

Radicals of Presentation in Persistent Conversation

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Abstract

Going forward from Northrop Frye, we derive from genre literature the idea that radicals, i.e., root characteristics, of persistent conversation exist and can help define important aspects of such conversations. We identify from longitudinal interviews with members of a distributed, computer-supported learning environment three dimensions of interactivity that revolve around speaker-audience relations. We propose three “radicals of presentation” in persistent conversation: Visibility, the means, methods, and opportunities for presentation, addressing primarily speakers’ concerns with the presentation of self; Relation, the tie between speaker and audience, and among audience co-participants, addressing the speaker’s concerns with the range and identity of the audience, and audience members’ concerns about relations with each other; and Co-Presence, the temporal, virtual, and/or physical co-presence of speaking and listening participants, addressing concerns about being with others at the same time and place, and giving and receiving immediate feedback. We conclude with implications for social and technical design.

Introduction

Recent theoretical discussion has taken the concept of “genre” from the field of literary and rhetorical analysis and extended it to the field of social analysis, and from there to the examination of community behavior online. This school of thought holds that more-or-less tightly knit collectives of individuals (“discourse communities”) use rule-based and conventionalized means, i.e., genres, to accomplish social goals (e.g., [20]). This view has proved useful for studying the way in which electronic communication changes conversational practices and structures online community (e.g., [6,7, 38]). The paradox of electronic communication is that its persistent nature—the way in which it “may be searched, browsed, replayed, annotated, visualized, restructured, and recontextualized” [7], puts it somewhere on the spectrum between speech and writing. Moreover, it is an unfamiliar type of communication to many, requiring that rules, conventions,

and genres be learned through local use [26]. Add to this the ability for computer-mediated communication (CMC) to support distributed collectives, and we find the rules of conversation open to new interpretations. We find our problem in defining how to accomplish social goals online – such as getting work done, making friends, and sustaining community – becomes one of how to help community members identify and use genres associated with *persistent conversation*.

In this paper, we explore the work of writers on genre and community to explicate findings about communication, media use and community among members of a distributed, computer-supported learning environment. In the course of ongoing research on how to sustain work and community among these online students, we became interested in how their reports showed how they came to learn and use media in common ways. These recurrent patterns of communication purpose and form suggested that an understanding of genre would help us understand the basis of their community. We derive from genre literature the idea that radicals, i.e., root characteristics, of persistent conversation exist and can help define important aspects of such conversations.

We begin by reviewing key studies in genre and community, then proceed to apply principles of genres to the analysis of longitudinal interview data gathered from participants of the online educational program.

Genre and community

Defining Genre. Most recent studies have followed Miller [20] in defining *genre* as the formal means through which social action is accomplished. Genres have rules and combine both the *purpose* and *form* of a presentation. An important defining characteristic is that the purposes expressed in genres are defined by the community which uses them, not by individuals: shared rules must be learned and used for genres to operate. Genres may also operate at a number of different levels, consonant with theories of hierarchical levels of meaning, e.g., from the level of the business letter to the level of the epic. A genre is ultimately, as Miller states, “a rhetorical means for mediating private intentions and social exigence; it

motivates by connecting the private with the public, the singular with the recurrent” [20, p. 163]. Thus, when individuals choose a particular time, place and manner of presentation that others have used before, they also adopt the local understanding of what it means to make such a presentation.

Orlikowski and Yates [24] have also shown how genres work as typified responses to recurrent situations within organizations. They suggest that the “frequency with which specific genres are enacted at various times by community members” can indicate “a community’s different phases of interacting” [24, p. 547]. In social situations, a whole repertoire of genres can be required to cover different aspects of a single social enterprise, e.g., business meetings, business letters, and contracts to achieve a client-supplier relationship. At other times, a genre can be part of set of successive genres, as when a letter of acceptance (or rejection) is composed subsequent to a letter of application (see also [25, 38]).

Parallel to this line of investigation is the search for the existence and purposes of “cybergenres.” Writers in this area are interested in coming to understand where online communications, such as email, inherit from traditional genres such as memos and letters, and where they define new forms that could not be sustained outside electronic means (e.g., recent HICSS minitracks [9, 27, 28]).

Pre-Genres, Primary Genres, and Secondary Genres.

