

VIRTUALITIES: TELEVISION, MEDIA ART, AND CYBERCULTURE

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VIRTUALITIES

TELEVISION, MEDIA ART, AND CYBERCULTURE

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Virtualities: A Conceptual Framework

**The future lies with dealing
with information in real time.**

—Andy Grove, CEO of Intel

THE RISE OF CYBERCULTURE

Why do we need cyberculture? One might as well ask why modernizing postwar cultures needed television.

Raymond Williams offers the most compelling logic for understanding the social processes that generated television. He was concerned with the long-term and incremental change in the way cultural discourse is mediated and culture itself is transmitted and maintained. For Williams, television as a means of social control and communication is a response to the need for a mechanism of cultural integration created by the development of an industrial economy that uprooted much of the population, divided work from home, and isolated one person from another in privatized forms of living, such as the separate dwellings of suburbia. Highways may link home to work and commerce, but they do not overcome the isolation of what he called "mobile privatization." Television broadcasting, on the other hand, offers culturally unified experiences and can even substitute relations to itself for some aspects of human interaction. The allure of television has deep roots in the need for human contact and the maintenance of identity and for a sense of belonging to a shared culture, the very aspects of life that socio-economic processes were undermining.

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Before information, television was a prime shifter of value from one ontological state to another, in the socioeconomic and cultural circulation of material objects and bodies, money, and other symbols by means of images. The computer-based electronic networks into which television itself is being integrated serve the far greater complexities of a postindustrial and postnational sociopolitical information economy. This economy is now the excuse or the occasion for a wrenching restructuring of the workforce that both displaces some people and brings others together electronically—but only as they are separated from each other in physical space. Today, virtual sex on an electronic chat-line or the arrival by overnight mail of a cubic zirconia ring ordered by phone from a home shopping channel are complex chains of exchange between images, symbols, bodies, objects, and money that are ultimately based on the instant transportability and the ease of processing images and digital information. Information itself acquires the instrumental or exchange-value of a kind of virtual money. Ultimately, as the matrix of electronic culture, banks of data have the potential to take on the value of the symbolic system itself, much as a library is the storehouse of culture in print, and the archive of visual and aural mechanical and electronic recordings amount to our cultural memory. However, this memory is activated, not as information, but as images that seem to virtually share a temporal and spatial realm and interact with the human beings that are engaged with and in them. Cultural forms from television graphics and shopping malls to the apparatus of virtual reality, as well as practices from driving to conducting war to making art employ various forms of engagement to construct a *virtual relationship* between subjects in a here-and-now.

Seen from the point of view of a developed electronic culture of human-machine relations, television is an interim phase in a process in which only part of the burden for the discursive maintenance and transmission of culture has been delegated to machines. Television has yet to master a full complement of pronouns in relation to the viewer: it is versed in addressing the viewer with *we* and *you*, and it is good at the present subjunctive mode of a fictively shared present, but it is left to the genres of cyberculture to develop the full implications of the impression of being immersed *inside* a virtual world—what amounts to appearing to enter inside the box and the screen. The interactive user is an *I* or a player in discursive space and time.

If we consider the crucial role of storytelling in cultural maintenance, then it is useful to consider the different modes of narration as phases of

enculturation. The anthropologist Greg Urban conceptualizes the process of identification with a social role as a passage of narration through degrees of embodiment, from third-person narration of a story that happened to protagonists elsewhere in another scene, to what amounts to a kind of possession by the spirit of a character in the story. Urban stresses the enormous importance of the "dequotative 'I'" or speaking the words of another as if one were present in a social role, not merely identifying but embodying and inhabiting it, in effect transmitting culture itself. While interactivity is often understood as "control" over machines, it could also be considered a way of inhabiting the "you" produced by the virtual address of television. Then, post-televisual machines are charged with the production of "dequotative 'I'" and, hence, with the full range of subjectivity in cultural transmission.

The paradox of the development of the media generally in this century is that as *impersonal* relations with machines and/or physically removed strangers characterize ever-larger areas of work and private life, more and more personal and subjective means of expression and ways of virtually interacting with machines and/or distant strangers are elaborated. An information society will not be experienced by most users at the level of its technological foundation or as algorithms and abstract symbols in an imperceptible realm of data. The very impersonality and lack of context that are fundamental to information are far too sterile a basis on which to build the human relations that data is designed to disavow.

Information is impersonal and imperceptible, knowledge stripped of its context in order to be transformed into digital data. It is at once a means of production and a currency of exchange that can be accumulated and stored as virtual wealth that is also cultural capital. Just as the computer is a "universal" machine that can emulate any other, information is a freely convertible currency between material and symbolic orders and reservoirs of value. Bodies and goods, as well as images, money, and other symbols can be exchanged once they have been replicated as (digital abstractions) programmed and processed.

Therefore, whether business or entertainment, in order to support a culture based on more than just the economic exchange-value of data, information that has been *disengaged* from the context of the subjects, time, and place in which it is enunciated must be *reengaged* with personality and the imagination. That is, an information society inevitably calls forth a cyberculture that enjoys far different characteristics—much like alphabets and phonemes can be articulated at higher levels of

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language. Cyberculture is personal rather than impersonal, irrational rather than rational, perceptually elaborated rather than abstract, and so on. The logic of this argument or hypothesis on the relation between socioeconomic and cultural forms in the computer age suggests that the more abstract and removed information has become from everyday life and the perceptual field, the more virtual the substitute context of subjectivity in a here-and-now at the foundation of cyberculture will be. While objects and images can be virtual, the virtual relationships that people in physical reality have with machines and images of various types are the primary focus of this book.

