



**Roskilde
University**

The Performance of Cyberspace

An Exploration Into Computer-Mediated Reality

Barbatsis, Gretchen; Feagan, Michael; Hansen, Kenneth

Published in:
Journal of Computer-Mediated Communication

Publication date:
1999

Citation for published version (APA):
Barbatsis, G., Feagan, M., & Hansen, K. (1999). The Performance of Cyberspace: An Exploration Into Computer-Mediated Reality. *Journal of Computer-Mediated Communication*, 5(1).

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain.
- You may freely distribute the URL identifying the publication in the public portal.

Take down policy

If you believe that this document breaches copyright please contact rucforsk@kb.dk providing details, and we will remove access to the work immediately and investigate your claim.

[JCMC 5 \(1\) September 1999](#)

[Message Board](#)

[JCMC](#) [editors](#) [to submit](#) [citesite](#) [subscribe](#) [notices](#) [email](#) [message board](#)

[Collab-U](#) [CMC Play](#) [E-Commerce Symposium](#) [Net Law](#) [InfoSpaces](#) [Usenet](#)
[NetStudy](#) [VEs](#) [VOs](#) [O-Journ](#) [HigherEd](#) [Conversation](#)

The Performance of Cyberspace: An Exploration Into Computer-Mediated Reality

[Gretchen Barbatsis](#) and Michael Fegan

Michigan State University

[Kenneth Hansen](#)

Aalborg University, Denmark

Table of Contents

- [Abstract](#)
- [Introduction](#)
- [Space and Metaphor](#)
- [Space and Textual Structure](#)
- [Space and Ideational Realities](#)
- [Ideational Space as Discursive](#)
- [Ideational Space as Liminal](#)
- [Cyberspace, a Realignment](#)
- [Footnotes](#)
- [References](#)
- [About the Authors](#)

Abstract

This phenomenological enquiry into cyberspace examines the concept of space and metaphor, explaining 'cyber' space as a figurative term and a figurative space, as something projected as a shared mental concept. Reception theory is used to theorize this figurative space as an ideational object constituted by a 'text-reader' relationship. The performance of 'cyber' space is described as a self-reflexive ideation about meaning making itself, and examined as discursive, liminal, and transformative. Examination includes examples from e-mail, chat, and 3D conference systems.

Introduction

When we turn on our computers, magic appears before us, and with a click of the mouse we enter an environment we have come to call cyberspace. Behind the screen, we connect with an imaginary somewhere, out there. Although it is childlike to think that the people and places are somehow actually behind the screen, in that box, we nonetheless engage the computer screen as a gateway to another place. Conceptually, we envision a virtual or nonphysical space existing somewhere between here and there that we enter through computer-based technology. We speak to others through e-mail, or by talking in a chat room, or by participating in an on-line wedding "as if" we experience a similar presence. But where are we and where are those with whom we speak? If we are not there, and they are not here, where do these conversations take place? ¹

In this article we focus on the characteristics of this space 'betwixt and between' the 'here' and there' that we call 'cyber'space. Drawing on reception theory to integrate an inquiry into this figurative space, we conceptualize 'cyber'space as an ideational object, foreshadowed by but not materially contained in technology or software, and, thus, contingent on engagement and constitution by a 'reader.' We examine this space in terms of various discursive relations of 'text and reader', and, with reference to the concept of liminality, discuss its self-reflexive characteristics as transformative. The examination includes examples from e-mail, chat, and 3D conference systems.

Space and Metaphor

When we speak in chat rooms, interact with others participating in an Internet forum, or move into an on-line virtual community we are simultaneously present in two different spatial environments. In one, we are aware of 'being here,' occupying a physical space in front of a computer screen. In this environment we are physically embodied in a space defined by the arrangement of concrete, physical objects. Yet, by connecting with others (or an Other) who are not in this environment with us, we are also present in another space that is 'somewhere out there, beyond the screen' (Steuer, 1995).² In other words, we experience a sense of 'being there', which we also conceptualize in spatial terms. With what seems an unproblematic reference, we call this nonphysical place 'cyberspace.'

This term was inspired, apparently, by William Gibson's observation that children playing video games seemed to "develop a belief that there's some kind of *actual* space behind the screen, someplace you can't see but you know is there" (McCaffery, 1992). They and other computer users, in ways similar to the reception of film and television programs, "*believed-* in" the diagetive space projected by computer games. Although this space was initially rendered with simple, blocky graphics, technological improvements have moved it to high resolution, photorealistic imagery as well as detailed three-dimensionality that can change in perspective during real time interaction (Wolf, 1997).

The characteristics of this phenomenon labeled 'cyberspace' differ, though, from what we familiarly know space to be: a concrete, physical, three-dimensional reality created by forms that can be touched and have a clearly defined mass. We 'know' the spatial arrangement we call a room, for example, because of the interplay of positive and negative volume duality. Positive volume has substance, and negative volume is empty space that is delineated by things with substance. Accordingly, a 'room' has walls, which are forms of positive volume, and an interior, which is the negative volume of empty space delineated by its positive volume (Zettl, 1999).³ Film, television and hypermedia all work with this concept of volume duality in their representation of space as three-dimensional, although with hypermedia the very implication of representational space depends on its being programmed and actively created (Wolf, 1997). Unlike the diagetive space that we project from an image created by the camera, the one we project from an image created by the computer leaves no traces of a physical or living space. It is completely artificial. Gibson's observation suggests, however, that one of the ways we apparently grasp and are able to "be in" that programmed place-- "behind the screen"-- is to transfer the experiential characteristics of what it means to 'be here' to the experience of also 'being there.'

Constructing knowledge-- or knowing the space behind the screen-- according to a logic of spatial arrangement emphasizes a spatial phenomenology of the world which has long been associated with communication media (Ong, 1967).

Hypermedia incorporates the epistemological problems associated with the

development of both print and visual media. On the one hand, its text-based development uses the logic of spatial arrangement associated with a print medium and, at the same time, its adoption of the screen uses the spatial logic of a visual medium. (Lippert, 1996). The epistemological problem faced by print media, for example, is an overload of abstraction. Print media rely primarily on words to generate meaning, and because the association between words and the concepts that they imply is primarily an arbitrary one, a medium which relies on words is overly abstract. The familiar word 'communication' is illustrative. The word itself-- a substantive form of thirteen letters on a physical surface-- casts the *concept* as a spatial entity, though not the *process* to which the word refers. Using the logic of spatial arrangement, this overload of abstraction is addressed by depicting the concept in a more concrete form. Accordingly, the process that we know as 'communication' becomes known in terms of the models which arrange such object-like forms as the words 'sender', 'message', 'receiver', 'channel', and 'noise' into various spatial relationships with each other. In a similar manner, the word 'cyberspace' begins to work the magic of giving object-like form to an abstraction known otherwise as only 'something behind the screen.' In addition, the choice of this particular word also figuratively implicates a spatial phenomenology, which allows it to be conceptualized "as if" it actually had the characteristics of its figurative 'windows', 'rooms', 'sites', and 'desktops' with 'files' and 'folders.'⁴ With media that rely primarily on words, then, the logic of spatial arrangement responds to an overload of abstraction and generates meaning by making the abstraction function more like a concrete space (Lippert, 1996).

