

Backchannel: Whispering in Digital Conversation

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Abstract

Backchannel in digital conversations permits private communication visible only to the sender and receiver. Backchannel is multithreaded, substantial, and governed by many social conventions; it persists only if captured in users' private logs. To better understand the backchannel's function—and to predict ways backchannel may be affected by application design and attempts to capture it on a server-wide scale for research and analysis—we analyzed private transcripts of meetings and class sessions held in MUDs. We identified five backchannel categories: process-oriented, content-oriented, participation-enabling, tangential, and independent backchannel. Software designers can use these results to understand how the backchannel should function in digital conversation applications. Making backchannel overtly available for study would require making its presence and content visible and its content persist, affecting the nature of the backchannel and raising social and ethical issues.

1. Introduction

Backchannel communication during public digital conversations is a well-known phenomenon. Widely used during both synchronous and asynchronous conversations, it permits private communication that is visible only to the sender and receiver, not to the group. Our purpose in this study is to begin to analyze the function of the backchannel discourse that underlies public conversations in synchronous-communication environments. Understanding the role of the backchannel in these digital discussions is useful for those who use synchronous communication. Our findings could also inform designers of applications for synchronous interactions as they consider how to implement and represent capabilities for backchannel communication. In addition, our study can contribute to the consideration of questions related to the study of

backchannel: How might digital interactions change if backchannel communication were captured on a server-wide basis for study? What are the ethical considerations for doing so?

Analyzing individual users' logs of their backchannel communications in MUD environments, we characterize the backchannel and present a taxonomy of its use. We identify five categories of backchannel: process-oriented, content-oriented, participation-enabling, tangential, and independent discourse. We explore some potential ways to make backchannel available for study: making its presence visible, making its content visible, and making its content persist. We conclude by discussing the extent to which the findings based on this synchronous conversational medium generalize to other digital conversations, both synchronous and asynchronous.

The term *backchannel* is defined a number of ways, depending on the discipline in which one is working. Furthermore, its spelling has not stabilized yet, so it can be found in all of its forms — backchannel, back-channel, and back channel — in current usage.

In network and systems architecture, for example, the backchannel refers to the physical or logical pathway back from the source of most of the data. *The Web Dictionary of Cybernetics and Systems* defines backchannel as “communication which travels through informal rather than formal channels. Governments and players in bureaucracies use Backchannel or informal communication to test reactions while maintaining deniability” [1]. This political use of the term is by far the one most often indexed by news-outlet services, and in some metaphorical use, it may be developing a negative connotation, suggesting duplicity.

Linguists (especially those specializing in pragmatics, conversational analysis, discourse processes, sociolinguistics — all of whom study interactive conversational structure) have worked on the concept of face-to-face oral backchannel for three decades. McLaughlin defines face-to-face “backchannel utterances” this way: “Brief

arguments, repetitions, or mirror responses by a listener that are believed to occur primarily during pauses in the turn of the speaker who has the floor; usually characterized by a reduced set of the normal speaker-state signals” [7, p. 270]. That is, backchannel utterances are expressions like “yeah,” “is that right,” and “uh huh,” finishing the speaker’s sentence, repeating elements, and so on, contributions to a conversation that don’t precisely take the speaker’s turn but indicate attention and possibly agreement.

Some writers have applied the concept of this face-to-face backchannel to some forms of digital conversations. For example, Cherny [2] focuses on the gestures and phatic language in the mainchannel as they represent what would be backchannel in face-to-face interactions. There is some reason in this. Experienced users of synchronous communications technologies learn to skim the nodding, grinning, and other encouraging gestures some persistent-conversation environments offer because they are phatic, as face-to-face backchannel is, rather than substantial contributions to the conversation.

However, we are interested here in the communication that takes place privately between individuals who are at the same time present in a public digital conversation. This virtual backchannel is used for a much wider range of purposes than the largely phatic communication of the backchannel discussed by those studying face-to-face conversations.

2. What virtual backchannel is

The virtual backchannel is a private and unofficial channel of communication used for a wide variety of communications that cannot or should not be made in public: private discussions with friends; tangential or completely off-topic exchanges; assistance with rhetorical strategies, the meeting software, or group etiquette; phatic exchanges, and so on. A good share of the building of a virtual community takes place on the backchannel, and most meetings among experienced users of a particular virtual environment depend heavily on backchannel to help keep the public channel focused on the group’s task.