Machine Subjects/Subject Machines

Seen in the temporal framework of over a century, the shift from print and recorded media to television and electronic networks is an evolution that not only depends on subjectivizing machines with more and more symbolic functions, but on granting machines more and more of the process of creating cultural subjects out of human beings. Thus, regarding changes in subjectivity supported by different media beginning with television, machines not only mediate stories, but they also simulate the act of personally narrating them in a shared virtual space. Television's "interaction" with the viewer is a legacy from the hosts and announcers of radio. Sound media like the telephone and radio, in which subjects as conversation partners are separated spatially if not temporally from each other, depend on the imagination of the auditor to construct personas and environments of the broadcast situation and of the world in the stories being told. Paralinguistic cues such as tone and pitch of the voice as well as noises that are coded as signifiers of objects and environments are clues as to the personalities and events involved. It is television that first raises the problem of constructing full-fledged parallel visible worlds and then linking them with our own, via speaking subjects, proxemically "near" to and addressing the viewer with some degree of intimacy. (Proxemics is the study of body language in social interaction, especially the meaning conveyed by the spatial distance between interlocutors.) Your television (via the intermediaries of hosts, anchors, and spokespersons of all kinds) cajoles, instructs, and directs you incessantly, "you" being a virtual position in space about equivalent to the position of your couch or bed, or possibly your aerobics mat or kitchen counter. You may not actually be in that position;

you may in fact have clicked the television off or onto another channel. Monitor-human relations are thus bubbles or pockets of virtuality in the midst of the material world.

More completely interactive and immersive technologies are not different in kind—they are simply better informed about where *you* physically are in material space and, we might add, social space, as might be available as data from the trail you have left of personal credit transactions, tax and income records, as well as rental and housing prices in your zip code and the record of World Wide Web sites you have visited. The agency responsible for a television ad for a luxury automobile implicitly addressed to a male head-of-household with significant discretionary spending is using ratings and demographics as conjectures about who is watching, when, where, and what, to place its spot to target a select you. The Web on-line ad may even be specifically constructed for a specific user according to data available about his or her prior "hits" (site visits) and purchases. Ongoing surveillance by machines is then a corollary of the feedback of data from interaction with machines.

However, machine-human relations are not restricted to the space of the monitor, for a material artifact and even a physical space itself can be "cyberized," or granted agency by programming it to simulate some form of human interaction, in the process ultimately lending it uncanny qualities associated with human personality. Unlike prior modes of culturally controlled and contained fiction, virtual environments or cyberspaces can enchant spheres of everyday reality. As Jay David Bolter explains in *Writing Space: The Computer, Hypertext and the History of Writing*, "Artificial intelligence leads almost inexorably to a kind of animism, in which every technological device (computers, telephones, wristwatches, automobiles, washing machines) writes and in which everything that reads and writes also has a mind" (182). One futuristic vision of the personified or "smart" home proclaims, "Once your house can talk to you, you may never feel alone again" (Roszak 35, quoted in Bolter 183), suggesting this animism and a quasisubjecthood can extend to even physical space, once it has been "cyberized." A utopia of ubiquitous computing would enchant the entire world, distributing magical powers to the most mundane aspects of existence.

Any realistic assessment of the foreseeable development of computing power would dismiss a totally cyberized physical world as utter fantasy. Enchanted spaces and animated appliances are likely to remain

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a spotty and localized experience. Yet this very unevenness, this mixture of the virtual and the material and of this distribution of agency and personality to machines and computer programs is itself disturbing to a sense of control over what the reality-status of any one instance or sector of the world may be: to whom or what is one a *you*?

When to type a computer command brings a graphic world to virtual life as an immersive environment and when human qualities of subjectivity and agency can be granted to objects or even distributed over space itself, we have entered a realm for which we have little vocabulary and few reference points except the language of magic tricks or the linguistics of speech-acts or *performatives*, a category of words that bring the very situation they describe into being. As Julian Dibbell explains:

After all, anyone the least bit familiar with the working of the new era's definitive technology, the computer, knows that it operates on a principle impracticably difficult to distinguish from the pre-Enlightenment principle of the magic word: the commands you type into a computer are a kind of speech that doesn't so much communicate as *make things happen*, directly and ineluctably, the same way pulling a trigger does. They are incantations, in other words, and anyone at all attuned to the technosocial megatrends of the moment—from the growing dependence of economies on the global flow of intensely fetishized words and numbers to the burgeoning ability of bioengineers to speak the spells written in the four-letter text DNA—knows that the logical of the incantation is rapidly permeating the fabric of our lives. (42)

If the future promises to be an "augmented reality," an animistic, artificial world supported by ubiquitous computing, in which the material and virtual are distributed indeterminately in mixed environments and in which we interact with undecidably human and/or machine agents in what only appears to be "real time," and in which virtual space itself is a surveillance agent, then this will be a world that television has prepared for us by pretending to be talking to *you*. It is this physicality mixed with human agency and language using capacities that even utterly uncomputerized television anticipates as a machine subject, addressing the viewer directly, or more accurately, virtually.

But television is not only a machine subject. It is also a subject machine—that is, a machine of enculturation. In the process of the expansion of the fictions of present tense, "soft" social control has become industrialized and delegated to impersonal machines capable

of simulating intimate and primary relations of social reality. Social institutions of family, education, politics, religion, and the economy—once the matrix for enunciating, conveying, interpreting, and enacting narratives stored in print or in local and familial memory—have converged to some degree or other with the media. The television is virtual baby-sitter, matchmaker, educator, (non)site of electoral, legislative, and executive political events, a judicial body, a church, and a mall. Electronic neighbors, hosts, announcers, instructors, performers, and communicators of all kinds now share the interpersonal tasks of presenting and narrating culture with "real" parents, teachers, actors, politicians, ministers, and, most of all, considering the commercial foundation of television, salespeople. For the most part such electronic personas are conveyed secondarily by the images of human beings framed with the machine, though at times we hear, for example, the voice of a network or "the voice of the Olympics" emanating from the body of the television itself.

The logic of such an automation of cultural exchange suggests that machines will come to employ "I" and "you" with greater ease, speaking in personal modes of address that, according to Émile Benveniste, construct subjectivity in a primary way. In Benveniste's linguistics, subjectivity is based in discourse between subjects in a here-and-now. "Discourse is every utterance assuming a speaker and a hearer, and in the speaker, the intention of influencing the other in some way. [It comprises] all the genres in which someone proclaims himself as the speaker and organizes what he says in the category of person" (*Problems* 209). From that standpoint, "he," "she" and "it" are nonpersons, whereas subjectivity is characterized by the reversibility of "I" and "you," as shifters or empty positions. "I" can be "filled" by any speaker who refers to her- or himself, including what Benveniste might have considered ridiculous—machines.