An outstanding issue is the way in which genres can operate at different levels, and at what level a true “genre” comes into being. As noted above, Miller [20] accepts that the existence of hierarchical levels of meaning gives rise to numerous levels, and therefore numerous kinds of genres. Orlikowski and Yates accept as genres “socially recognized types of communicative actions – such as memos, meetings, expense forms, and training seminars – that are habitually enacted by members of a community to realize particular social purposes” [38, p. 84]. By contrast, Swales [32] requires an indication of purpose to be inherent for a form to be accepted as a genre. In particular, he considers it important how one names a genre, and he takes note of the level of specificity, based on purpose, found in genre names. For example, the word *letter* used alone “makes reference to the *means* of communication, but lacks as a class sufficient indication of purpose for genre status. The same observation holds for subsets of the class that refer to fields of activity such as business letters or official letters.” Swales instead proposes to call these incomplete forms “pre-genres” [32, p. 61]. Though he takes mild exception to the distinction which ethnographer and sociolinguist Dell Hymes makes between genres and so-called “speech events,” Swales himself seems to make a similar distinction when he

considers conversation to be a “pre-genre” entailing form but not purpose [32, pp.38-39].

Presumably, if we were to follow Swales in this opinion, we would not be able to discuss persistent conversation in terms of genre. However, a totally opposite theoretical view can be derived from Bakhtin, who has defined speech genres in terms of the generation of a complete utterance [1, p.71]. As soon as we have produced a finalized utterance and we presume a change of speaking subject, we participate in the use of speech genres. Every utterance, whether a simple response in ordinary conversation or a complete novel, answers some previous utterance and provides the opportunity for a further response. Complex forms of communication are considered “secondary genres” and they are always made up of “primary genres.” Moreover, every utterance is addressed to a certain audience (real or imaginary) from whom it invites a further utterance or response. From these premises come Bakhtin’s powerful and influential ideas of *addressivity* and *dialogism* [1, 2]. We follow Bakhtin when we assert the relevance of discussing persistent conversation in terms related to genre, and in particular, when we accept the importance of speaker-audience relations in forming genres.

Super-Genres and the Radicals of Presentation. In exploring writings on genre, and using this approach to explicate behaviors in our online environment, we have been struck by the terminology advanced by the great literary critic and theorist, Northrop Frye, in his complex study *Anatomy of Criticism* [10]. Frye’s works have not been applied much in the context of rhetorical community, mainly because he is unfortunately associated primarily with a taxonomical project, i.e., one involved “primarily to locate a genre” within a documentary universe [20, p. 153]. However, Frye himself stated that “the purpose of criticism by genres is not so much to classify as to clarify ... traditions and affinities, thereby bringing out a large number of literary relationships that would not be noticed as long as there were no context established for them” [10, pp. 247-248]. Moreover, not all the relationships Frye talked about were literary, and he pointedly concluded his study with a consideration of the rhetoric of non-literary prose.

In the “Theory of Genres,” the fourth essay of the *Anatomy*, Frye defined the classical genres of Drama, Epic and Lyric, to which he added a fourth genre, Fiction, in terms of their *radical of presentation*. For Frye, “genre is determined by the conditions established between the poet and his public.” In Drama, words are *acted* in front of a spectator: “the hypothetical or internal characters of the story confront the audience directly, hence the drama is marked by the concealment of the author from his

audience.” In Epic, words are *spoken* in front of one or more listeners: the author confronts the audience directly, but the hypothetical characters of the story are concealed. In Lyric, “the poet normally pretends to be talking to himself or to someone else”; the words are *sung or chanted* by the poet, and these words are, as it were, overheard by an audience concealed from the speaker [10, p. 249]. Finally, in the modern genre of Fiction, words are *written* for a reader, and both the author and the characters are concealed from the audience.

Frye stresses that in examining any text or group of texts, we need to take into account such “radical” relationships—those which are at the root or basis of origin—presupposed between creator and audience for any such text(s). Essential to this idea is that there is no particular lexical content required in what we may call the “super-genres.” The content of Drama may span the spectrum from religious enthusiasm to realistic irony, but the genre itself becomes operative when we have *words acted in front of a spectator*. Working from a definition of genre based on the radicals of presentation, Frye was able to outline an entire “anatomy” of literary and non-literary forms. We felt that a study of persistent conversation in terms of genre should also consider whether here, too, certain underlying “radicals” exist. Indeed, we found this avenue so promising that we adopted Frye’s terminology in our study of the genres of persistent conversation.