2.1. Virtual backchannel is private

Virtual backchannel is privately directed communication that occurs while participants are in a public space, taking part in mainchannel discourse. Virtual backchannel is not apparent in the public space.

2.2. Virtual backchannel is multithreaded

Online backchannel discourse is not susceptible to analysis of turn-taking because virtual communication

technologies obviate turn-taking protocols used in face-to-face conversations. Participants type and send messages that are posted as they arrive at the server. Because speakers take turns only in a technical sense, multithreading replaces turn-taking, and several threads, or topics, of a conversation may run simultaneously. Experienced users frequently backchannel with several people simultaneously and may have multithreaded backchannel conversations with any of those people. In environments where the mainchannel discourse must remain straightforward and focused, experienced users have much richer and more complex conversations backchannel than the participants in the mainchannel discourse ever see.

2.3. Virtual backchannel is invisible

In most environments, virtual backchannel is nearly invisible. Participants in the mainchannel discourse have no way of knowing for sure whether someone is backchanneling, let alone to whom the person is speaking or what they are saying (although some synchronous communication technology enables participants to determine if people are active when they appear inactive on the mainchannel). Because of the invisibility of virtual backchannel, participants are free to carry on lively private conversations, assist each other with participation strategies, and so on. Since members of the mainchannel see no obvious signs of backchannel conversations, they are not offended, intrigued, or otherwise disturbed by them. Meetings may progress more efficiently since business requiring only a few members can be addressed on the backchannel without disturbing or involving others.

3. Taxonomy of backchannel discourse

Because the backchannel occurs in relation to a mainchannel, a taxonomy of backchannel discourse is essentially a taxonomy of private conversation with allowances for characteristics of the electronic environment itself. Backchannel discourse in MUDs may take the form of individual utterance, or it may develop into a “thread,” or longer conversation, between what is usually two parties (although under some conditions participants can effect a kind of “group backchannel” by, for example, repeating their utterances to more than one recipient). Occasionally, a backchannel utterance is easy to categorize, but many backchannel utterances require an understanding of context, a sense of the writer’s purpose, and sufficient length to be categorized with certainty.

The taxonomy of backchannel discourse was developed through discourse analysis of chat transcripts from several MUDs (text-based, persistent, user-extensible virtual environments). Thirty-six transcripts representing a total of

62 person hours of chat were studied; each consisted of an individual participant's session log and showed both the mainchannel discourse and the participant's backchannel conversations with other participants. In cases where individual logs came from the same chat session (same mainchannel discussion, different backchannel discussion), the logs were assembled into a single log that gave a unified view of backchannel activity in the session.

Draft categories were developed during a study of small, focused backchannel interactions excerpted from an initial group of 24 transcripts. The categories were then refined during the coding of longer and more complicated backchannel threads from the same set of transcripts. Finally, the taxonomy was verified by coding every instance of backchannel discourse in the remaining 12 transcripts, which were the ones richest in backchannel interactions. At least two coders coded each transcript. When coders disagreed about the coding of a particular instance, they negotiated a final coding.

Telling participants in advance that their use of backchannel discourse will be studied may influence their use of the backchannel, yet not telling them makes it impossible for them to give prior consent. As a compromise, the transcripts for this study came both from participants who knew in advance that their backchannel was being studied and from participants who gave retroactive permission for the use of transcripts collected during previous, unrelated educational and research activities. Participants included students, teachers, researchers, and members of an online discussion group. Institutional Review Board approval was obtained for the study, and permission was obtained from every participant in the chat sessions. Online names and other identifying information have been changed to maintain confidentiality.

In the remainder of this section, we describe the categories of backchannel in the resulting taxonomy: process-oriented, content-oriented, participation-enabling, tangential, and independent backchannel discourse.

3.1. Process-oriented backchannel

Process-oriented backchannel analyzes or steers the mainchannel discourse or describes the experience of being in the online environment. Process-oriented backchannel also addresses technology issues that affect group process (e.g., net lag) or the differences between computer-mediated and face-to-face communication. For example, a new participant might narrate the difficulty of keeping up with a fast-moving conversation; a master teacher might advise a student teacher during an observation; a small group of leaders or facilitators might conspire to redirect the conversation and keep it on task. While long threads can develop about the process, often process-oriented backchannel is individual isolated comments like this:

Evelina whispers to Grasshopper, "I wish they'd take that converssation backchannel, we have guests here and we're not talking about their project!"

or

Crow pages Bamm-Bamm, "WOW this is going fast"

(In this and subsequent excerpts, we have used italics to set off backchannel utterances. Mainchannel utterances are in regular text. Ellipsis points [. . .] on a line by themselves indicate lines that are omitted.)