Of course, the notion of the subject in a face-to-face conversation as real and full has become highly problematic in contemporary linguistics and philosophy. The sense of presence in a here-and-now that "imposes itself upon consciousness in the most massive, urgent and intense manner" is what Peter Berger and Thomas Luckmann call "paramount reality." This is not to say that "paramount reality" is truth or reality itself. It is rather a problematic social construction that is contingent and historical. In *The Social Construction of Reality*, Peter Berger and Thomas Luckmann explain how "reality," however mono-

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lithic it may appear to us, is a constructed, relative, and fragile objectification with which a subject precariously and incompletely identifies. Furthermore, there are different levels of this "reality." "The most important experience of others takes place in the face-to-face situation, which is the prototypical case of social interaction" and also the primary means of "reality maintenance" (21). "In the face-to-face situation the other is fully real. This reality is part of the overall reality of everyday life, and as such massive and compelling. . . . Indeed, it may be argued that the other in the face-to-face situation is more real to me than I myself" (29).

Note how a sense of unreality haunts the self in Berger and Luckmann's variable and constructed "paramount reality" in its reliance on the other that is, after all, "imaginary"¹ (Lacan, "The Mirror Stage"; Metz, *Imaginary Signifier*). This paramount reality has undergone great mutations since the advent of electronic culture, particularly since that other in the face-to-face situation is likely to be a television or a computer.

A face-to-face encounter can seem to possess spiritual resources, participating in the realm of what the theologian Martin Buber calls the "I-Thou." We might speculate that the news personality, as a transparent soul addressing the viewer face-to-face, draws upon a powerful cultural potential for a reality of spiritual communion. However, this differs from the face-to-face I-Thou situation that occurs in a shared place and time, for one thing, in that the viewer's own subjectivity is inhibited. (He or she is a "you," but in this one-way situation, not an "I.") To appear on television is then to achieve a level of authority and validation as a subject that is not fully reciprocal. This suggests that the subject who speaks to the viewer face-to-face on television may even seem more "real" than the viewer seems to him- or herself.

One of the fundamental assumptions underlying this book is that there is a basic human need for reciprocity and the reversibility of "I" and "you" in discourse—seeing and being seen, recognizing others and being recognized, speaking, listening and being listened to. Though this need for recognition and self-expression is not well met in contemporary culture's weak public sphere, it still prevails. The following section will take the risk of using specialized terminology in order to propose another species of fiction, called virtuality, with a different relation to social reality. The claim is not that television and a computer-supported cyberculture are less authentic than "real" discursive exchange between human beings. It is rather that socially constructed reality is

already fictional and that virtuality is an aspect of that fictionality that has come to be more and more supported and maintained by machines, especially television and the computer.

Two Fallacies about the Relation between Language and the World and Two Species of Fiction

Subjectivity can never be real or full, as it is always based on simulation or what Algirdas Julien Greimas calls the "enunciative fallacy." That is, "I" and "you," "here" and "now" are not the subjects, place and time of the act of enunciation: these linguistic forms are "shifters" and "simulacra" within the discourse that imitate the act of enunciation within the utterance. In the ordinary use of simulation, language approximates the world through the concomitance of subjects, space, and time, that is, personal proximity, spatial contiguity, and temporal simultaneity. Perhaps that is why "discourse" is so often, albeit fallaciously, equated with reality itself. (On the other hand, enunciation is a form of action and part and parcel of the world of material reality.) Using linguistic and semiotic tools, the following explores the rupture or gap that must be bridged to produce "reality."

The first questions we ask about a representational image or document are referential. What is this an image of? Is it realistic? Is it true? Our questions are an attempt to reach beyond the image as the utterance now in front of us to the totally distinct exteriority of a world in which there was an object there and then. Our attempts to close the gap between the world and language and other symbols are ultimately successful only in producing what Greimas calls the referential fallacy. Photographic technology is quite if not utterly successful in fostering the illusion of access to an "indexical reality" or what Roland Barthes called the sense of someone "having been there" that haunts the image with an ineluctable sense of the past and its loss ("Rhetoric" 44).

However, with the dominance of digital image production that William J. Mitchell dates from 1989, "the connection of images to solid substance has become tenuous. . . . images are no longer guaranteed as visual truth" (Mitchell 57). Once the "postphotographic era" in which we live began, the adherence of the referent (indexicality or "the trace of the real") was set in question. The rupture between the image and world it represents makes objectivity and the closure of possessing the final or true image always illusory. Once photographic realism is no guarantee of "having been there," then the credibility the photograph

nevertheless possesses is undermined. "A digital image may be part scanned photograph, part computer-synthesized shaded perspective, and part electronic 'painting'—all smoothly melded into an apparently coherent whole. It may be fabricated from found files, disk litter, the detritus of cyberspace" (78). It will probably take some time for faith in the evidential value of images to erode, in the meantime granting a reprieve to older forms of journalism.

The credibility of television news has, however, long been tacitly based on subjective rather than objective sources. It depends on a different fallacy fostered by electronic media: that the subject or "I" in the utterance or image is the one who actually enunciates it, here and now, or what Greimas calls the *enunciative fallacy*. Even the body we see in physical space, lips moving, voice sounding, belongs to another order of reality than the subject "I" in the linguistic utterance, despite the "identification between the subject of the utterance and the subject of the enunciation" (Greimas 100). In fact, the engaged forms of "I" and "here" and "now" (as opposed to the disengaged or impersonal forms of "he," "she," and "it" in a "there" and "then")² are first-order simulations of the speaking subject, and the time and place of enunciation. Any "I" in such an utterance that aims to return to the source that enunciated it is condemned to futility: "Engagement is both a goal of the domain of the enunciation and it is a sort of failure, an impossibility of reaching that goal" (Greimas and Courtés 102).

Disengagement refers to "the constitutive aspects of the primordial language act" that "appears as a split which creates on the one hand, the subject, the place, and the time of the enunciation and, on the other, the actantial, spatial, and temporal representation of the utterance" (Greimas and Courtés 88). "Engagement logically presupposes disengagement, for it is the return of forms already disengaged to the enunciator" (89). To call oneself "I," for instance, has to begin from the basis of a not-I and its negation. Thus, a rupture or break is and remains at the heart of subjectivity in the Greimas and Courtés model.