Conversation fits intrinsically into Frye’s construct since it is fundamentally a verbal interaction requiring two or more interlocutors, one of whom at any time is the speaker while the other(s) act as audience. We stress, however, that our point is not to situate persistent conversation within a neo-Frye genre construct, but to clarify its essence by coming to an understanding of its root characteristics.

We now turn briefly to a description of the online community we studied and the data we collected. Then we resume our discussion of persistent conversation and outline the “radicals” we found to underlie community members’ root concerns with presentation.

Research setting and data collection

Longitudinal interviews were conducted with 17 students enrolled in the distance option of a Master’s degree program (<http://www.lis.uiuc.edu/gslis/degrees/leep.html>). Four hour-long interviews were conducted over a one year period with each student. The interviews explored the nature of the community, how students maintained their presence in the community, how they perceived others in the community, and how they made use of the available media to support their interactions. Students were all new to this type of environment and

thought of themselves as “pioneers,” operating in a “brave new world” that was little understood by “outsiders” (for more on community among these students, see [17]).

Interviews were conducted by phone in mid- and late semester Fall 1998 and Spring 1999. Interviews were tape recorded and then transcribed. Each interviewee has been given a pseudonym, with the names reflecting the gender of the interviewee. We used a grounded theory approach to our questioning and analysis [31]. Data were coded looking for themes in student experiences relating to attitudes and use of media in support of communication and community within the distance environment.

The distance students begin their program with a two-week on-campus “boot camp” where they complete one of the required courses, with a cohort of 30-50 others. After this session, students return home and take their remaining courses via the Internet, with a one-day, mid-semester, on-campus session taking place for each course. Their usual first course is the remaining mandatory course for the program, which they take with other members of their boot camp cohort. Thus, their first course at a distance is taken with others new to the distance format.

Courses are conducted using a combination of synchronous and asynchronous interaction within the distance program virtual environment which is accessible by password. Typically instructors deliver “live” lectures using RealAudio, and PowerPoint slides or web pages; the frequency of lectures is at the discretion of the instructor and may occur as infrequently as twice a term, or as frequently as once a week. During live sessions, students gather virtually in the class Internet Relay Chat (IRC) room. The names of all attendees are visible on the screen to each participant. Students use IRC to submit questions during the lecture; text submitted to the main class chat room is visible to all members of the class. The RealAudio, slides, web pages and main room text chat are archived and available for future reviewing. Separate chat rooms can be used during class for break-out sessions; such sessions are not recorded. Students can also use IRC’s “whisper” facility to direct a comment to specific others in the class, without the text being recorded or visible to any but the intended recipients.

Web-based bulletin boards (webboards) are used in most classes for regular discussion and exercises that carry on through the week. Postings persist for the duration of the class and then are archived and can still be accessed in later semesters. There are also general webboards for program-wide announcements and non-class related discussions. All students have email accounts supplied by the university, and a toll-free telephone line is available to call the faculty offices and instructors. Homework and assignments are generally “handed in” via the Internet as web pages, webboard postings, or

attachments to emails; students may sometimes send in assignments by fax or regular mail. Many courses include group projects and students coordinate their own interactions to complete these projects, usually via email, but sometimes also by the use of IRC chat rooms.

Presentation in persistent conversation

When we approach persistent conversation, we are faced with communication that inherits genre from both speech and literary practices. The learning environment inherits the speech genres of the traditional classroom, such as how to participate in class, communicate with an instructor, or carry on a discussion with fellow students, as well as the literary practices of academia, such as how to write a term paper, complete a homework assignment, or present a written argument. Yet, with the move into the online environment conditions change: e.g., previously private exchanges between instructor and student become public, as in the “handing in” of homework as public postings to a webboard, and previously ephemeral in-class discussions persist and remain available for later review. Every opinion, however well expressed, every joke, turn of phrase, and typographical error remains preserved, leaving a written legacy of an individual’s persona and style. Individuals are exposed in a persistent, public form that is at first unfamiliar to them and which few (if any) non-participants understand.

In coming to understand the communication needs, norms and genres of these distance students, we find, in keeping with Frye, that it is useful to speak in terms of *presentation* because the key concerns of students center on how to present themselves *before* they have come to recognize the genres of their environment. Students’ accounts of how they came to understand and use the norms of this environment suggest a root concern with learning how to behave appropriately. They actively seek how to present themselves, how to identify and get to know others, and how to ‘speak’ and write appropriately in persistent conversation. Students grapple with these issues when making sense of the purpose and forms of presentation with which they are faced.