3.2. Content-oriented backchannel

Content-oriented discourse is a private response to the content of the mainchannel conversation. Often content-oriented backchannel criticizes or praises the content of the public discourse and the contributions of the participants. This kind of commentary might be directed by a listener to a current contributor in the mainchannel; for example a listener might wish to express surprise, agreement, or other reactions privately, perhaps to avoid cluttering the mainchannel with extra text, or because the reaction is private for some reason. In this excerpt, Maria reacts to a public statement from Grasshopper:

Grasshopper says, "the list of terms was from a dynamite chapter Maria authored, looking at how real and virtual community's representations converge (or don't)"

...

Maria pages Grasshopper, "Okay, we would have done without that little message to everyone!"

...

Grasshopper pages Maria, "the one about your chapter? gotta promote your super work! (:"

Other times, two listeners might share reactions in the backchannel because such comments would often be rude or distracting in the mainchannel; for example, jokes might seem to trivialize a speaker's words, and some kinds of criticism might seem inappropriate or even cruel.

3.3. Participation-enabling backchannel

The goal of participation-enabling backchannel discourse is to help users function better in the forum or environment in which a public discussion takes place. Topics of participation-enabling exchanges include technical assistance with commands and features used in the environment, and assistance with etiquette and conventions of the community using the environment. Newcomers might want to know whether their posting was actually seen in the public discourse, how to paste a relevant bit of text into the discussion, whether they need permission to speak, whether they're supposed to say something publicly before leaving a discussion, and so on.

Such information helps novices to participate more fully in discussions, take advantage of technical features of the environment, gain the community's approval, and feel more comfortable in the community. Many newcomers do not want to draw attention to themselves by asking beginner questions publicly, so they direct them, backchannel, to a user who seems more experienced and likely to be willing to help.

Here, for example, is a log of participation-enabling backchannel based on a technical question about a MUD command:

KLC . o O (or what is Hardy saying about Tess with that red ribbon?)

Sam pages KLC, "How do you do that little three O thing?"

Sawbones says, "Here's another quote from pg. 17- They were the best parts of life, its secret truth, its hidden reality."

Zucchini nods serious, and hands him the flyswatter

CathyLee says, "can we have some context, Sawbones? What's 'they'?"

KLC pages Sam, "type think xxx - it represents thinking or thought "

Bobby [to Serious]: it has a sort of omnipresence because i can't put any boundaries on it yet i understand it in many contexts...does that make sense

Sam . o O (what red ribbon?)

Receiving an answer to his technical question enables Sam to participate in the discussion in the way he desires.

Experienced users who see that novices need technical help or advice about etiquette often use the backchannel to offer assistance without being asked.

3.4. Tangential backchannel

Tangential backchannel discourse furthers in the backchannel a conversation that began in the mainchannel. Two participants might continue on the backchannel with a thread that gets dropped by the mainchannel, for example. Or they may discuss a topic that the mainchannel reminds them of, as in the following discussion between a teacher and a student:

Eddy says, "I really can't help getting entirely involved with the novel -- that's why I can't keep up.. WASN'T IT EVELINA who said, " those who don't remember their history are doomed to repeat it." and isn't it relative?"

...

Evelina grins eddy. it wasn't me, it was ...

...

Evelina says, "George Santayana!"

...

Eddy pages Evelina, "you say George Santayana, but I've heard that quote comes from Benjamin Franklin.. do you know what I'm talking about? (I'm going to use it in a future studies presentation..)"

...

Evelina pages Eddy, "i'm sure it's george santayana, really sure."

Often, only when a thread develops substantially can we identify with certainty that it is a tangential continuation of the mainchannel discourse.

3.5. Independent backchannel

Independent backchannel conversations are private discussions of topics unrelated to the mainchannel discourse. Independent backchannel usually does not contribute to the participants' understanding of or participation in the mainchannel conversation, and it may arise, for example, when two participants who have a friendship or professional relationship take the opportunity of being in the same virtual place to discuss matters that are of interest only to them. Or it may begin as a conversation related to the public forum — as another kind of backchannel, that is — and evolve into a full-blown conversation that is independent of the mainchannel.