With visual media such as photography, film and television, on the other hand, the epistemological problem is a lack of abstraction because, unlike words, the physical analogical symbols of an image are directly expressive of meaning; an image of a table directly expresses the concept we know as 'table.' In response, the logic of spatial characteristics (or aesthetics) associated with the way in which such content is formed are used to express abstract concepts. An arrangement of objects along an imaginary axis of foreground, middleground, and background, for example, articulates a concept of 'relationship' among the objects as well as the concept of 'dominance' for the object in the foreground position (it is larger and more clearly defined and it overlaps or blocks out parts of the other objects) (Zettl, 1999). The computer's adaptation of the visual screen is also associated with this televisual and filmic logic of spatial arrangement. Within the general image of a desk-top interface, for example, various concrete 'window' objects can be moved from foreground to middleground to background positions, as well as made smaller, higher, and overlapped in the two-dimensional plane (Barbatsis, 1999). Similarly, the use of foreground, middleground and background to arrange avatars in a computer game or 3D Internet system can suggest relative relationships of power among these actors within their diageitic worlds. In sum, while the logic of spatial arrangement with words is used to make concrete what is abstract, the logic of spatial arrangement with images is used to make abstract what is concrete (Lippert, 1996).

Even though the computer-based medium of which computer games, the Internet and virtual reality are made has the characteristics of both a print-based and an image-based logic of spatial arrangement, however, the phenomenon of 'cyberspace' is not explained by the spatial entities associated with previous media. As Levinson (1979) points out, in the 'space' of 'cyberspace' there is no intrinsic equivalent to the 'space' of the printed page, and the screen 'space' adopted from video is apart from its analogic content. Although the 'space behind the screen' may be made to function as a place where we go to access

stored information, to send mail, to meet with other people, or to take part in cultural rituals, it is, in its proper unreified sense, a figurative place filled with figurative entities. As stated previously, the very implication of representational space in this medium depends on its being programmed and actively created. This being the case, we might understand Gibson's casting of the term 'cyberspace' as a metaphor, or a figure of speech, rather than as simply a label for some preexisting entity.

A metaphor, which is often considered the master or central figure of speech, works by positing a logic of shared categories and analogies of meaning among terms. It involves "a transfer of meaning from the word that properly possesses it"-- such as 'space' in a physically articulated sense-- "to another word"-- such as 'cyberspace'-- "which belongs to a shared category of meaning" (McLaughlin, 1990. p. 83). Physically articulated space, as we might remember from an earlier example, involves the duality of positive (walls) and negative (interior) volume. If we think of metaphor as a compressed analogy, then, the term 'cyberspace' posits a shared category of meaning to which both a physical and a non-physical articulation of volume duality belong. Unlike other figures of speech, though, the metaphor does not explicitly state the basis of the comparison. For example, if a sportscaster makes reference to a player as a "tiger on defense," the basis of the comparison-- that is, the shared category of meaning 'aggressive things'-- is unstated (McLaughlin, 1990, p. 81). Accordingly, in order to transfer the characteristics of a physical space appropriately to a nonphysical space by means of the figurative term 'cyberspace', we must first work out the mental category to which both of these elements belong.

In this regard, our use of the term 'nonphysical' space, rather than "nonspace" or "the opposite of space," is purposive to doing this work (cf. Lippert, 1996). The term "nonphysical' space directs us to look for the logic of the metaphor's analogy within the concept of space itself, and here we work out that 'physical space' and 'nonphysical space' are both elements in a mental category of 'articulated gaps.' This mental concept accounts for space as we commonly know it by dictionary terms: an 'area or volume between specific boundaries'; an 'interval'-- in time, in music, in telegraphic transmissions; a 'means for separating' -- such as a blank piece of type in printing (noun) or as an action (verb). This posits that the reality of cyberspace, like the reality of physical space is an articulated gap-- the 'not-given' or negative volume -- that is delineated by its 'given' or positive volume. We will be able to extend this concept of 'cyberspace' to that of an ideational space by examining reception theory's concept of 'the gap' and its pivotal role in meaning making. For that we turn to a discussion of space and text in terms of volume duality.

Space and Textual Structure

There is explanatory power to be gained by examining the term 'space' for its own sake, since media theorists and researchers who use such concepts as 'cyber' space, 'virtual' space (Steuer, 1995), 'invented' space (Wolf, 1997), 'discursive' and 'diagetic' space (Howard, 1997; Silverstone, 1996; Wolf, 1997), or even 'non' space (Lippert, 1996), must presuppose some theory of space, however tacit or unvoiced. Two interdependent concepts in reception theory provide a useful entry into such an explanation. The first is the notion that meaning is a function of a text-reader engagement that is stimulated and guided by a specific structure of 'given' and 'not given' information; the second is the notion of the 'gap' as pivotal to this process of engagement and the constitution of meaning. These concepts are tied to a distinction reception theory makes between the material and the ideational properties of a text and which, for the purposes of our investigation, we can distinguish in terms of physical and

nonphysical space.

Theoretical discussion of the 'text' as both a *material* and an *ideational* object draws primarily on the work of Iser (1978). Accordingly, as a material object it is viewed as a symbolic structure which foreshadows, but does not materially contain, its meaning. One might encounter the material form as a book, a television program or computer game, for instance, and in this form it exists independently of a 'reader,' sitting, as it were, on a book shelf, broadcasting to an empty room, or loaded on a hard drive. Theoretically, each is full of meaning potential, but without the engagement of a reader, it remains an uncompleted object. A 'text's' meanings, then, are contingent upon the engagement of a 'reader' by the 'text'; though foreshadowed by its substantive structure, they are not independent of a 'reader' (or viewer or player). As Iser (1978) describes this contingency, in which the text functions as a 'set of instructions' for producing its ideational object, he conceptualizes the materiality of a 'text' as its structure of 'given' and 'not given' information.

The material object is important in so far as it is the means by which a text induces a reader to constitute its intended or ideational object. Here reception theory argues that it is a purposeful structuring of indeterminacy-- in the form of 'not given' or missing information-- that initiates and guides this process. As Iser (1978) states:

[The reader] is drawn into the events and made to supply what is meant from what is not said. What is said only appears to take on significance *as a reference to what is not said*; it is the implications and not the statements that give shape and weight to the meaning (1978, p. 168).⁵

Materially, the 'given information' of a 'text' could be the content of its word (sentences, paragraphs, chapters) or image (shots, sequences, scenes) structures, though the significance of this content is not in what it represents, but rather in the implications of what it does not represent. Importantly, then, this conception of a textual structure indicates that its vacancies are not merely empty spaces. Instead, like the interior of a room, they are the articulated negative volume of empty space.

Reception theorists focus on this notion of an articulated negative volume or 'gap' as pivotal to the process of producing the ideational property of a text. Again, as Iser (1978) states, "what is missing . . . , the gaps . . . , this is what stimulates the reader into filling the blanks with projections" and, in doing this they "stimulate the process of ideation to be performed by the reader " (p. 168). In other words, while a textual structure foreshadows its ideational object, it must be through a process of stimulating acts of ideation that it is brought forth. Unlike the compositional structure of 'given' and 'not given' information, the ideational structure of a text has no materiality. It exists only in the mind's eye. Children playing computer games, we recall, *believed in* just such a nonmaterial actuality-- a place they couldn't see but they knew was there. Reception theory tells us that it was their acts of ideation, stimulated and guided by a textual structure of 'given' and 'not given' information, that produced this nonmaterial spatial reality.