We also find, in keeping with Frye, Bakhtin, Miller, and Swales, a pervasive concern with the *relation between speaker and audience*, a concern that centers on how speakers construct their presentation for the “other,” the one(s) for whom the presentation is acted, spoken, sung or written [10] and “for whom the utterance is constructed” [1, p. 94]. Such presentations are relational, i.e., based on interaction between two or more individuals, with the “tenor” of the presentation modified according to the “status and role relationships of the participants” [32, p.40]. Relational presentations form the basis of a

rhetorical community, particularly when the forms of expression achieve the level of a genre that recurs and reproduces itself (Miller [21] following on Giddens’ structuration theory [11]). However, relational views of community should not be limited to rhetorical community. Social network analysts, for whom relations are the building blocks of social structures, have pointed out how communities can exist ‘liberated’ from geography and neighborhood [34], maintained by telephones, cars and now through the persistent conversations achievable through computer media [35, 37]. These communities also create norms, producing and reproducing relational structures [4] and communication practices (Poole & DeSanctis [26] who also build on Giddens). Thus, persistent conversations, rooted as they are in relational exchanges achieve not only speaker-audience interaction, but also build community among members of the environment.

The manifestation of community among these distance learners was explored in the initial analysis of the interviews, which focused on whether these students felt they belonged to a community and what distinguished this community [17]. Results revealed that students do indeed perceive a community to exist, based primarily on their shared experience with other students in the program, and supplemented by technical and administrative support from program staff and directors, and their relationships with instructors. The early on-campus session provides initial bonding, but the more sustained community bond is based on having a group of others who understand their experiences in the virtual learning environment. However, it was not a community they understand when they first arrive. Their accounts show their struggle to come to terms with the new environment, learning to present themselves and to recognize and emulate the communication norms for persistent conversation—the emerging genres—that were recurring and becoming self-sustaining in the community.

Defining persistent conversation

We begin by defining the nature of *persistence* in “persistent conversation,” with particular reference to the distance learners’ environment. We see persistence as encompassing (1) the *permanence* of the presentation in its intended form, and (2) the degree of *correctibility* of that presentation. We will discuss each of these terms in sequence.

For a conversation to be a persistent conversation it must achieve some measure of *permanence*. The content must be captured as a fundamental means of making the presentation, making it possible to view and review the content at different times. Interjections or sentences may

be exchanged via IRC, paragraphs via email and webboards, essays and hypertext via webboards and web pages, but in each case, a defining moment comes when the speaker “sends” the message. They take an action that fixes the message and conveys it to others, thus taking a conscious action to “post” what they consider to be a completed presentation (or utterance in Bakhtin’s terminology). The permanence of the final posted presentation may vary from near ephemeral, e.g., as email is sent and quickly deleted, to near permanent, e.g., as messages, web pages, etc. are archived. Yet, at its *essence* it is enduring, because it is originally created and delivered through an intermediary, capturable form.

Operating at a distance from each other, and from the instructors and administrators, the distance students rarely use non-persistent means of conversation. Email, IRC whispering, IRC chat, and webboards carry the bulk of their conversations. Students report very little use of the phone, and most are only able to meet face-to-face when they come to campus for mid-term sessions. While here we consider only persistent conversation, we also note that the face-to-face sessions are enormously important to the students, by their own accounts providing them with forms of interaction they feel are missing online. Such face-to-face meetings stimulate social and emotional exchanges [15,17] and allow bonding that furthers the ability to work together at a distance, “to put faces with the voices I was hearing in the chat room” [Sue].

A related important characteristic of persistence is the *correctibility* of the message itself. While a message may be captured and stored, does the speaker have the option of correcting and reposting the message or of withdrawing it altogether? The greater the opportunities for correction, the lower the risk that speakers may feel in submitting their presentations. However, the greater the use of correction and deletion, the less permanent the overall structure of the conversation becomes: threads of conversation may become unreadable.