Here, for example, is an interaction whose basic content is reasonably common in academic online settings. The teacher, DocL, is working with the class as it comes to an understanding of Thomas Hardy's *Tess of the D'Urbervilles* when a student pages her:

Tom pages DocL, "-- a couple things I wanted to mention as asides:"

...

Tom pages DocL, "first, I'm giving a speech next hour on the future of literature, and I'm using borges, bush and the hypertext book from last quarter as references --"

...

DocL pages Tom, "excellent!"

...

Tom pages DocL, "second I need to find out what I can do between now and next week to pass this class."

DocL pages Tom, "pass in the papers, two for each novel"

...

Tom pages DocL, "and I forgot what the third thing"

Tom has his conversation with DocL privately because it concerns only Tom's activities. Also, holding the conversation publicly could derail the mainchannel discussion: other students might respond by bringing up further course-related "housekeeping" items they want to ask DocL about.

3.6. Summary of the taxonomy

Backchannel discourse allows participants to have private conversations in public spaces synchronous communication. In process-oriented backchannel, participants talk about the environment and generally attempt to work with group process. In content-oriented backchannel, participants reflect upon the content of mainchannel discussion privately. Participation-enabling backchannel provides technical and social assistance so participants can engage more fully in the public conversation without interrupting. In tangential backchannel discourse, participants briefly diverge from the mainchannel discussion; in independent backchannel discourse, participants follow private threads unassociated with the mainchannel. One purpose all of these types of backchannel share, however, is keeping private conversation private and the mainchannel uncluttered with side conversation.

4. Design issues

There are two broad reasons that exchanges between two people in an electronic environment are taken to the backchannel. One is that the content of the exchange may be private, whether it is a personal conversation or an experienced user coaching a newcomer on the backchannel in order not to embarrass her. Another is that if uttered in a public digital conversation, remarks such as “I think that Steve’s summary of Foucault’s point is accurate” and “My dog just upset her food bowl” would appear on the screen in the same way, in the same window, in the same format, and apparently with equal weight. When a work session or focused discussion is littered with group members’ off-topic remarks, it becomes difficult to separate the main conversation from the asides — and in fact the asides may pull the discussion away from its purpose.

To give users a means for private conversations, and a space in which to hold those side conversations that would interfere with the mainchannel discussion, the current design of most electronic environments hides backchannel exchanges from everyone except the sender and receiver. Participants in the mainchannel not only do not see the contents of others’ backchannel discussions, but they do not know when two members of a discussion are having a backchannel exchange. (In environments that show whether a user is active or not, it is sometimes possible to guess whether two users are backchanneling; two users who are reported as active but are not doing anything visible to other users might be suspected of backchanneling. However, this is usually only guesswork since a number of actions may cause a user to be reported as active without producing output visible to other users.)

Mainchannel conversations in digital environments may be considered persistent in that they are often captured by server-side logging devices. For example, MUDs used for meetings, classes, and other kinds of discussion groups often provide recording devices to capture mainchannel conversation for later review by participants or by group members who could not be present. The virtual backchannel, however, is usually not captured by the server. Users who want to preserve a backchannel conversation must do so for themselves, perhaps using their client software to capture a session log or pasting the contents of their backchannel exchanges into a text file.

Important design considerations for allowing users to work effectively with their own backchannel logs include making it easy for users to make private logs of their own backchannel activity, and helping users to visualize their own backchannel. Solutions to the latter have included displaying backchannel utterances in the same panel as the mainchannel, but using different syntaxes, typefaces, or colors, and providing separate panels or windows for backchannel conversations.

4.1. Changing the conventions

There is a natural tension between workspace awareness and privacy. (See Henderson [5] for a discussion of this tension and an example of its role in the design of a collaborative software application). The need (or desire) to know what other participants are doing may conflict with the need (or desire) of those other participants to keep their activities private. Any attempt to make backchannel discourse visible or persistent requires a decision about this tradeoff.

By *visibility*, we mean workspace awareness of backchannel activity and content at the time that the backchanneling occurs. By *persistence*, we mean awareness after the fact, via logs that include backchannel discourse. Awareness of backchannel activity, awareness of backchannel content, and persistence of backchannel content are related issues. In the following sections, we discuss each of these issues in turn, with consideration of the circumstances under which it might be desirable to provide them and design features that might help to support them.