This notion of how a textual structure induces the production of an ideated or nonmaterial spatial reality adds explanatory rigor to the language associated with hypermedia forms. In our evolving explanation of 'cyberspace' it allows that such terms as 'virtual' or 'simulated' realities reflect accurately the experience of an ideational space. With this perspective in mind, it also provides a theoretical

bridge between research in traditional media reception and that which focuses on the newer media arena of virtual reality and the notion of presence. Steuer (1995) argues, for example, that the acts of constituting and then experiencing a nonmaterial or simulated environment include virtually all mediated experience, including even something as common as the telephone. In a model of telepresence adapted from Krueger (1991) he describes how mediation involves being present in two realities simultaneously: one, a physical, embodied presence with, for example, a telephone, a television, a computer, or a radio receiver (and/or server); the other, a "sense" of presence in an ideated or nonmaterial reality.⁶ With this model, the notion of an ideated or virtual space sits easily with the notion of 'cyber' space, but one could just as well speak of 'televisual' space or 'filmic' space because reception theory conceptualizes each as an ideational space. Whether organized by the textual structures of television programs, films, or Web sites, these ideational worlds all exist 'somewhere, out there' behind the screen in a nonmaterial space. Furthermore, within the theoretical framework of reception theory, they all exist because of the articulated empty spaces, or gaps, that both provoke and guide ideational acts. Accordingly, since these ideational spaces are produced in one's imagination by acts of ideation, they are actual, if not material, realities. As such, they are positioned, theoretically, to take precedence over one's simultaneously occurring physical reality (Barbatsis, 1996).

The notion that 'cyberspace' can be understood, at least in part, in terms similar to those of reception research with traditional media compels us to inquire into the common as well as unique characteristics and functions of these variously mediated ideational spaces. How are they organized differently by each medium? In a computer-based medium, for example, elements of interaction and navigation allow ways of structuring screen space not found in other visual media. Accordingly, while a hypermedia and a televisual text are conceptually similar as structures of 'given' and 'not given' information, the interactivity of hyperlinks adds a distinctive kind of meaning-making gap to a computer-based text. While the gap marked by a hyperlink is similar to any other in that it indicates a "suspension of connectability between textual segments" (Iser, 1978), it also has characteristics unique to this medium: only those with the interactive quality of a hyperlink offer the 'reader' a choice of alternative textual perspectives as stimuli for acts of ideation. By marking the suspension of connectability in bold relief, then, gaps with an interactive quality foreground the 'reading' or meaning making act itself.⁷

Space and Ideational Realities

So far our theoretical discussion of the 'text' has focused primarily on the concept in terms of individual material structures such as a computer game, a Web site, or a chat room and the ideated or nonmaterial spatial reality each might induce. In this sense, 'cyber' space is not dissimilar from such ideational realities as the 'televisual' space or 'filmic' space associated with an individual television or film 'text.' The phenomenon of 'cyber' space also seems to imply another aspect of this ideational space, however, in which all of these individual ideated realities articulate something beyond the individual screen of a particular text. We recall, in this regard, how commonplace it is to hear the phrase 'it's floating around out there somewhere in cyberspace' which Gibson's (1984) notion of "consensual hallucination" seems to capture. To address this characteristic of 'cyber' space, we can now extend the concept of 'text' to include both single and multiple-text structures, while noting that in either case their nonmaterial spatial realities, or 'cyber' spaces, are theorized as acts of ideation stimulated and guided by a textual structure of 'given' and 'not given'

information.⁸ Accordingly, one aspect of 'cyber' or ideated spatial environments would be associated with a single-text structure, such as a chat room or Web site, and another would be associated with a multiple or networked sense of the 'text.' Quite obviously, the Internet and the World Wide Web provide two familiar examples of such a 'text,' although it would be misleading to limit the concept of a multiple or networked textual structure to the kind of material object they reflect. It might well be, for example, that the single 'text' computer games are also conceptualized in terms of genres that would reflect a multi-text structure. With the inclusion of this multiple or networked sense of the 'text,' then, we will examine the self-reflexive character of the hyperlink in terms of reception theory's concept of the negation. We will argue that the experience of 'cyber' space induced by a single-text structure such as a Web site or a computer game, as well as a multi-text structure, such as a networked, nonmaterial genre of games or a material network of texts, such as the Internet, is a self-reflexive ideation about meaning-making itself.

Within the concept of the 'text' as performative, the hyperlink is a self-reflexive structure. It overtly marks or labels a textual 'gap' as a 'gap,' announcing, in effect: *this is an edit point, a place where connectability between textual segments -- or texts-as-segments-- is suspended because something is missing; it is up to you to figure it out; you may do so by continuing with this perspective, or you may engage an alternative perspective by activating the link.* This marking or labeling of the gap performs two functions. First, it visibly displays the performative or productive notion of a text (Davis, 1995; McGee, 1990; Miles, 1996; Solomon, 1993) by foregrounding the initiating and guiding structure of the material object. More profoundly, though, as a consequence of this display, the hyperlink self-reflexively foregrounds the constituting process of sensemaking itself (Denzin, 1997), which means that the ideational object is the meaning-making process. In other words, the self-reflexive character of the hyperlink induces us to produce the *ideational experience of producing* the implication of 'cyber' space. Reception theory's concept of the kind of ideational act induced by the negation is critical to examining this self-reflexive process.

A textual structure, such as a computer game or the Internet, requires that a reader supply the "not given" information to determine the significance of the given information, but there is more to meaning-making than merely filling structural vacancies. While the gap provides the occasion for projection, it does not leave it wholly to an interpreter to select a projected meaning. In what Iser (1978) describes as its dual function, the gap also exercises guidance as to what the ideation ought to be. Accordingly, in a compositional structure, gaps work both syntagmatically and paradigmatically to guide a reader's transformation of information offered and invoked by a 'text': on the syntagmatic axis of reading, they constitute the links between the perspective segments of the text; on the paradigmatic axis, they constitute links between negated norms and the reader's relation to the text (Iser` 1978, p. 216). Iser identifies gaps which act syntagmatically to open up connections between elements of the text as blanks and identifies those which act paradigmatically to shift the reader from one perspective to another within the text as negations.

The process of negation invokes a gap that superimposes new and conflicting meaning onto the meaning that has been invoked by the text up to that point. Acting paradigmatically, it simultaneously structures ideation in both a forward and a backward direction. In a forward direction, the negation adds a new perspective to what has already been developed, invoking what might be characterized as an ideational shift of degree. Iser (1978) describes this primary negation process as one in which the expectations generated by a reader through interaction with the text are impeded, forcing a revision of the scenario and

promoting new understandings. Furthermore, in what Iser describes as a process of secondary negation, *the ideations invoked by primary negations become themselves the objects of contemplation* (emphasis added). This process is a function of the backwardly directed ideation structured by a negation. In this direction; the negation introduces an evaluative perspective to what has already been developed, invoking a distinction of kind. As Iser describes it, the secondary negation, creates a state of "no longer and not yet" (p. 213) by forcing a re-evaluation of the understandings or ideations caused by the primary negation. Accordingly, *secondary negations promote a sense of metacognition in which the reader's own ideational activity becomes the object of inspection* (emphasis added).

This concept of the negation bears similarity to our common sense notions of 'cyber'space, whether we have the experience through the performance of an individual text, such as a game, or a multi-text structure, such as the World Wide Web. Linking is predominant and boundaries are ambiguous. Information is continually recontextualized in the process of linking one 'information node' to a new one. With each hypertextual link, a reader is confronted with the impediment of a primary negation. Whether one chooses to activate the link or not, it self-reflexively marks the process as one of choosing whether or not to engage in a shift of perspective. In formulating understanding, a reader has a sensemaking choice as to whether or not to incorporate a new perspective as well as in selecting which, from among various potential perspectives, to add.