Nor need the subject, space, and time in the utterance be a unified or coherent whole; they can be simulated independently and are capable of being disengaged or engaged separately. In addition, an utterance can undergo further internal disengagement. For example, a narrative may disengage a second-order narrative, and then install a third-order dialogue and so on. Even apparently simple cultural forms such as television news can have many orders of complexity. See "engagement" (Greimas and Courtés 100–102) and "disengagement" (87–90) for a description of these two planes of language.

Once uttered, the breach between an utterance and its enunciator widens, set adrift, beyond the intention and out of the control of subjects who enunciate, quote, and transform it in ever new contexts, setting the "authority that is supposed to spring directly from the voice-consciousness of the self-present speaker" in question (Spivak 214). In his critique of logocentrism, Jacques Derrida deconstructs "presence" and the primacy of speech and the speaking subject over writing. In his critique of Anglo-American speech-act theory in *Limited Inc.*, Derrida stresses the absence at the origin of written utterances: the absence of the sender from the message made known later to persons absent from the scene of writing is but one aspect of the original absence of writing itself. Once a message is sent, it is disengaged from context and intention, free to be read, quoted and iterated endlessly in other contexts, generating semantic meanings that are particular, secondary, and supplementary each time. Derrida prefers the notion of dissemination to communication or polysemy for this widening gap. The written sign is not exhausted by the context of its inscription; once ruptured from that context in an act of enunciation, it is free to drift, separated forever from the chain of present reference, never to be identical with itself.

Hence, what Austin regarded as "infelicities" and accidents—speech-acts which do not achieve their intention—are what Derrida presupposes as the very condition of possibility of speech-acts. While intentionality and meaning do not disappear, they are not central in a structure of rupture and iteration in which the intention animating an utterance will never be through and through present to itself and its content. Consider also that simulation and *dissimulation* rely equally on the enunciative fallacy. The gap between enunciation and utterance that makes meaning possible is also what makes it possible to lie. (The "I" in the utterance does not ever equal the "I" that enunciates it.) Therefore, Austin's notion of felicity could be amended in the light of Jacques Derrida's critique of John Searle to include the intention to persuade, to lie, or to otherwise attempt to control the perlocutionary force (or effect on the interlocutor or speech partner) of a speech-act in a way favorable to the ends of the utterer.

Consider also that whatever the sincerity or authenticity of its intention (Trilling), a speech-act is also an event or performance, the outcome and meaning of which cannot be completely foreordained, even when the intention of a speech-act is to lie. Shoshona Felman's *The Literary Speech Act* deals with promising as the act of bequeathing what the seducers in question do not have: "their word, their authority, their promise." Such a speech-act does not require belief, nor is it ever

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satisfied. Yet the speaking subjects are "the scandalous authors of the infelicity that never ceases to make history" (150).

This raises the thorny problem of belief in relation to machine subjects or the metapsychology of the viewer in relation to television or the user in relation to the computer. The argument to be made here is *not* that once there was something sincere and unmediated called face-to-face conversation of which exchanges mediated by television and the computer are inherently inauthentic or debased simulations. If anything, machine subjects are made possible by the fundamental gap that has always existed between language and the world and between utterances—be they subjective or impersonal—and the act of enunciation— whether it is produced by a human subject or has been delegated to machines. An article of faith or fundamental assumption of this book is that there is a human need for and pleasure in being recognized as a partner in discourse, even when the relation is based on a simulation that is mediated by or exchanged with machines.

Such language-using, or more precisely, language-simulating machine subjects, insofar as they are embodied, belong to the category of "intelligent" robots. Insofar as they reside within the virtual world of computers and networks, they could be the agents roaming the databases, assembling and digesting individually targeted news, like a descendant of Walter Cronkite and Max Headroom on whom one can double-click.

Raymond Williams observed in *Television: Technology and Cultural Form* that "since the spread of television, there has been a scale and intensity of dramatic performance that is without precedent in the history of human culture" (53). When he wrote that "watching dramatic simulation of a wide range of experiences is now an essential part of our modern cultural pattern," he could not have anticipated the role in the process of machines invested with personality and agency in a virtual scene. However, since enculturation is a process that passes through a range of persons and positions in language, automating this process would require just such an expansion of "personhood" to machines.

Features of Cyberculture

The "cyber" in *cyberculture* is appropriately built on the analogy of Norbert Wiener's cybernetics, from the Greek *cyber* for steersman and, by extension, feedback, as the study of feedback systems of communi-

cation and control. However, as a prefix for the imaginative subculture associated with the computer, it is popular rather than scientific. *Feedback* in the broadest sense (not just as noise or interference produced by a system itself) is a capacity of a machine to signal or seem to respond to input instantaneously. A machine that thus "interacts" with the user even at this minimal level can produce a feeling of "liveness" and a sense of the machine's agency and—because it exchanges symbols—even of a subjective encounter with a persona. In computers, feedback is elaborated into a programmed responsiveness which Sherry Turkle has noted can captivate the user as a kind of "second self."

Furthermore, feedback is a rich substrate for amplifying and morphing echoes and image fragments of one time, one space, and one voice into multiple personalities and overlapping machine-produced subjects. Cyberculture is built upon such a proliferation of *nows* in diverse modalities and inflections and *heres* that are not single, material, and contiguous but multiple, discontinuous, and virtual.

What media-machines responsible for discursive maintenance—"live" television, radio, the telephone and before that, the telegraph—share in common, in contrast to print and cinema, is "liveness" (Feuer) as concomitance, the simultaneous emission and reception of messages—or far more importantly, the impression thereof. Even when the mythical simultaneity of "liveness" that is at the heart of the enunciative fallacy on television is actually or technically achieved—as if the concomitance of production, transmission, and reception meant that these instances are indeed the same event—a problematic feedback loop arises between news and its reception. The news becomes the immediate or apparent cause rather than the report of events. Furthermore, the very notion of "liveness" is more and more compromised by algorithmic image processing that erases the difference between *having been there then* and *being here now*.