4.2. Awareness of backchannel activity

Awareness refers to what participants know about the presence and activities of others in the workspace. For privacy reasons, awareness features usually provide very general information; for example, many virtual workspaces allow a user to see whether someone else is connected and active, but not what someone else is doing. An awareness feature for backchanneling might simply let others see that

a user is backchanneling, or it might show who is backchanneling with whom. During a face-to-face meeting, one might hear the hiss of whispering or see two people whispering to each other, without knowing what the whisperers are saying. Awareness of virtual backchanneling would be much the same.

There are various circumstances in which it might be desirable to provide awareness of backchannel activity. In face to face situations, it has been observed that awareness of a side conversation may cue participants that they need to take some action or make some response (Suchman [10], Heath and Luff [4]). For example, in a face to face class meeting, a teacher can often tell whether two students who are whispering are goofing off and need to be brought back on task, or whether they are trying to help each other with the material, in which case the teacher may want to slow down or repeat some material. A teacher or discussion leader in a virtual environment may be able to make similar uses of awareness of backchannel activity among the participants. If two students are silent on the mainchannel but active on the backchannel, the teacher may want to ask the students if they need assistance or need more time to accomplish some task.

A primary design goal for providing awareness of backchannel activity is to provide it in an unobtrusive way that does not clutter the mainchannel. Inserting any kind of note into the mainchannel every time someone backchannels (e.g., “Chris whispers” or “Chris whispers to Alex”) provides awareness, but if the number of backchannel messages is substantial, this approach may obscure or provide distractions from substantive messages in the mainchannel. Alternative approaches include providing a command that users can execute to see who is backchanneling, or providing a separate status window showing a list of participants and their most recent type of activity. In chat visualization software, such as Babble (Erickson, et al. [3]) and Chat Circles (Viegas and Donath [11]), backchannel conversations could be explicitly represented. However, since backchannel conversations may be brief and numerous, and since a participant may engage in multiple overlapping backchannel conversations, it would be necessary to show a participant in multiple conversations simultaneously and to provide tools for managing the visibility of large numbers of backchannel conversations. Whatever the approach, individual participants need to be able to elect to keep their own backchannel activity private.

4.3. Awareness of backchannel content

Visibility of backchannel content means that all members of a public conversation can see the content of backchannel utterances. The (unlikely) analog in face-to-face situations is being able to hear what is said during all

whispered side conversations, even those that overlap temporally with mainchannel utterances or with each other. Awareness of backchannel content implies awareness of backchannel activity, since being able to see the contents of side conversations as they unfold also reveals that backchanneling is occurring.

Circumstances under which it might be desirable to provide awareness of backchannel content include collaborative activities in which participants work in subgroups on related tasks. The conversation of one subgroup may spark ideas for another and may help to identify relationships among the various tasks. A number of researchers, including Suchman [10], Heath and Luff [4], and McDaniel, et al. [6] have studied users who benefited from overhearing each other’s real-life or virtual side conversations.

As is the case for awareness of backchannel activity, making the content of backchannel discourse public needs to be done in a way that does not clutter the mainchannel. Simply interleaving backchannel discourse with mainchannel discourse would likely result in an unacceptable amount of multithreading. Using a different color or typeface for backchannel utterances might help, but not alleviate, the problem. A better approach would be to provide separate channels, as discussed by O’Day [9] and Muramatsu and Ackerman [8], with time stamping to make it easy to synchronize transcripts. Individual participants need to be able to elect to keep their backchannel discourse content private.

4.4. Persistence of Backchannel Content

Persistence of backchannel content means that backchannel utterances become part of a public log. They may be embedded in the main session log or recorded on one or more separate logs. The analog in face-to-face meetings would be taking notes about or recording not only the main conversation, but all of the side conversations as well. If backchannel logging happens without workspace awareness of backchannel activity and content, then backchannel discourse becomes public only when the log is read. The circumstances under which it may be desirable to capture backchannel content in a public log are the same as those noted for awareness of backchannel content, above.

Viegas and Donath [11] propose a visualization tool for chat histories in which each conversation is represented as a vertical timeline, with rectangular nodes for the utterances. The content of an utterance appears when the mouse pointer rolls over a node. Similar timelines have been used for static diagrams of chat histories, that is, by McDaniel, et al. [6]. Timelines could be added for backchannel conversations. Moreover, the timelines could appear and grow in real time during a chat session. Since there are apt to be numerous backchannel conversations,

tools will need to be provided for managing them. Whatever the representation, individual participants need to be able to keep their backchannel discourse from being logged.