As a label, then, 'cyber'space denotes a self-reflexive ideation about meaning making itself. The open-ended nature of a hypermedia 'text' potentially presents an infinite number of primary negations and, at the same time, presents the option of selecting whether or not to challenge an ideated expectation as well as the terms on which it might be revised. This open-ended quality means that meaning will never be realized in a sense of closure or resolution, and because the process is in perpetual interaction, one cannot but recognize that each new ideation is always contingent.⁹ The experience of "no longer and not yet," characteristic of the secondary negation, becomes itself the object of contemplation and the invocation for an ideation of 'cyber'space. With reference to implications for 'presence' in such a contingent space, then, we examine this ideational experience as discursive and liminal.

Ideational Space as Discursive

Once a 'reader's' own ideational activity becomes the object of inspection, it becomes apparent that this reality has been created discursively. Regardless of the medium through which it may have come into being, it is a space that has been articulated by the regulating and constituting functions of language.

Ideational space is, in short, an articulatory moment.¹⁰ At the same time, there is materiality in the various kinds of constituting activities that discourses make possible, including the subjectivities which they define (Bove, 1990). A discursive structure is "an articulatory practice which constitutes and organizes social relations" (Laclau and Moufée, 1985, p. 96), and it does so by "calling an individual into a socially predetermined space through language" (Howard, 1997, p. 75). To examine the phenomenon of 'cyber'space further, then, we investigate this ideational space in terms of its potential for articulating various subjectivities. Drawing on Silverstone's (1996) work with 'televisual'space, our discussion includes ideational spaces discursively constituted as 'text-reader' relations of rhetoric, play and performance. Recognizing that any two of these categories can be seen as subcategories of the third, hypermedia is an emergent medium in which there is as yet only rudimentary synthesis and in which one can

find more or less discrete examples of each. Accordingly, we discuss an email 'text' as primarily constitutive of a rhetorical subjectivity, a chat room 'text' as primarily constitutive of a play or ludic subjectivity, and a 3-D cyberspace system as primarily constitutive of a performative subjectivity. ¹¹

The familiar strategy of an e-mail format compositionally articulates the rhetorical properties of a sender-receiver relationship. A 'send to' box both literally and symbolically creates the space of a receiver, and the 'from' box creates that of a sender. These reflect, as Silverstone (1996) describes, rhetorical properties which orient an interactor to "mutual involvement by producer and consumer, addresser and addressee in structuring meaning and experience" (p. 7). With the boxes provided for 'subject' and 'message', this structural format also articulates the rhetorical properties of intention, as well as invention and argument. A 'subject box' creates the space, both literally and symbolically, for articulating one's intention, and a 'message' box releases the space, again both literally and symbolically, in which a process of "complex to-ing and fro-ing of meanings" takes place (Silverstone, 1996, p. 7). In this structural format, a 'forward' and a 'reply' function release the spaces for this process of 'to-ing and fro-ing' and label its various iterations accordingly with any number of 'Re: (topic)' or 'Fwd: (topic)' indicators in the subject box. In this discursive space of rhetoric the regulating and constituting functions of language stimulate action.

By facilitating conversations in real time, the text-reader relationship of a word-based chat room format adds a dimension to these otherwise rhetorical properties which claims a primarily ludic or play strategy. Chat room formats compositionally articulate a space which involves multiple senders and receivers (or players) together at the same time. Typically, in a four window structure, the discursive spaces released (again both literally and symbolically) include a sender (writing window), the receivers (participants window), the meeting place (conversation window), and the interactive space (alternative places window). The properties released by this discursive space allow play, according to Silverstone's distinctions, because, within rule governed limits, language and action are conjoined.

The ideational space invoked by a chat room structure identifies patterns of behavior that mark a particular sensemaking experience as play, including the rules of behavior and precedence that participants insist upon. Its shared (and sharable) rules involve those of the textual interface, of the conversation, and of the interactors. Features of the interface prescribe, for example, how to send and read messages, how to navigate from room to room, and how to 'whisper' or send personal messages that others in the conversation cannot 'hear.' Similarly, the conversation has parameters, which, like a stage with neither props nor a predetermined script, are provided as rules of engagement. As the requirement of a log-in name indicates, these rules of the 'game' also prescribe that participants assume an identity. The perpetual present and fleeting nature of this discursive space enables a willing suspension of disbelief among participants and an opportunity for role play. ¹² Accordingly, people can and do create multiple characters, often experimenting with different genders as well as other unique characteristics, and they watch them take shape through interaction in the ideational space invoked by a chat room-text.

This ideational space might also shift its emphasis from a quality of play to a quality of performance if, as Silverstone (1996) describes in quoting Judith Butler (1990):

The subject is not *determined* by the rules through which it is

generated because signification is *not a founding act, but rather a regulated process of repetition* that both conceals itself and enforces its rules precisely thorough the production of substantializing effects (p. 145).

This would be the case when the chat room is limited to a recurring set of people and a specific conversational scenario, as participants come not in a sense of examining what will happen within the limitations of the rules, but instead knowing what is going to happen and acknowledging that meanings become available within the individual or iterative doing of the thing (Diamond, 1996; Howard, 1997). Play also loses prominence to performance when chat rooms move from word-only formats to texts that integrate visual and audio imagery. Graphical backgrounds and graphical avatars conceal some of the play because the room, the scenario and the conversation are, in many ways, pre-performed by their visual representations. Accordingly, performance of the motif set by previous participation or visual representations begins to outweigh the spontaneity of word-only chats and favors the sensemaking provided by ritual.

At the same time, the most fully developed computer-based textual structure to date is 3D distributed virtual reality, and in 3D cyberspace, that which is meaningful is that which is performed.¹³ These ideational realities are social worlds where what is fixed is only what is repeated (Butler, 1990). While their articulatory moments are also rhetorical and ludic, they are primarily performative. Consideration of the social as performed thus directs us to the study of performative social action, which we will illustrate with an examination of one of the most advanced 3D cyberspace systems, Active Worlds.¹⁴

Active Worlds consists of over 425 worlds of avatar-based multi-user interaction, has a user base of 270,000, and is the only one which offers the function of user construction. The strategy of the format foregrounds a performative text-reader relationship in a three part compositional structure. One part offers the literal as well as symbolic spaces of a 'world', a 'place' within that world, and an 'avatar' with which to be in that place. On the left of the screen, for example, the structure pictures the various worlds as pearls on a string, each with a different name. Choices include Alpha World, the oldest and largest, which also incorporates smaller villages such as Pink Village, a gay world, and Sherwood Forest. Others to choose from include Active World 911, location of the Peacekeepers (virtual police), The Gate, home of the Gatekeepers who orient newcomers, or A-W University, holding classes on construction. Some of the newer worlds include Patagonia, a Norwegian world, and A'Turin, a tropical island world where dolphins play and one can float on the back of a turtle. The choice of a world, a place and an avatar foregrounds the performance of identification which, according to Silverstone (1996), underpins a performative discursive space. A second part of the compositional structure is the 'window.' Placed in the middle of the screen, it "opens up" the space in which one's avatar participates while articulating a particular 'world.' A third part of the compositional format is the 'chat box' which is located underneath the 'window'. It is here that the conversations between avatars active in the system take place. To engage with the 3D cyberspace text, one logs up to one of the worlds, chooses an avatar, moves in and about the landscape displayed in the 'window' and converses with other avatars by typing in the 'chat box.'