Interviews show that students are keenly aware of the permanent nature of their IRC and webboard postings and it leads them to worry about making each presentation perfect. These are not ephemeral traces that lapse and disappear from view: class chat records and webboard postings are continuously available. Although students’ webboard postings can be corrected or deleted by the student, they are rarely removed permanently. Such postings often constitute part of class grades and thus, despite the medium’s capability for impermanence, local norms require the traces to remain permanently visible. Private exchanges, usually among friends or project co-workers and conducted through email and IRC whispering, are also persistent, but their reach is more limited, with conversations carried on with a limited

number of named others. (We discuss further below the importance of the size and familiarity of the audience in connection with the radical of relation.) The permanence of private conversations is also more short term than the long term IRC and webboard postings. For example, IRC ‘whispers’ last only as long as the IRC session itself; such messages are not archived with the class record. Email is often read and deleted within hours or days, although at least one student reported retaining her email correspondence as her “new diary or journal” [Ellen]. However, that diary is not public as would be the case for correspondence through a webboard.

Radicals of persistent conversation

We turn now to consider how students’ approach to media use could be modeled using the principles of genre and presentation outlined by earlier writers. We were interested in identifying overarching concepts that might apply to other online communities supported through persistent conversation. To that end, we have identified three dimensions of interactivity that revolve around speaker-audience relations, and which suggest root concerns for all users of persistent conversation. We adopt Frye’s terminology regarding root considerations of speakers and suggest these three dimensions as *radicals of presentation in persistent conversation*: visibility, relation, and co-presence.

Visibility refers to the means, methods, and opportunities for presentation; in our usage it primarily addresses the *speakers’* concerns with the presentation of self. *Relation* refers to the nature of the tie between speaker and audience, and the ties among audience co-participants, including the interpersonal relationship, the number and identity of others, and history of association; it addresses the speaker’s concerns with the range and identity of the audience, and audience members’ concerns about relations with each other. *Co-Presence* refers to the temporal, virtual, and/or physical co-presence of speaking and listening participants; it addresses concerns with being with others at the same time and place, and being able to give and receive immediate feedback in conversations.

These radicals are root factors inherent in the realization of interaction in the online environment. Thus, speakers may post to a class webboard expecting that they will represent themselves appropriately, that the posting will be distributed to the instructor and members of the class, that it will be read and responded to by others at different times and places, and, because it is persistent conversation, that the posting will persist over time. The posting is made based on these understandings of the radicals of presentation *even if* the posting was

inappropriate, some class members never read the posting, some read the presentation as soon as it was posted and responded with immediate feedback, or the webboard crashed and postings were lost. Indeed, these radicals hold *even if the would-be speaker never speaks* – lurkers who watch a discussion group yet never post also considers their visibility (invisible), their relation to others (non-contributing voyeur), their co-presence with others (present but unobserved), and the persistence of their post (permanent silence).

How radicals play out in any particular environment depends on local conditions and can be affected by such things as the number and types of media available, the affordances of the media, the communication norms and genres, the roles members can hold, the relationships among roles and among individuals, and the history of association among members. But regardless of how the details change, or what rules and conventions make up a particular online genre, the radical categories remain operative. Examining how individuals approach and accomplish their communication tasks shows the enactment of group membership and community in that environment, e.g., what makes for good citizenship, what degree of free-riding is tolerated, what norms of communication behavior exist, and what genres are recognizable and reproduced (see also [25, 30, 38]). This information can show where key concerns, media affordances, and patterns of group communication coincide to suggest areas of development for technical and social implementations to support virtual environments.

The following sections outline the three radicals in more detail and summarize results from the interviews that show how these manifest themselves in students' concerns and behaviors. Where appropriate, representative quotations from students' accounts are given to illustrate the more general phenomena.

Visibility: The radical *visibility* encompasses how speakers present themselves online, and the means, methods and opportunities they have for doing so. In presenting ourselves, we assume the role of the speaker, and thus visibility is an attribute that most concerns the speaker: without an act, speech or posted text, the would-be speaker is invisible and remains unknown to others. The first step in becoming visible is to place a representation of the self into view for others. To do this, speakers make choices about media, type of expression, and occasion for expression that reveals them to others. These provide a range of ways in which an individual speaker can become more or less visible, and we may even refer to this as presenting the individual with a *repertoire for visibility*. However, choices may be circumscribed, e.g., certain media may be predefined as

appropriate for particular types of expression among group members, a speaker may be unsure about what constitutes appropriate expression via a particular medium and will choose another, or the occasion may not present itself to use a particular medium. Considering visibility as *a radical* does not lead to a formula for what medium or genre will be used for what messages under which circumstances. Instead, it signifies that one of the speaker's root concerns is with visibility rather than with how they will enact a specific instantiation of a communication, and we find visibility to be a major concern for the distance students, particularly in their first distributed class.