The fundamental difference of the use of simulation in ordinary language and in television is that the relation between the sender and receiver is virtual: the utterance in direct address of television subject to the viewer disavows the camera lens and the monitor glass, the distance between the speaker and receiver in space and possibly time. Furthermore, as already discussed, the addressee or "you" that is specific and personal in everyday conversation, is a generic and impersonal "you" of anyone in that virtual place, or rather, the population segment targeted as a commodity in the economic exchange that supports televi-

sion as an American institution. This virtual relation to "you" is expressed ubiquitously in television news, sports, talk and how-to shows, and "reality" programming of all kinds, as well as advertising and the introductory or sponsorship sequences that accompany every dramatic production, every movie or other narrative form on television. Because the image has an x-, y-, and z-axis—width, height, and depth—motion into or out of depth toward the viewer may be called a z-axis move. Even without a "host," or talking head, television space becomes a virtually shared and interactive space whenever logos, openers, title sequences, and bumpers move objects on-screen on the z-axis toward or away from the viewer, or for that matter, appear to move the viewer into the depths of the world on-screen, inducting the viewer as if into the set and the simulation of a parallel world.

"Interactivity" is thus a kind of "suture" between ourselves and our machines. Film theory adopted this medical metaphor to describe the way in which shots or film segments were joined together by vectors such as eye-line or direction matches and shot-reverse-shot techniques to form a coherent fictional world that is separate from our own. Another series of actual and invisible barriers inscribes the divide between the world of the spectator and of the film story (or *diegesis*)—the stage, the proscenium, the curtain, the screen, the invisible or fourth wall, and the 180° line that the camera doesn't cross.

Television discourse, on the other hand, ignores the glass or screen that divides a material and an immaterial world of story. And unlike film, rather than folding representations on the screen back over onto themselves, as if sewing a world together, the z-axis of television is like a skewer or pin on which many layers or different levels and stances of discourse can be stacked deep within screen space and, by extension, virtually beyond the glass into viewing space. This "interaction" underlines television's role as a transitional cultural form, one stage, if perhaps the most historically important one, in the development and consolidation of fundamentally fictitious close personal relations with as well as via machines. In network television, a series of conventions have evolved which segregate the news into different virtual planes within screen space that also are invested with different degrees of subjectivity. These planes or layers are arranged hierarchically, according to a virtual "nearness" to the viewer or "you" that also marks power into the image. Today, such strategies of discursive engagement or interaction with the viewer extend beyond the set to include the remote control

and the VCR, telephone calls to 800 and 900 numbers and to computer interfaces, networks, and multimedia links.

These virtual relations or what I think of as fictions of presence have become increasingly elaborated in the shift to utterly artificial realms of cyberspace (coined by the science fiction novelist William Gibson, also on the analogy of Wiener's cybernetics). *Cyberspace*, defined as the noplac in which, for instance, two people talking by telephone meet,³ is the most inclusive term for the imagined, as well as the completely or partially "realized" virtual environments which are capable of *interacting* with users to some extent or other and /or within which, to varying degrees, users feel *immersed*, and, by extension, for the subcultural discourse loosely concerned with the future and technology. Whether we call the noplac in which exchanges on electronic networks occur or the scene of an immersive computer graphic "world" a *virtual environment*, *artificial reality*, or *cyberspace*, the gathering places and sites of experience in electronic culture are increasingly situated in what amounts to nospace and in which humans not only interact with human agents but also with the semiautonomous agency of machines.

The contemporary notion of *virtual reality* as a subset of cyberspace is an extreme example of the substitution of the material world for an immaterial and symbolic one.⁴ In virtual reality, the user electronically wraps him- or herself in symbols by means of electronic clothing—the head-mounted display that tracks the head position (that is, the direction of gaze) and covers the eyes with small display monitors, data-gloves for tracking hand gestures or the data suits that track the disposition of the whole body—producing the illusion of inhabiting the virtual world displayed inside the fold. It is as if one were capable of moving around inside a drawing that responds to one's changing point of view—or for that matter, as if one were able to climb into a monitor and experience the symbols inside without apparent mediation.

Another heavily promoted, albeit embattled metaphor for this realm is the "information superhighway," modeled on a built environment which is already a protocyberspace or partly derealized and enclosed realm of distraction, as explained further in chapter 4. In any case, the gathering places of culture promise increasingly to be in *nospace*, taking on a variety of metaphoric shapes and offering different kinds of allure. In fact, once one has factored in the physical machinery of computers and cables plus the machine languages which process digital data, what else is cyberspace but *metaphors* made virtually perceiv-

able by means of a display system? And what are the devices which permit human-machine communication (for example, a keyboard, mouse, joystick, touch screen, et cetera) but metaphoric ways of interfacing via machine with a symbolic world? Those symbols, in turn, have the uncanny ability to answer back.

Fiction and Disavowal in Cyberculture

This is not to say that virtualities or fictions of presence dupe or fool anyone into believing that, for instance, a television anchor is actually speaking to them. Nor, despite its very name, is something like virtual reality, which requires a great deal of cumbersome equipment, likely to make us forget where and who we are. The membrane between virtual and material reality is an actual and easily verifiable second skin. The very commodity status of theme park worlds of present-tense experiences provides them with well-policed boundaries separate from everyday life. Television, on the other hand, cultivates a far thinner membrane between itself and everyday life (see Gardner), since its very function is to link the symbolic and immaterial world on the monitor with an actual and material situation of reception. Yet, while viewers may waver as to the reality status or degree of fictionality to accord live disaster coverage, a reenactment or a docudrama on television, to assume that anyone in the audience is actually deluded into forgetting "this is television" would be to misunderstand the work of disavowal and willing collusion in rituals and conventions, even when these conventions operate contrary to fact or contradict brute physical reality. The present and past subjunctive and its various degrees of fictionality—what might or could have been and could or might or never could be—manifest and sustain cultural values and meanings that are intangible and invisible or otherwise absent in the object world and physical space (see Mannoni).