To be a member or a "citizen" is to be active in the continuous production of its social system as well as the symbolic system in and around it. When a new group of users moves in, for example, older users will often 'greet' them by shifting

and moving their avatars in unpredictable and confusing ways. Initiation can span years, as newcomers move through these worlds and their systems of structured interactions as tourists, apprentices and world builders. One of the more popular of social realities produced by the interactors in this system, however, is the wedding ceremony, which offers an opportunity for examining how meaning is determined performatively. In the short ethnographic narrative which follows we see "a regulated process of repetition that both conceals itself and enforces its rules precisely through the production of substantializing effects" (Butler, 1990, p. 145).

The wedding took place in the virtual world "Winter" at the address "3N, 3E." ¹⁵ Guests from around the world logged in and out throughout the event, with 80 - 90 in the church at any given time. As a participant, with a particular vantage point, you could have seen the guests arriving one by one, materializing in front of an onion-domed church, shifting their avatars from skiers to walkers, and moving up the stairs into the building; inside, a nave lit by colored light filtering through a large mosaic window; the floor and altar neatly decorated with flowers; a wedding cake with miniature bride and groom avatars located in the rear; bridesmaids, snowmen, and reindeer forming an espalier for the bridal procession; tuxedoed groom ("Trinket") and minister ("Jeta Lewis") glancing at their watches frequently as they wait on the stairs leading to the altar; at the other end of the sanctuary, the bride ("Midnight Madness") conversing with her virtual father and bridal escort ("Razzle," owner of the world of "Winter" and builder of the church); the ceremony beginning when she shifts her avatar from red party dress to bridal white; wedding photographers, as bird avatars, waiting patiently in the ceiling for good shots. After personal comments on love and obligation --spoken in the 'chat box'-- the newly married couple mingle with the guests.

Like each of the previous formats discussed, this 3D distributed virtual reality 'text' has a structure of language boxes. Its 'window' box, like those of chat room 'texts' with graphical formats and avatars, uses visual imagery to represent physically articulated space. Its 'chat' box, like those of chat room and e-mail structures, uses words to 'speak' with other participants. Its use of words and imagery differs, however, in that the constituting function of language in this format is action. In contrast to the function of language in a 'text-reader' relation of play, ritual, as Rappaport (1979) suggests, "is in earnest, even when it is playful, entertaining, blasphemous, humorous or ludicrous" (p. 177). When the bride and groom 'say' *I do* in the 'chat' box language constitutes an act. This performative quality is also unlike play, according to Silverstone (1996), in that it is rooted in indeterminacy, in "a denial of . . . the authority of the text"-- or the rules of the game-- "and the (re)assertion of the authority of the author" (p. 13). Accordingly, the 'commonness' of an ideational or virtual space, claimed as much by the reader as the text, is only for the moment of its performance. Because the discursive properties of rhetoric, play and performance are likely to overlap rather than to exist as separate and discrete, we can see the discursive spaces of rhetoric and play as versions (or subcategories) of performance. Each space *is*, we have argued, because, and only because, it is performed. At the same time, it is with the fully interactional properties of a compositional structure such as the 3D distributed virtual reality 'text' that we experience the ideational performance of language. Consideration of the social as performed, then, directs us to the role of ritual and the function of liminality as a process of meaning making in these discursive realities.

Ideational Space as Liminal

The wedding ceremony is but one example from a structure of ritualized

interactions which solve a wide range of crucial tasks within this ideational space known as Active World, and it visualizes in bold relief the social as performed. As a rite of passage, it is a ritual with a 'liminal' period in which the characteristics of the ritual subjects 'bride' and 'groom' are ambiguous because there are "few or none of the attributes of the past or coming state" (Turner, 1969, p. 94).¹⁶ In this realm their relational identities are 'no longer' primarily with their families of origin, but, at the same time, 'not yet' reconstituted in a new family form. As entities, according to Turner (1969), they are "neither here nor there" but rather, "betwixt and between" (p. 95). In this ideational world, then, where the whole of society, including individual identities, is defined as a "conjunction of ritually created social relations," the wedding ceremony serves as a transformative space (Itenau, 1988, p. 38).¹⁷

This process of ritual, by creating a space of 'betwixt and between,' is similar to the process of negation discussed earlier. In the process of performing a 'text,' we recall, the negation invokes a gap that superimposes new and conflicting meaning onto the meaning that has been invoked up to that point. In a similar fashion to the transformative space invoked by ritual, it simultaneously structures ideation in both a forward and a backward direction, creating a space where what was invoked by the 'text' is 'no longer' and what, as an object of reflection it may come to be, is 'not yet.' From this perspective, then, one can characterize the phenomenon of 'cyber' space as an ideational reality of 'betwixt and between'. Accordingly, it is neither an etherization of the world we live in nor a making concrete the mental world in which we think and dream but, as Benedikt (1991) describes, a "whole new space . . . that lies between the two worlds . . . as another venue for consciousness" (p. 124).

As with the performance of ritual, then, the negation invokes transformation through a reflexive and reflective process. As we recall, the primary negation impedes expectations which have been generated by a 'reader,' forcing a revision in the 'reader's' scenario by promoting new understandings, and, at the same time, invoking a reevaluation of the 'reader's' previous ideations. In a self-reflexive stance, the 'reader's' own ideational activity becomes the object of inspection. Promoting a space of 'metacognition,' as Iser (1978) states, the 'reader' is able to step outside the process of his or her own constituting activity to inspect the nature of those ideations. Similar to Turner's (1977) discussion of liminality, this process is one in which the space of an "x" 'betwixt and between' an "a and b" is a reflective or reflexive space because it allows one to inspect either 'a' or 'b' from outside of space 'a and b.' If viewed as a space of liminality, then, 'cyber' space is a space, or "venue of consciousness," with the potential to both make us aware that the worlds in which we live as well as those in which we think and dream are constructed realities, as well as to invoke transformation by situating us so as to inspect and contemplate the nature of our constructions. And so, while liminalities can occur within a performative discursive space such as Active World, it is also possible to see the larger performance of 'cyber' space itself as a liminality and our residence in it as liminal entities.

Cyberspace, a realignment

As a space of 'betwixt and between,' liminality is a place of possibility. A need for such a domain of the 'interesting' or 'uncommon sense,' according to Turner (in Turner and Turner, 1978), is deeply rooted in our psychology. Reminding us that 'entertainment' literally means 'holding between', he suggests that the 'rites of margin' (van Gennep, 1960) found in the ritual processes of traditional societies are to be found in the contemporary arts forms and cultural practices of

a modern society. Newcomb and Hirsch (1994) use the concept to examine the cultural role of television and, in a growing pattern of cross-disciplinary application, liminality can be found theorizing the processual characteristics of various cultural forms (Hail, 1994; Marks, 1994; Morris, 1996; Rutherford, 1996; Wallace, 1996). Each suggests a performative relationship between 'text' and 'reader' that articulates an ideational experience of an 'uncommon sense'.¹⁸ In this regard, our theorizing of 'cyber' space within the frame of a 'text-reader' relationship sits easily with notions of ideational space examined in such forms as 'televisual' space or 'filmic' space. This frame also allows, however, an inquiry into how an ideational space stimulated by textual structures of interaction and navigation involves a realignment of that relationship. Interactivity, for example, creates and leaves behind the artifacts of textual performance. E-mail messages and chat room conversations are saved and recovered, and the activities of constructing a virtual world can be recorded. This materialization of the 'text-reader' relationship incorporates a quality of public performance not found in the ideational realities constituted by other media forms (Silverstone, 1996). From the perspective of liminality, it suggests the opportunity to recover, through the reconstruction of these remains, the processes of 'metacognition' taking place in this ideational space 'betwixt and between' our physical and our mental worlds. What might a media ethnology of this self-reflexive and self-reflective space tell us about how we understand our constituting relationship to these worlds, for example? Furthermore, how might the opportunity to work with the material remains of being 'betwixt and between' inform our understanding of liminality as well as its relationship to the mediated sense of 'being there'? Even though the images created by the computer, unlike those created by the camera, leave no traces of physical space, and even though these ideational spaces are not material realities, they are actual, and there is materiality in the constituting activity of discursive spaces. The richness of questions that could be asked about this artifactual material suggests the continuous value of combining reception theory and anthropology in an approach which merges hermeneutics with (neo)functionalism in the study of ideational space, whether stimulated by hypermedia or other forms of mediated expression.