The speaker may prefer as a *means of communication* a stage, a classroom, a chat room, or a webboard, or a combination of these, but the choices are always restricted to the available channels. Thus, the distance students cannot normally select face-to-face meetings as a means of communication on a day-to-day basis. It is outside their daily repertoire. Instead, they can choose from the telephone, email, webboards (both class and program-wide webboards), and chat rooms.

They choose a *method* of expressing themselves, including the form, style, and tone of the communication, and the conventions associated with a particular genre, e.g., reproducing the conventions of the formal business letter [37], or even the limerick [6]. They also choose whether or not to follow group norms for expression, meet expectations of the genre, or use all or some features of a particular medium or genre, e.g., adhering to rules of the game as accepted by players [6], making appropriate use of email headers to signify message content [3], or using the organizationally sanctioned means of communication [18, 38].

Speakers also choose the *opportunity* for presentation, e.g., a class, a party, a synchronous chat session, a spontaneous or planned face-to-face meeting, an established class or general webboard. Opportunities may occur only once, as may be the case for a scheduled social gathering, or they may be available continuously, as in the case of a webboard conference or discussion list. Opportunities may also be tied to temporal sequencing associated with participants' activities, e.g., several students report that they used the timing of submission of assignments to begin email conversations that were then carried out in a near synchronous fashion [17].

Visibility plays out for the distance students in a number of ways. At first they do not know how to make themselves visible, how to post appropriately to the class webboards, or how to craft their words to express themselves in a way that shows them as they wish to be

seen.¹ They have yet to learn the norms and genres of online exchange – what webboard postings should look like, where to put personal information, how to communicate with friends. As is common for most persistent conversations, visibility rests largely on textual exchanges, and students' concerns center on how to use text to manage the impression others gain of them. That these texts also persist over time only adds to their concerns about getting the presentation right even when just beginning to converse in this environment.

At first the different means of communication offer no distinction: presenting themselves through one medium is as confusing as presenting via another. For Ted, in his first semester of the program and first distance class (in which all the students are new), only the conventions of face-to-face communication are familiar:

Some people jump into that [the webboards] real easily.² Some of us find it a little more difficult. I'm old fashioned I guess. I'm used to face-to-face conversations. So I didn't grow up with chat rooms. So I'm still getting used to that. [Ted]

Having no experience with the genres or local norms, Ted, like many others, strives for a perfect presentation.

At the beginning it was difficult for me because I felt like when I posted something it had to be perfect... It takes me a lot of time just to post on the webboard just because of the idea that it has to be perfect. [Ted]

The lack of experience causes many to suffer anxiety about their visibility.

I started to have a lot of anxiety and you know just wondering you know if what I was posting was...uh...you know...was...sounded okay or if it sounded so bad...I was really beginning to have a lot of self doubts. [Nancy, in her first distance class]

Learning the conventions comes from spending time in the environment. Students come to know how to operate in this environment and to recognize and use the genres and local norms. However, first they must gain confidence in the presentation of themselves, and they do this in part by observing others and comparing this to their own presentation. Students vigilantly watch others' postings,

¹ It is difficult to refer to presentation without reference to imagery associated with face-to-face interaction, e.g., being seen and heard. The distance students also have difficulty finding the words to describe their textual exchanges: e.g., Sue, regarding 'voices' she has 'heard' in the chat room, says "I say voices, but I really mean what they were writing." And Jeff speaks of people he "met" in his first distance class: "I mean I haven't met them personally obviously, but when we were in a live session we would whisper back and forth and send email"[Jeff].

² Although Ted receives the impression that others, who are largely novices like himself, "jump easily" into the webboards, most students express concerns about how to post. Their successful presentation projects to others an air of confidence the presenter may not personally feel.

exhibiting a concern for the quantity and quality of postings and how this reflects on their own visibility:

There seem to be those in the community that are very active. I swear they must live by the computer. It must be by their bed and they post in their dreams. Then there are some of us, and I might be one, I won't say you never hear from, but in that fringe a little less than halfway of those who never talk and those who talk all the time. [Ted]

When I read everybody else's postings they sound so much more intelligent than mine. [Nancy]

Comparison eventually brings their expectations and anxieties into a manageable form. With more confidence in themselves and their ability to contribute, they are more able to join the community and to observe and recognize recurring patterns of communication, and to begin to make use of the community genres. By their second semester, most of these distance students are adept at operating in this environment and at managing the impression others gain of them. They achieve this through a personalized repertoire of means of visibility, including posting biographies and pictures to a general webboard, posting text to class and program webboards, handing in assignments as web pages and email attachments, choosing where and how to exchange personal information, managing projects with distanced team mates, chatting in IRC class and discussion rooms, and using the IRC whisper facility to carry on side discussions during class.

