slightly (Rutledge, 1993). In addition, once a majority opinion forms, it becomes more difficult for minority opinions to be expressed and seriously considered (Dennis, Hilmer, and Taylor, 1997; Martin, Gardikiotis, and Hewstone, 2002). These effects are typically more pronounced when the party expressing the initial opinion or majority view holds a one-up position.

Finally, assuming that all participants managed to form independent impressions prior to the negotiations to reach a final decision, does the use of instant messaging facilitate negotiations or impede them (Dennis, 1996; Dennis and Garfield, 2003; Dennis et al, 1997)? On the one hand, invisible whispering channels may offer the opportunity for less powerful group members to develop alliances or for more powerful ones to ally with less powerful members without risk of losing face. In addition, electronic channels enable participation by quieter or less aggressive participants who might have trouble finding an opportunity to express their opinion in a face-to-face meeting (Mantovani, 1994). These studies suggest that instant messaging could facilitate the negotiation process to reach consensus. So the quality of the decision outcome may hinge primarily on the quality of the information-gathering and information-sharing processes preceding the negotiation.

Though limited, this example provides an instructive case of how altering the communicative boundaries of meetings could affect decision quality. In addition, it illuminates a number of issues worthy of further exploration to understand the implications of this new communicative practice for meeting effectiveness more generally.

### Summary

We have reported on a particular finding of interest from an exploratory study of instant messaging use in two knowledge work organizations: the use of instant messaging to participate in “invisible whispering” during meetings. We used the notion of genre to distinguish six subgenres of invisible whispering and employed Goffman’s theatrical metaphor to demonstrate how these practices restructure the boundaries of meeting interaction. To consider the implications of the identified boundary shifts, we drew on existing literature to consider how meeting processes and outcomes might be both enhanced and compromised, proposing a number of questions for further exploration in subsequent studies. While the organizational members perceived invisible whispering to make them more efficient and effective, no outcome measures were available to verify these claims.

### References

- Barge, J.K. and Keyton, J. (1994). Contextualizing power and social influence in groups. In R. Frey (Ed.), *Group communication in context: Studies of natural groups*, (pp.85-106). Hillsdale, NJ: Erlbaum Assc..
- Brashers, D. E., Adkins, M., & Meyers, R. A. (1994). Argumentation and Computer-Mediated Group Decision-making. In L. R. Frey (Ed.), *Group Communication in Context: Studies of Natural Groups* (pp. 263-282). Hillsdale, NJ: Lawrence Erlbaum Associates.

- Cameron, A. and Webster, J. (2005). Unintended consequences of emerging communication technologies: Instant messaging in the workplace. *Computers in Human Behavior*, 21, 85-103.
- Carpenter, P. A., Just, M. A., and Reichle, E. D. (2000). Working memory and executive function: Evidence from neuroimaging. *Current Opinion in Neurobiology*, 10: 195-199.
- Chen, C. Y. (2003). The IM Invasion. *Fortune*, 147(10): 135-138.
- Cutrell, E., Czerwinski, M., and Horvitz, E. (2001). Notification, Disruption, and Memory: Effects of Messaging Interruptions on Memory and Performance. Paper presented at the Human-Computer Interaction--Interact '01, Tokyo.
- Dabbish, L. and Kraut, R. (2003). Awareness Displays and Interruptions in Teams. Paper presented at the Annual Meeting of the Academy of Management, Seattle.
- Dennis, A.R. (1996). Information processing in group decision-making: You can lead a group to information, but you can't make it think. *MISQ*, 20(4), 433-458.
- Dennis, A.R. and Garfield, M.J. (2003). The Adoption and Use of GSS in Project Teams: Toward more participative processes and outcomes. *MISQ*, 27(2), 289-323.
- Dennis, A.R., Hilmer, K., and Taylor, N.J. (1997). Information Exchange and Use in GSS and Verbal Group Decision Making: Effects of minority influence. *JMIS*, 14(3), 61-88.
- DeSanctis, G. and Poole, M.S. (1994). Capturing the Complexity in Advanced Technology Use: Adaptive Structuration Theory. *Organization Science*, 5(2), 121-148.
- Economist. (2002). Instant Messaging joins the firm. *Economist*, 363(8278): 5-7.
- Goffman, E. (1959). *The Presentation of Self in Everyday Life*. Garden City, NY: Doubleday & Company, Anchor Books.
- Griffith, A. (2002). Beyond Chat - Business Uses of IM Technologies. Software and Information Industry Association internal whitepaper, January.
- Grudin, J., Tallarico, S. and Counts, S. (2004). Your channel or mine: Email, phone, or messaging? *Proceedings of the Conference on Computer-Supported Collaborative Work*, 2004.
- Isaacs, E., Walendowski, A., Whittaker, S., Schiano, D. J., and Kamm, C. (2002). The Character, Functions, and Styles of Instant Messaging in the Workplace. Paper presented at the Computer-Supported Cooperative Work, New Orleans.
- Lovejoy, T., & Grudin, J. (2003). *Messaging and Formality: Will IM Follow in the Footsteps of Email?* Paper presented at the INTERACT 2003, Zurich.
- Mantovani, G. (1994). Is computer-mediated communication intrinsically apt to enhance democracy in organizations? *Human Relations*, 47(1), 45-62.
- Martin, R., Gardikiotis, A., & Hewstone, M. (2002). Levels of consensus and majority and minority influence. *European Journal of Social Psychology*, 32(5), 645-665.
- Nardi, B. A., Whittaker, S., and Bradner, E. (2000). Interaction and Outeraction: Instant Messaging in Action. Paper presented at the CSCW, New Orleans.
- Orlikowski, W., & Yates, J. (1994). Genre Repertoire: Examining the Structuring of Communicative Practices in Organizations. *Administrative Science Quarterly*, 39(4), 541-574.
- Panteli, N. (2004). Discursive articulations of presence in virtual organizing. *Information & Organization*, 14(1), 59-81.
- Poe, R. (2001). Instant Messaging Goes to Work; <http://www.business2.com/articles/mag/0,1640,14845,FF.html> (downloaded 5/06/2003).

- Quan-Haase, A., Cothrel, J., and Wellman, B. (2004). Instant Messaging as Social Mediation: A case study of a high-tech firm. *Proceedings of the Conference on Computer-Supported Cooperative Work*, Chicago.
- Rubinstein, J. S., Meyer, D. E., and Evans, J. E. (2001). Executive Control of Cognitive Processes in Task Switching. *Journal of Experimental Psychology--Human Perception and Performance*, 27(4): 763-797.
- Rutledge, R. W. (1993). The Effects of Group Decisions and Group-Shifts on the Use of the Anchoring and Adjustment Heuristic. *Social Behavior & Personality*, 21(3), 215-226.
- Shellenbarger, S. (2003). New Studies Show Pitfalls of Doing Too Much at Once, *The Wall Street Journal*, February 27.
- Shiu, E. and Lenhart, A. (2004). How Americans use instant messaging. PewInternet & AmericanLife Project. White paper, September 1.
- Sproull, L. and Kiesler, S. (1991). *Connections: New ways of working in the networked organization*. Cambridge, MA: MIT Press.
- Turner, J. W., and Tinsley, C. H. (2002). Polychronic Communication: Managing Multiple Conversations at Once. Paper presented at the Academy of Management, Denver.
- Yates, J. and Orlikowski, W. (1992). Genres of Organizational Communication: A Structural Approach to Studying Communication and Media. *Academy of Management Journal*, 17(2), 299-326.

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