We conclude, then, with a summary of the propositions raised in our use of reception theory to frame an inquiry into the phenomenology of 'cyber' space. First, grasping 'cyber' space as a figurative term for a figurative space, it is something we project as a shared mental concept. Second, like the negative volume of physical space, it can be understood as an implication-- the 'not given' implied by the 'given.' Third, through the self-reflexive structure of the hyperlink, 'cyber' space is an ideational object, constituted by the 'reader.' Its 'reality' or object of contemplation is the 'reader's' own ideational activity. Fourth, the materiality of the discourse represents a realignment of 'text-reader' relations rather than something quite new. Finally, in the materiality of performative discourse, 'cyber' space is a ritually created space of liminality with transformative properties.

Footnotes

¹ Early descriptions of cyberspace, such as that offered by Benedikt (1991) defining it as "a globally networked computer-sustained, computer-accessed, and computer-generated, multidimensional, artificial or "virtual" reality," emphasized its technological characteristics (p. 122). Lippert (1996) called it "an abstraction of the computer" (p. x) and Barnes (1996) described it as "the territory of digital information" and a "hyperdimensional realm that we enter through technology" (p. 194). As considerations of the medium came more into

focus, emphasis shifted to descriptions of "sensory worlds" and "experiential environments" (e.g., Shapiro and McDonald, 1995; Steuer, 1995) as well as renewed attention to its aesthetic and compositional characteristics (Barbatsis, 1999; Cotton and Oliver, 1992; Moulthrop, 1996; Rhinegold, 1993; Wooley, 1992; Zachman, 1992).

²The same could be said for writing on a piece of paper or inscribing visually on film or video. As Steuer (1995) says, "newspapers, letters, and magazines place the reader in a space in which the writer is telling a story; television places the viewer in a virtual space in which both viewer and on-screen objects are present; and video games create virtual spaces in which the game-player is an actor" (p. 39-40).

³It is important to recognize the distinction being made here between negative *volume* and negative *space*. As described by Zettl (1999), "a *negative volume* is empty space that is somehow delineated by positive volumes. Unlimited negative space, such as a cloudless sky, constitutes negative space but not negative volume" (p. 166). In the next section, where we discuss space as text, we will apply this concept of volume duality to the concept of "the gap" in reception theory. Accordingly, "the gap" (or "not given") in a textual structure may be thought of as an empty space (negative volume) that is delineated by the "given" (positive volume) of a text.

⁴McLaughlin (1990) argues that the traditional contrast involved in the meaning of "figurative" with the "proper" meaning of a word disguises the fact that all meaning is figurative. He demonstrates that the "proper" or supposed rightful meaning of a word "is itself a trope on an earlier meaning" whether or not there is strong figurative etymology (p.85).

⁵Although reception theorists have worked primarily with literary texts, the approach does not, theoretically, preclude consideration of other symbolic forms. Allen's (1985) work with soap opera and Barbatsis' (1996) with television commercials demonstrate its applicability to televisual texts. As they illustrate, such image structures as scene, episode, and individual shots in pictorial expression constitute equivalent 'given' material to that of chapters, parts and passages in verbal structures. Furthermore, their analysis demonstrates how use of off-screen space constitutes places in a pictorial textual structure equivalent in function to the "not givens or vacancies in a verbal text. In a similar fashion, Wolf's (1997) analysis of video games suggests that the use of off-screen space in hypermedia expression functions as structural "not givens" or gaps" while the material in its screens (or perhaps pages), windows and domains constitute its structural "givens". Mitra (1997) also extends reception theory's notion of the text to hypermedia expression in his analysis of the Web site "India Related Links." He identifies how dual ideational objects, which he characterizes as in-group and out-group discourse, are constituted in its textual structure of "given" and "not given" material.

⁶The notion of presence, though often associated with studies of virtual reality (VR) environments, has been applied and defined in relationship to an array of media. In a recent review of this research, Lombard and Ditton (1997) found commonality among those working with the concept, despite the fact that they were investigating its occurrence in relationship to differing media. They concluded that the commonality could be expressed as "the perceptual illusion of non-mediation" (p. 7).

⁷ This characteristic explains an important difference in the ideational objects formed by textual engagements of 'zapping' (television) and 'linking' (hypermedia). While both respond to a suspension of textual connection, the segments connected by 'zapping' produce a pastiche of images whereas those connected by 'linking' facilitate the production of a seamless whole.

⁸ Kozloff (1992) make this distinction with respect to 'televisual' space, arguing that in addition to the traditional conception of the television program as a text, the multi-text structure of the television schedule should also be conceptualized as a text.

⁹ The fact that a multi-text structure also implies constant change from alteration to the material textual object by others makes the ideational contingency even more apparent. In addition, it offers the opportunity to distinguish between an asymmetrical contingency which Iser (1978) argues as definitive of a single-text structure and what might be posited as a multiple contingency relationship between reader and text with a multi-text structure.

¹⁰ Drawing on Laclau and Mouffee (1985), Howard (1997) applies the concept of "articulatory moment" to the discursive spaces constituted by hypermedia expression in his analysis of electronic discussion groups. According to Laclau and Mouffee (1985), consciousness is born in the "articulatory moment," which they define as "any practice establishing a relation among elements such that their identity is modified as a result of the articulatory practice. The structured totality resulting from the articulatory practice, we will call *discourse*. The differential positions insofar as they appear articulated within a discourse, we will call *moments*" (p. 105).

¹¹ Though they can be associated with the ideational spaces constituted through any communication medium, these characteristics of interpellation, which both "hail individuals into dominant subject positions and, concomitantly call resisting positionalities into existence" (Howard, 1997, p. 166), might be fruitfully explored in relationship to the concept of 'presence' which emerges with study of virtual reality,

¹² Turkle (1997) characterizes this textual strategy which allows freedom within rule governed limits as "an unparalleled opportunity for play" (p. 184). At the same time, Winnicott (1971) is careful to identify that the ideational space of play which allows the freedom to both test external reality and define internal reality is neither "psychic reality" nor, though outside the individual, "the external world" (p. 60). This bears significant similarity to Benedikt's (1991) distinction that cyberspace is neither the world in which we live nor the one in which we think and dream, but, instead, as "another venue for consciousness itself" (p. 124).