While students become adept at making themselves visible, it should also be noted that they consider it to take more *effort* to be visible in this online environment than in a more traditional face-to-face situation. Remaining visible requires a constant effort against "fading back," i.e., against becoming invisible so that the only trace left is a 'name on the screen' (see also [17]).

Relation: The radical of *relation* addresses the nature of the tie between speaker and audience and conforms to Bakhtin's notions of addressivity [1], and Miller's [21] observation that the nature of rhetoric is that it is addressed. Important features of 'relation' can be defined in terms also current in social network analyses: ties may be weaker or stronger depending on the frequency of contact, duration and intimacy of the relationship, the number and types of exchanges [12, 13], and the number of media used [14, 15, 16]; the stronger the tie, the more the individual is motivated to share and reciprocate exchanges [19, 33]. We also recognize that speakers are aware not only to whom they are speaking, but also how many others they may be reaching with their presentation. Thus, they recognize a difference between sending a private email versus posting to a general webboard.

Our interviews reveal that speakers make certain choices about the means and timing of presentation

according to the tie maintained with others. Friends are reached via IRC whispering (during classes), and via near synchronous email; project members are reached through email, chat rooms, and webboards; less close class members and other program members are reached through the class and general webboards. The stronger the work or friendship tie among these students, the more immediate and frequent the contact, and the more media used [15,16].

In responding to a speaker, *audience* members are also aware of the number of others to whom they are visible, and of their ties to these others. Thus, we also consider under the radical of relation the nature of the ties which exist *among members of the audience*. In this we consider the whole social network of ties among participants in the persistent conversation. While we may privilege the speaker-audience relation, there are differences in action and reaction when members of the audience feel they are in the company of friends and acquaintances rather than with strangers. Thus, our interviews reveal that students feel more comfortable posting when they are in a class of people with whom they share a history, e.g., through their boot camp experience, rather than with a set of strangers, e.g., as can happen as they pursue their program but lose pace with their boot camp cohort:

Now I am in a class where there is no one in there that I really have any kind of connection with and I actually have to email someone today and ask if they will provide me with some information and it's a little awkward because I don't have any kind of relationship with that person. [Sue]

Audience relations are also exhibited in the use of non-interruptive side conversations among audience members. For example, in the distance environment, IRC whispering operates simultaneously with the delivery of lectures and mixes with public chat messages on the receiver's screen. In considering the whole network of activity at any one time, the main speaker may be presenting at the same time that audience members are engaging in their own speaker-audience relations. Thus,

... a lot of [socializing] goes on during class. There's a lot of whispering. Like if a teacher brings up a subject that might be confusing ... there's 5 or 6 of us that are sort of a group—someone will ask... 'Does anyone have any idea what she's talking about?' and then one or two people might clarify it without having everyone in the class see that this person doesn't have any idea what the teacher is talking about. [Bill]

Co-Presence: Lastly, we consider the radical of *co-presence*, i.e., the temporal, virtual, and physical co-presence of speaker and audience members, and of audience members to each other. Presence is a familiar theme from discussions of CMC (e.g., [29]) and media design is often motivated by a desire to increase the feeling of “being there” that is inherent in face-to-face

communication. The presence of individuals can be enhanced by choosing communication means that include multiple cues, e.g., video over audio or text. However, in persistent conversation “being there” also entails being with others. Thus, presence is a relational property and can be enhanced by bringing speaker and audience together virtually, e.g., in a common meeting place such as an online environment, and temporally, e.g., by gathering speaker and audience together at a common time in a virtual chat room.

While individual speakers may increase their virtual proximity to their audience by making choices about the means and opportunity for conversation, it may take an administrative decision to bring audience members into proximity. Thus, managing co-presence extends beyond immediate speaker-audience relations to consideration of how conversation participants can be brought together (i.e., again considering the whole network of interconnections). Like Miller [21], we see this as tying consideration of presentation to community maintenance, and addressing how to support community rather than just communication.