Nevertheless, while most viewers offer television their divided attention and largely treat it as a thing to which one owes no mark of recognition or politeness, a few viewers (including Elvis Presley) have been known to break the set when angered by the quasireality and its quasisubjects on screen. Other television viewers have been known to go so far as to return the salutations and valediction of the newscaster as if he or she were physically present, in what is known as "parasocial behavior." Parasociality may blur the distinction between primary and secondary experience (Mark Levy 69), but saying goodnight to the

television news anchor may also be a classic example of *disavowal* or split-belief familiar from the theater and fiction film: "I know (it's just television, a movie, etc.), but nevertheless. . . ." Note that disavowal cuts both ways. Not only can images and objects be subjectivized, when persons are celebrities, American mass culture may treat them as if they were not feeling subjects but "semifictions," objects available to unbridled curiosity and free game for imaginative fabrication in the service of play with cultural values (see Gamson).⁵

Contemporary virtualities or fictions of presence as well as the fictions of the past tense to which we have been acculturated over centuries in oral narrative, stage, print, and the cinema employ the subjunctive mood "to denote an action or a state as conceived (and not as fact) and therefore used to express a wish, command, exhortation or a contingent, hypothetical or prospective event" (*Oxford English Dictionary*). The purpose of staging fictions of the past or of what is otherwise absent was to create a liminal zone outside of the demands of everyday life where one could identify with or project onto a not-self from a position of relative safety behind the proscenium, renewing the frayed bonds of a common culture (see Turner). The cinema is also an empathy machine, inviting our identification with characters living lives quite separate from our own. In the cinema, like the novel and the theater before it, the fiction effect depends on a sense of safety or distance in time and space from the fictional characters and events on screen (Metz, *The Imaginary Signifier*).

Television offers an *impression of reality* constructed on an entirely different basis than the fiction of film—for television offers simulations of discourse and fictions of presence that attempt to virtually engage the viewer-auditor with the set in various ways. When Christian Metz applied the distinction *histoire/discours*, based on the linguistic theories of Émile Benveniste, to film narrative, he concluded that the fiction feature film is *histoire*, "narrated without the narrator, rather like in dreams or phantasy" (*The Imaginary Signifier* 92).⁶ Film narrative is ideally transparent, as if stories were complete worlds without us, unfolding without reference to subjects, time, or space of the act of their narration. Metz describes different kinds of psychic regimes as well, noting that film is exhibitionist, but not in the reciprocal, alternating fashion between subjects of discourse. Rather, film knows, but doesn't want to know, that it is being watched; so, it pretends to be caught unawares, constituting its audience as voyeurs, who regress to "the seeing of an outlaw, of an *Id* unrelated to any *Ego*" (97). By not acknowl-

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edging the spectator or pretending not to know it is seen, a series of disavowals are set in play that structure the classic film as a full and separate world of the imaginary: "it is the 'story' which exhibits itself, the story which reigns supreme" (97).

However, by these same criteria, American television discourse adopts just the opposite approach, apparently baring its own act of enunciation to view, supplying narrators with regularity, speaking here and now in a context shared with the viewer. A talking head with a direct gaze regularly hails a virtual viewer it *pretends* to see. This might be a fairly innocuous shift in the function of "suture" from tying fragments of the fictional world together into a whole toward virtually tying the world and fiction together into a unified presence. There is, however, another important distinction between fictions of the past and present: virtualities are not contained and separate—we are not safe from fictions of presence. Our waning dominant cultural form, television, has no proscenium and no footlights; it is an instantaneous presentation of a realm that is virtually shared—anticipating the immersive and interactive commercial information society now in formation.

Because "live" media are temporally engaged or simultaneously transmitted and received, they seem, however speciously, to be more closely allied with everyday life and conversational flow than the authority of print or the detached realm of film fiction allows. The latter media represent a world that is past and elsewhere; television and the computer present virtually shared worlds, unfolding temporally in some virtual relation to our own, if not always actually simultaneously.

Even before the computer, instantaneously transmitted electronic messages were also capable of generating feedback loops, be they slack or taut. While closed-circuit video is designed to serve the interaction between physical and image space, news images on screen can induce and even change the events on which they report.⁷ Speed-up of information-driven economies can be accelerated cybernetically, as for instance, when stock market blips up and down in interaction with global news are magnified still further by computerized stock management programs. As the time and space between the act of enunciating and receiving images closes in, it becomes more proper to speak of an image-world with which we will interact more or less continuously unless we make the effort to disengage ourselves from it.

> Virtuality is a little-understood fiction of presence that operates on a different plane and most of all, has a different relation to action and to

cause and effect than the fiction we know from the novel and film. As explained previously, fictions of presence play a fundamental role in everyday conversation in physical space. The advent of instantaneous transmission and feedback have simply made them more available to the mechanized transmission of culture. As a result, we are increasingly immersed inside a world of images—acoustic, iconic, and kinesthetic—capable of interacting with us and even directing our lives in the here-and-now, or rather, since the advent of instant decompression and processing via computer, in virtual space and "real time." *Images have been transformed from static representations of the world into spaces in which events happen that involve and engage people to various degrees in physical space.*

The conventions of fiction as representation (as in books or films) are more sophisticated and better understood than the fictions of presence, that vary in mood from persuasive performance to subjunctive presentation to outright lies and deception; such utterances or performances include images meant to shape or invent a world, not represent it. Virtualities become problematic when they are misunderstood as fictions of the past in which actions have no direct consequences for the material world. When the result is actual mass destruction, experiencing war conducted by means of manipulating symbols on a display on a computer as a kind of fiction or game can be a dangerous thing. However, even if the stakes are symbols and there is no intervention in the material world or physical body, virtual events can have actual consequences, as demonstrated by an example of telematic art (that is, art composed through operating on another spatial realm remotely or from afar) discussed later in this chapter.

Intersubjective/Interactive/Telematic

Once the simultaneity of *liveness* becomes instant *feedback* between images and the world, an inversion takes place in what was once called representation: neither image nor the world is "first," and each is likely to shape the other. *Interactivity* is usually conceived as a means of allowing the consumer/viewer to select or change the image with the help of an input device—telephone, keyboard, remote control, joystick, mouse, touch-screen, brain wave reader, et cetera. Interactivity like this has been mistaken for a kind of emancipatory self-expression that will change the very nature of communication. Two-way television, for instance, is touted as escaping the one-way and inert couch position for

consuming television. However, if interactivity is an extension of the notion of immediate feedback of input on a display, that is, if it is operational and instrumental, does an input device of any kind make what is on the television or on a computer monitor any more inter-subjective or liberating?