¹³ A 3D cyberspace system is an Internet-based conference system with an interactive visual part rendered in computer graphics. In the visual part it is possible to 'walk' through models of, for example, houses and cities. The models are stored on computers on the Internet and many users can walk through them at the same time. To do this every user controls an avatar. Chat text and simple gestures are used to communicate. For an introduction to 3D cyberspace systems in general, see Damer, 1998.

¹⁴ There are other systems such as "Blaxxun" (www.blaxxun.com) or SONY's "Virtual Society." Like Active Worlds, Blaxxun is able to provide such

functions as avatar-based multi-user interactions, but only Active Worlds provides the possibility for participants to build structures themselves. According to Schroeder (1995) this is a crucial difference when it comes to motivating users of virtual environments.

The Active Worlds system is owned and operated by the company Circle of Fire. It is headquartered in Newburyport north of Boston, with servers in San Francisco. It was acquired from the company Worlds Inc. by some of its developers, and named Circle of Fire after their first successful attempt to build a world based on Yellowstone National Park. For an introduction to the system see Damer, 1998, and for an introductory sociological description see Schroeder, 1998.

¹⁵ The wedding took place on the 16th of May, 1998 and was recorded on video tape by Kenneth Hansen at Aalborg University. The groom, living in Canada, is 40 years old and the bride, living in Los Angeles, is 30. The event was found and interpreted by interviewing informants in and around the system. This narrative is a very short version of a report made by Kenneth Hansen and broadcast on Danish National Radio (DR) (www.dr.dk/hardisk) in June 1998.

¹⁶ *Liminality* (from Lat. *limen*, a threshold). Turner (1978) draws from the work of van Gennep (1960) in defining liminality and the state of entities in this phase of a ritual process. Accordingly, "liminal entities are stripped of status and authority, removed from a social structure maintained and sanctioned by power and force, and leveled to a homogeneous social state through discipline and ordeal. Their secular powerlessness may be compensated for by a sacred power, however, -- the power of the weak, derived on the one hand from the resurgence of nature when structural power is removed, and on the other from the reception of sacred knowledge. Much of what has been bound by social structure is liberated, notably the sense of comradeship and communion, or *communitas*; while much of what has been dispersed over many domains of culture and social structure is now bound, or cathered, in the complex semantic systems which achieve great conjunctive power. In this no-place and no-time that resists classification, the major classifications and categories of culture emerge within the instruments of myth, symbol and ritual" (Turner and Turner, 1978, p. 249).

¹⁷ This is similar to, and examined from the perspective of, studies by the French anthropologist Andre Iteanu (1988, 1995). In his investigation of traditional societies, such as the Orokaiwa Indians on Papua New Guinea, he found a distributed system of rituals which continuously produces and reproduces small communities by regulating their physical and interactional infrastructures. Accordingly, within such societies, rituals are 'generative devices' which reproduce and renew society through the processing of an "information container" --referred to as "pure"-- which is an "action or thing conceived as a repetition of certain prescribed forms passed down to the present by gift, teaching, initiation or in any other way" (1988, p. 42). This entity is very similar to the cognitive ethnographic notion of practice as suggested by Hutchins (1995), who uses the term "cultural mental models" to describe the information storied in the head of a practitioner (see D'Andrade, 1989 and 1995) as well as in artifacts in the context of praxis. Following this one could perceive the rituals as instances of 'distributed cognition (Hutchins, 1995) or as situated cognition "in the wild," which points to an extended discussion of cultural practice/praxis. As further described by Iteanu (1988), "pure" designates the individual ritual as well as the totality of the traditions that compose the collective identity," expressed as an inclusive "we" (p. 42). Similarly, Turner (Turner and Turner, 1978) describes this kind of "inclusive we" as "*communitas*," and defines it as a

relational quality of full unmediated communication, even communion, between definite and determinate identities, which arises spontaneously in all kinds of groups, situations and circumstances (p. 250). Accordingly, in *communitas* it is possible to experience 'flow,' the "holistic sensation of being present when we act in total involvement, as a state in which action follows action according to an internal logic with no apparent need for conscious intervention on our part. ... In flow and *communitas*, what is sought is unity, not the unity that represents a sum of fractions and is susceptible of division and subtraction, but an indivisible unity, 'white,' 'pure,' 'primary,' 'seamless' (p. 254). Thus, as Itenau found, the ritual system provides all the necessary tools to navigate physically as well as socially in the social reality it generates and maintains. (While recognizing that Itenau's application of sociological neo-functionalism to social anthropology raises questions of culture, among others, a fundamental discussion of this sort is beyond the scope of this inquiry. In that regard, see Parsons, 1957 and Alexander, 1998.)

¹⁸ This performative ontology may point to a changed attitude towards reality in our culture. As Nigel Thrift (1996) has pointed out, "we have now reached a point where western cultures have become increasingly self-referential. . . ." and ". . . as a result, we now live in an almost/not quite world-- a world of almost not quite subjects; almost not quite selves; almost not quite spaces; and almost not quite times" (p. 257).

References

- Alexander, J.C. (1998). *Neofunctionalism and after*. Malden, MA: Blackwell.
- Allen, R. (1985). *Speaking of soap operas*. Chapel Hill, NC: University of North Carolina Press.
- Barbatsis, G. (1999). Hypermediated telepresence: Visual aesthetics of the newest communication art, *Journal of Broadcasting and Electronic Media*, 43 (1).
- Barbatsis, G. (1996). "Look and I will show you something you will want to see": Viewer engagement with negative campaign commercials, *Journal of Argumentation and Advocacy* 32 (2), 69-80.
- Barnes, S. (1996). Cyberspace: Creating paradoxes for the ecology of self. In L. Strate, R. Jacobson, and S. Gibson (Eds.), *Communication and cyberspace* (pp. 193-216). Creskill, NJ: Hampton Press.
- Benedikt, M. (1991). Cyberspace: Some proposals. In M. Benedikt (Ed.) *Cyberspace: First steps* (pp. 119-224). Cambridge, MA: The MIT Press.
- Bove, P. (1990). Discourse. In F. Lentricchia and T. McLaughlin (Eds.) *Critical terms for literary study* (pp. 50-65). Chicago, IL: University of Chicago Press.
- Butler, J. (1990). *Gender trouble: Feminism and the subversion of identity*. London, UK: Routledge.
- Cotton, B and Oliver, R. (1992). *Understanding hypermedia: From multimedia to virtual reality*. London: Phaidon Press, Ltd.
- Damer, B. (1998). *Avatars! Exploring and building virtual worlds on the internet*. Berkeley, CA: Peach Pit Press.
- Davis, D. (1995). Illusions and ambiguities in the telemedia environment: An