4.5. Awareness and persistence change the backchannel

Making backchannel discourse visible, persistent, or both causes profound changes in the nature of the backchannel. It introduces self-censorship, because participants are unwilling to say publicly many of the things they are willing to say in private. It also introduces group censorship, because the group, rather than the individual, becomes the arbiter of what is appropriate discourse for the backchannel. Every type of backchannel discourse discussed in Section 3, above, is affected.

Process-oriented backchannel is affected because suggestions for steering the public discourse become public and the ability for private mentoring goes away. For example, a master teacher can no longer send private suggestions to a student teacher during class. Commentary is affected because all feedback to and about individual participants becomes public. Tangential backchannel loses the topics that can only be discussed in private, such as a student's revealing to the instructor that she has been the victim of the type of sexual abuse the class is discussing. Also, tangential backchannel no longer provides a place for trying out ideas privately before taking them public. The community-building character of independent backchannel is lost, unless such discourse becomes public, with the side effect of cluttering the screen and the logs. Similarly, participation-enabling discourse clutters the screen and the logs and no longer protects a participant from the embarrassment of needing to ask about the technology or group protocols.

Careful consideration has to be given to whether advantages outweigh these disadvantages in a given circumstance. When backchannel discourse becomes visible and persistent, it changes into side-conversation discourse, and serves different purposes. In most circumstances, individual participants should have control over whether their own backchannel utterances are visible and persistent.

5. Conclusions

In face-to-face conversations, whispering, passing notes, and other private conversations can seem rude, disruptive, or otherwise nonparticipatory. In virtual conversations, however, backchannel discourse can help focus and define the mainchannel conversation by influencing both process and content. In the backchannel, participants can unobtrusively help each other with the quality and success

of their performance in the mainchannel. Also, private conversations that do not belong in public can be carried on in the backchannel without disruption of the mainchannel.

The taxonomy of backchannel discourse presented in this paper is based on transcripts of conversations that took place:

- in synchronous environments
- in environments where users can create virtual rooms and objects
- in academic and research work settings

While we have not yet studied the use of backchannel discourse in other software environments and work settings, we can speculate about similarities and differences and identify some problems for future study.

5.1. Synchronous vs. asynchronous environments

We expect that process-oriented, content-oriented, and tangential backchannel are common in asynchronous conversation environments such as email discussion groups. We also expect that participation-enabling backchannel takes place in asynchronous environments, but that it deals more with protocols such as how to subscribe and unsubscribe from the discussion. We are not sure that the notion of independent backchannel is meaningful in asynchronous conversation environments. In a synchronous environment, independent backchannel is related to mainchannel discourse by happening concurrently with it. In an asynchronous environment, there is no concurrent mainchannel conversation.

5.2. MUDs vs. other synchronous environments

MUDs differ from many other synchronous chat environments in that they permit users to create and use virtual rooms and objects. It is a topic of our future research to study whether backchannel discourse is affected by the place-based nature of MUDs. In addition, backchannel facilities vary from one kind of synchronous conversation environment to another and even from MUD to MUD. For example, some chat environments permit a backchannel remark to be broadcast to more than one other participant. Whether these variations affect the categories of backchannel use is also a matter for future study.

5.3. Academics/researchers vs. other users

All of the transcripts we studied were session logs from students, instructors, researchers. In these communities, backchannel discourse is widely used for constructive purposes. However, our participants are not necessarily representative of other communities of use. Consider, for instance, a gaming community where backchannel

discourse is used for developing private strategies and alliances and for distracting and misleading competitors. Like the conversations of academics and researchers, the gamers' conversation is goal-directed, yet the different nature of their goals could influence their use of backchannel. Furthermore, in social MUDs or other online social environments, where backchannel can have highly personal content, participants may have different expectations for the role of backchannel and different attitudes about permitting their backchannel discourse to be studied. Researching backchannel under these conditions raises serious ethical questions that might make major studies difficult at best, especially if the backchannel were to be collected without the participants' awareness or the restraint that prior consent might contribute.

Many regular users of the backchannel are strongly opposed to violating the privacy and invisibility of the backchannel for research or other purposes. But there is value in experimenting with greater awareness of the presence or the content of backchannel under some conditions. To imagine ways of representing the virtual backchannel requires an understanding of how backchannel is experienced by its users, an understanding that can contribute to practices in online discourse, to research in virtual communication, and to the design of environments to facilitate both.

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