This is not to discount the importance and necessity of interactivity between humans and humans, humans and machines, and even machines and machines—as long as the often unprofitable and inefficient forums of *intersubjectivity*, the *mutual* recognition, communication, and reflection of subjects that are the foundation of sociality and civility can also take place. The price of intersubjectivity is not only all sorts of infelicities and contingencies, but a process that can shift the framework that began the exchange between the parties involved in the first place.

Note that interactivity and intersubjectivity are not mutually exclusive, especially considering the murky status of the subjectivity we as a society regularly delegate to machines. Nor is instrumentality regarded pejoratively here, especially when it is further engaged with discourse on the values and priorities of cyberculture. Once subsumed into discourse, even the most instrumental relations can serve art and culture as metaphors that enrich our currently rather impoverished social imagination. (At present, very simple models of social relations prevail that pose individualism against fascism or communism, offering little means for comprehending complex patterns of cooperation that prevail even among machines.)

Consider the current fascination with “artificial life,” for instance, as it “evolves” in the computer.⁸ Self-generating patterns of interaction or what is known as “emergent behavior” over many computer generations may not be “life” (see Hayles, “Narratives of Artificial Life”), but it may be a way to figure complex dynamic interrelationships that help us to recognize similarly complex but far slower social and environmental patterns all over the world.

Once the interactive display evolves into an autonomous realm of images in which we are immersed, the image is more accurately an image-world that is enunciated around us constantly in *real time*. Computers allow duration to be simulated in a way that disguises the large amount of processing of information going on inside the black box; for instance, ADO or DVE computers can condense, expand, and move images on videotape at the same time that news or sports programming is being assembled live on air. Speech, writing, or drawing can be called up from store as if it were spontaneously produced on the spot; the data

composing images can be decompressed and manipulated instantly to look as it were instantaneous in the same way as a world captured on video. So, real time depends for its very existence on the creation of unreal time that can mimic the clock. Of course, there are vast areas of the world in which time unfolds in the slow pace of duration. Even in a culture that prizes speed and instantaneity, some discourse such as hearings and trials must revert to duration for the event to occur at all.

Furthermore, if the image is linked up to apparatuses that control aspects of the physical world from a distance, the electronic image is no longer just a medium or a place, but an aspect of agency. Interactive control of the image and consequently remote control of the world is called *telepresence*, or, as it is known less oxymoronically in many European contexts, *telematics*. Any act of enunciation or symbolic kind of doing, once linked up to machines which execute instructions instantly, can take on an actual and deadly telematic power. The Persian Gulf War is the most obvious case in point for discussing the lethal dimensions of reconforming the world to fit the image. According to Paul Virilio in *War and Cinema*, war and “machines of vision” have a long and mutual history, though his comparison of the derealizing effect of modern warfare to a “life-size cinema” may no longer be apt (88). It also reminds us that to consider imaging systems in isolation from each other doesn’t make sense. What is television without the counterpoint of camcorders in Eastern Europe in 1989? What is the Gulf War without global surveillance and military imaging systems or Pentagon-supplied graphics from the warhead’s point of view?

These interactive and telematic capacities have taken us far from the normative ideas about the functions of images in relation to the world that prevailed until quite recently. What concerns cyberculture is not the fact of telematic imagery per se but the telepresent danger of engagement with the image world at the cost—ethical and psychic—of disengagement or remoteness from the actual effects of one’s actions. I will offer two examples of “telepresent danger” that caution us that telematic agency is far from becoming framed and controlled like the regression of cinematic fiction—and it has far more potent and immediate consequences than televsual distraction. The responsiveness of images to our commands and the ability to act at a distance in the world by simply saying or pointing or gesturing also create a feeling of omnipotence that involves psychic regression of belief or complicity in word magic that can also be terrifying or delightful, depending on the context and the cultural frames constructed for virtual realms.

We are used to the symbolic presentation of force and terror via video and computer adventure and war games. We are not (yet) used to the symbolic presentation of horror that is actually occurring.

— Siegfried Zielinski

FRAMING CYBERCULTURE: VIRTUAL WAR AND “TELEMATIC DREAMING”

The crisis in the Gulf that led to making Iraq a proving ground for electronic warfare suggests wider areas of crisis in the process of enculturation. Composing virtual worlds (that is, what are nonspaces that exist in effect, but not actually), and

inducting the ordinary, nonexpert human, at least virtually, into the field of digits and machine vision (Virilio) require “interfaces” and display systems that translate “silicon-based intelligence” into our own “carbon-based” perceptual systems and ways of seeing (for more on this distinction, see Hardison). But once virtual contexts are produced and inhabited, other problems arise: “virtuality” is a dematerialized, and for that reason, ontologically uncertain mode of presence. Habitable cyberspace undermines long-term cultural notions of reality as well as systems of belief and identification. For the virtual does not yet necessarily (a) represent “reality” in ways we have come to expect; nor (b) distinguish between imaginary and real consequences of manipulating symbols; nor (c) is it always framed off from everyday life, like, for instance, theatrical or novelistic fiction. Consequently, (d) the reality statuses of virtuality have not yet been culturally mastered or regulated, nor are the subjunctive modes of virtuality well marked.

For instance, war conducted via interactive video display can have very real effects on another physical space instantly or with delay—or it can be just a game. The war in the Gulf on television resembled little about the physical world on a human scale. Television viewers of the Gulf War saw largely graphics, albeit transmitted live, and they heard the voices of reporters who could identify little of what was going on from their vantage point, beyond the explosions themselves, much like reporters who report live from the crowd at a media event are there to describe how little they can see (see White, esp. 128). Instead, the electronic imagery of television graphics provided the “first full-fledged video logo war.”⁹ Press censorship meant that the Pentagon supplied most of the rest of the visuals and the commentary; yet martial videos lacked “realism” in the iconic sense of “looking like,” since they were

based on the display of the machine vision associated with weapons like the F-117A Stealth fighter, the Hellfire missile and GBU-15 glide bombs (Denton 58). Deciding, or, better, feeling the difference may be problematic where similar-looking graphics lacking the resolution and indexicality of photographs may be guiding a weapon to target in the air war against Iraq or referring to an imaginary realm in which Saturday morning Nintendo takes “place.” (One could imagine a paranoia-inducing situation similar to the children’s rhyme, “step on a crack, break your grandmother’s back.”) A simulation can become rehearsal can become remote action and be virtually identical as to the look and response of symbols on a display.