Our interviews reveal that students crave and revel in being co-present with the speaker and with other students. Co-presence provides a means around the conversational delays associated with asynchronous communication, and enhances their emotional experience as well as their degree of engagement with activities. Co-presence reintroduces conversational characteristics lost in asynchronous connections, such as the stimulation of concurrent activity and the immediacy of feedback. For example:

I need to hear my professor's voice. I need the stimulation of comments ... I need my other classmates to respond to me ... I mean I just need that feedback from them. [Nancy]
Even though you're typing, not speaking to them directly, you're typing with them, the classes where we meet live more often have much more of a sense of immediacy which is nice. [Janet]

In this program, face-to-face sessions are held as an attempt to re-introduce this type of connection, but still students spend most of their time at a distance. Thus, other means are necessary to sustain such engagement. Synchronous IRC is cited as key to providing such interactivity, and also to supporting community. Thus, although Jerry feels that face-to-face is “essential” for developing a sense of community:

The second thing that really helps is the IRC just because it is spontaneous, real-time. They are there at the same time you are. It's not like they answer at two o'clock in the morning in their bathrobe or from work. Wherever they are, they are online right now. I think the IRC really helps. Nothing else really feels like a community. I need the synchronous stuff. [Jerry]

Thus, we see co-presence as a root characteristic in

persistent conversation, with greater opportunities and means for co-presence providing an enhanced feeling of community for students.

Summary and implications for design

Our investigations have shown that genre theory provides a highly relevant grounding for the analysis of persistent conversation. From Frye's genre theory we have taken the concept of "radicals of presentation," which are essentially speaker-audience relationships at the root of the most basic genres. We believe that a new focus on radicals will yield more precise understanding of the nature of genres and consequently, more precise genre claims by investigators in an exciting and evolving field of study.

By analogy with Frye's rhetorical/literary radicals, we have suggested that three "radicals of persistent conversation" exist, based on the reports of communication and community among members of a distributed learning environment, and framed by earlier work by writers on genre. Although we note that we have heard from members of only one distance community, we believe this is a fruitful avenue of investigation since it highlights users' attitudes and concerns toward the use of the technologies that keep them connected, and through which they accomplish their social goals. Although it is not within the scope of this paper to comment at length about implications for design, there are both social and technical implications of our findings.

First, the pursuit of radicals of presentation suggests a method for finding core aspects of community exchange that may be addressed by design. For example, if we consider students' early concerns to signify their inexperience in the environment and respond by increasing early training with the technologies and augmenting the ease of use of the interface, we would miss the more fundamental concern with visibility. Instead, with a focus on visibility, we can turn our attention to training in expression via different media rather than solely in technical features of the media. We might choose to provide a start-up period in which postings are archived for only a short time, or to change archiving procedures altogether. Technical design solutions can also address visibility. Although the immediate reaction is to increase means of making class members visible to others – e.g., by putting "faces with the voices" – we may also need ways to slowly increase visibility, e.g., by adding pictures, short bios, or the individual's most recent conversational contribution as users become comfortable with having these reflections of them made visible. In a flourishing community we would hope to see a well-rounded personality profile available

and accessible at each conversational venue (webboard, IRC, email). Thus, technical solutions may include efforts to design and create profiles for speakers and to integrate access to that profile across all modes of communication.

Similarly social and technical designs may also be addressed to the radicals of relation and co-presence. Social designs may include offering more casual opportunities for group interaction, e.g., open chat hours when sessions are not archived, and more attention to using opportunities for co-presence (e.g., live class hours) to address relational issues. These radicals suggest attention to aspects of technical design that further support concurrent activity, e.g., chatting, discussion, joint writing, and project support. Technical designs that aim to visualize conversational relations, e.g., that show who is talking to whom and about what, may also help individuals place themselves within the ongoing conversational framework, thereby increasing perceptions of closeness or co-presence with like thinkers (e.g., [5]). (see also Nardi [22,23] who suggests visualizing work relations for "netWORKers" who maintain fluid relations with co-workers).

In assessing the implications of the radicals for design, we stress that it is not just a social or just a technical solution that matters. While limited technical features may be overcome by excellent social organization (and vice versa), in most cases a balance of these is needed. We suggest that the radicals of persistent conversation we have noted, and the pursuit of radicals, be used as a means of identifying where social and technical interventions are needed and what form they can best take for the environment at hand.

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