- exploration of the transformation of social roles, *Journal of Broadcasting and Electronic Media*, 39 (4), 517-554.
- Denzin, N. (1997). *Interpretive ethnography: Ethnographic practices for the 21st century*. Thousand Oaks, CA: Sage Publications.
- Diamond, E. (1996). *Performance and cultural politics*. London, UK: Routledge.
- D'Andrade, R. (1995). *The Development of cognitive anthropology*. Cambridge, UK: Cambridge University Press.
- Gibson, W. (1984). *Neuromancer*. New York, NY: Bantam.
- Hall, D. (1994). New age music: A voice of liminality in postmodern popular culture, *Popular Music and Society* 18 (2) 13-21.
- Howard, T. (1997). *A rhetoric of electronic communities*. Greenwich, CN: Ablex Publishing Corporation.
- Hutchins, E. (1995). *Cognition in the wild*. Cambridge, MA: The MIT Press
- Iser, W. (1978). *The act of reading: A theory of aesthetic response*. Baltimore, MD: The Johns Hopkins Press.
- Itenau, A. (1988). The concept of the person and the ritual system: An Orokaiva view, Malinowski Lecture. Centre National de la Recherche Scientifique. In *Man* (N.S.) 25, 35-53.
- Itenau, A. (1995). Rituals and Ancestors. In de Coppet and A. Iteanu (Eds.), *Cosmos and society in oceania*. Oxford, UK: Berg Publishers Limited.
- Kozloff, S. (1992). Narrative theory and television. In R. Allen (Ed.), *Channels of discourse, reassembled* (2nd ed.) (pp. 67-100). Chapel Hill, NC: University of North Carolina Press.
- Kruger, M. (1991). *Artificial reality* (2nd ed.). Reading, MA: Addison-Wesley.
- Laclau, E. and Mouffe, C. (1985). *Hegemony and socialist strategy: Towards a radical democratic politics* (W. Moore and P. Cammack, Trans.). Thetford, Norfolk: Thetford Press.
- Lippert, P. (1996). Cinematic representations of cyberspace. In L. Strate, R. Jacobson, and S. Gibson (Eds.), *Communication and cyberspace* (pp. 261-269). Creskill, NJ: Hampton Press.
- Lombard, M. and Ditton, T. (1997). At the heart of it all: The concept of telepresence. *Journal of Computer Mediated Communication [Online]*3, (2). Available: <http://www.ascusc.org/jcmc/vol3/issue2/lombard.html>
- Marks, L. (1994). A Deleuzian politics of hybrid cinema, *Screen* 35 (3), 244-264
- McCaffery, L. (1992). *Storming the reality studio: A casebook of cyberpunk and postmodern fiction*. Durham, NC: Duke University Press.
- McGee, M. (1990). Text, context and the fragmentation of contemporary culture, *Western Journal of Speech Communication* 54, 274-289.
- McLaughlin, T. (1990). Figurative language. In F. Lentricchia and T. McLaughlin (Eds.), *Critical terms for literary study* (pp. 80-90). Chicago, IL:

The University of Chicago Press.

Miles, D. (1996). The CD-ROM novel *Myst* and McLuhan's fourth law of media: *Myst* and its "revivals," *Journal of Communication* 46 (2), 4-18.

Mitra, A. (1997). Diasporic web sites: Ingroup and outgroup discourse, *Critical Studies in Mass Communication* 14 (2), 158-181.

Morris, C. (1996). Contextual twilight/critical liminality: J. M. Barrie's *Courage* at St. Andrews, 1922, *The Quarterly Journal of Speech* 82 (3) 207-227.

Moulthrop, S. (1996). Getting over the edge. In L. Strate, R. Jacobson, and S. Gibson (Eds.), *Communication and cyberspace* (pp. 233-241). Creskill, NJ: Hampton Press

Newcomb, H. And Hisch, P. (1994). Television as a cultural forum. In H. Newcomb (Ed.), *Television the critical view* (pp. 503 - 515). New York, NY: Oxford University Press.

Ong, W. (1967). *The presence of the word*. New Haven, CT: Yale University Press.

Parsons, T. (1957). Malinowski and the theory of social systems. In R. Firth (Ed.), *Man and culture: An evaluation of the work of Bronislaw Malinowski*. London, UK: Routledge and Kegan Paul.

Rappaport, R. (1979). *Ecology, meaning, & religion*. Berkeley, CA: North Atlantic Books

Rhinegold, H. (1993). *The virtual community: Homesteading on the electronic frontier*. Reading, MA: Addison-Wesley.

Rutherford, R. (1996). Canada's August festival: Communitas, liminality, and social memory, *The Canadian Historical Review* 77 (2) 221-249.

Schroeder, R. (1998). *Possible worlds. The social dynamic of virtual reality technology*. Oxford, UK: Westview Press.

Scroeder, R. (1995). Networked worlds: Social aspects of multi-user virtual reality technology, *Sociological Research Online* 2 (4).
<http://www.socresonline.org.uk/socresonline/2/4/5.html>

Shapiro, M. and McDonald, D. (1995). I'm not a real doctor, but I play one in virtual reality: Implications of virtual reality for judgements about reality. In F. Biocca and M.R. Levy (Eds.), *Communication in the age of virtual reality*(pp. 323-345). Hillsdale, NJ: Lawrence Erlbaum

Silverstone, R. (1996). *Technologies, texts and discursive spaces: Notes towards the interactive*. Paper presented at the Annual Meeting of the International Communication Association. Chicago, IL.

Solomon, M. (1993). The things we study: Texts and their interactions, *Communication Monographs* 60, 62-68.

Steuer, J. (1995). Defining virtual reality: Dimensions determining telepresence. In F. Biocca and M. R. Levy (Eds.), *Communication in the age of virtual reality* (pp. 33-56). Hillsdale, NJ: Lawrence Erlbaum. Reprinted from Steuer, J. (1992). *Journal of Communication* 42 (4), 73-93.

- Thrift, N. (1996). *Spatial formations*. London, UK: Sage Publications
- Turkle, S. (1997). *Life on the screen: Identity in the age of the internet*. New York, NY: Touchstone.
- Turner, V. (1969). *The ritual process: Structure and antistructure*. Chicago, IL: Aldine Publishing Company.
- Turner, V. (1977). Process, system and symbol: A new anthropological synthesis, *Daedalus 1* (Summer), 61-80.
- Turner, V. And Turner, E. (1978). *Image and pilgrimage in Christian culture: Anthropological perspectives*. New York: Columbia University Press.
- van Gennep. A. (1960). *The rites of passage* (Trans. M. Vizedom and G. Caffee). Chicago, IL: University of Chicago Press.
- Wallace, K. (1996). Liminality and myth in Native American fiction: *Ceremony and The Ancient Child, American Indian Culture and Research Journal 20* (4), 91-119.
- Winnicott, D. (1971). *Playing and reality*. Harmondsworth: Penguin.
- Wolf, M. (1997). Inventing space: Toward a taxonomy of on- and off-screen space in video games, *Film Quarterly 51* (1), 11-23.
- Woolley, B. (1992). *Virtual worlds*. Oxford: Blackwell.
- Zachmann, W.F. (1992, March 31). Simulation: The ultimate vRtual reality, *PC Magazine*, 107.
- Zettl, H. (1999). *Sight, sound, motion: Applied media aesthetics* (3rd. Ed). Belmont, CA: Wadsworth Publishing Company.

About the Authors

Gretchen Barbatsis (Ph.D., University of Minnesota) is an Associate Professor of Telecommunication at Michigan State University. Her research in visual communication examines the nature and role of the electronic image from the perspectives of cultural studies and visual aesthetics.

Address:Department of Telecommunication, 409 Communication Arts Building, Michigan State University, East Lansing, MI 48824.

[Kenneth Hansen](#) (Cand. mag. University of Copenhagen), is pursuing a Ph.D. degree in the Department of Communication at Aalborg University, Denmark. His research combines cultural studies with anthropological studies of rituals to the exploration of the nature and structure of mediated communities.

Address:Department of Communication, Aalborg University, Aalborg, Denmark.

Michael Fegan is pursuing a Ph.D. in American Studies at Michigan State University. His studies focus on the Internet as a rhetorical and cultural construct, as well as the nature of textuality in electronic mediums.

Address:Department of American Studies, Linton Hall, Michigan State University, East Lansing, MI 48824