The movies, Nintendo games, and virtual reality as the impression of immersion inside an artificial world have become abiding terms of comparison for the experience of the Gulf War that the media offered. (Richard Bernstein noted that “[The Gulf War] was so carefully scripted for television that it was in a way already a movie,” and cites Ken Burns to the effect, “There’s no reality to this war, but only a kind of virtual reality”; and General Norman Schwarzkopf made his famous statement, “This is not a Nintendo game.”) Such apparatuses of fiction and artifice emphasize the intentional or controlled nature of instant Gulf War coverage on television, and the derealizing sense of artificiality in the war as graphic display, along with remoteness from the events and consequences of the war. This sense of remoteness extended from the conduct of the air war by bombing crews who had “no sensation of the havoc erupting on the ground,” to the enthusiastic patriotism and moral remoteness of Americans toward a war “whose chief price has been paid with the lives,” and we might add, the environment and economic well-being “of others” (Rosen). Such remoteness is fostered by the apparatuses of vision engaged in the conduct of the war—the electronic war machine and its public display system, the real-time television Gulf War.

Where virtual reality (in the narrow sense of real-time computer-generated, three-dimensional worlds) involves mapping of some of the sensory and kinesthetic properties of the body onto the image-surround—Renaissance space turned inside out—its purity is a consequence of interfaces that block out or blind the user to the physical world, giving the virtual image-world “absolute authority” over the physical.¹⁰ For instance, the “eyephones” or head-mounted display could merely superimpose the virtual over the physical—however, display modes marketed today show a preference for occluding the

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physical field from view. This closure also creates a system over which the master-creator can exercise absolute control, and the user immersed in the system enjoys this sense of omnipotence secondhand. So, war as strong engagement and a sense of immediacy and nearness to the interface can coincide with a feeling of moral disengagement from a remote referent world of the enemy, for example, Iraq.

Where the virtual replaces the physical in everyday life, differing access to information or symbolic processing results in the actual, physical segregation of society and its institutions into techno-haves and have-nots. Only the person with an electronic scanning and display device can explore (and perhaps worship) "The Golden Calf" (1994), Jeffrey Shaw's ironically titled interactive sculpture. Anyone else in the room sees an empty pedestal. The cultural effects of such segregation are equally disquieting, for virtual interactions do not necessarily promote bonds of identification or sympathy, most especially with those inhabiting a physical reality beyond its virtual reach. Graphic modes of presentation in high-tech war, real-time television and virtual reality, the nature of image capture and display, and the spectacle of war itself have changed and along with it, the means for moderating war's psychic effects. Remoteness as the term of comparison slips between psychic metaphor, interface device, and physical description in the process, suggesting the fluid ontology of symbolic visualization of information in which mortal bodies may be made virtually invisible.

War conducted telematically forgoes a sense of physical contact with the enemy. Sunlight is banished in favor of the pale luminescence of the monitor; graphics generated on the computer display data from light waves beyond the spectrum that is visible to the human eye. Winograd and Flores argue that computers have an inherent "blindness" (a term borrowed from Heidegger) that is certainly demonstrated by machines for the virtual conduct of war. Seeing with night vision goggles, for instance, limits peripheral vision of a pilot as if he were "looking through a straw"—emblematic of an inability to see beyond the virtual interface and its zone of control. However, what displays for the conduct of war lose in realism, they gain in actual power—contingent on mechanical or computational failures and human error—to virtually affect physical reality and reshape the world according to directive. Instantaneous images, especially telematic ones that are linked to agency in the world, do not need to "look" realistic to be a powerful constitutive force of reality. Nor need a computer interface that occludes the visual field account for material bodies on the scene of battle.



Jeffrey Shaw's virtual sculpture "The Golden Calf" (1994) can be viewed from above, below, and on all sides by moving an LCD color monitor around the physically empty space atop the white pedestal. Interactive computer graphics installation. Software: Gideon May. Produced at the Institute for Visual Media, Zentrum für Kunst und Medientechnologie Karlsruhe (ZKM). By courtesy of Jeffrey Shaw.



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The closure of such machine vision leads to particular sorts of blindness that might explain the curious absence of enemy or civilian Iraqis in our crosshairs as well as in our news. What broke through, occasionally, were brief moments of civilian outrage and grief at the al-Amariya installation/shelter/bunker or the gaze of a Kurdi woman into a camera, asking why? But what we did not confront for more than a brief moment is another subject with another point of view. Our Cold War systems of representation, identity, and belief were virtually if not actually maintained in a realm beyond sympathy or understanding, that is, beyond a second electronic skin.

Machine vision obviates the work of dehumanizing the enemy and producing ideological justification that precedes and makes martial conflict acceptable. For instance, "surgical bombing" is not only a metaphor for accuracy but also for an instrumental relation to a body, an objective mindset and high precision in distinguishing the bad object from the good object. In this martial machine of vision, the virtual world is global and panoptic as captured via remote sensing satellites in top secret high-altitude overheads. It is as if defense satellites could produce the imaginary map Borges described in one of his stories as the equivalent in every way, including size, to the land it covers: however, because this map exists virtually, images of any portion thereof can be processed (decompressed, enlarged, enhanced, and displayed) at will in real time. Furthermore, weather and night are not limiting factors when it comes to machine vision; access to the highest resolution data of remote sensing and imaging technology is restricted from the public as intelligence information. Such control of access to vision allows a concentration of information as power, when applied to convince, coordinate, or contain allies, attack enemies or contain the press.¹¹ The martial, virtual, panoptic map matches the body of a weapon and a trajectory on the virtual terrain contour map constantly against radar altimeter measures on board, point by point. The goal of this matching is, as Virilio describes, to rewrite the map, to impose a new terrain upon the physical world. Matching the crosshairs of the virtual to the physical world is what creates the line of sight—and to see is to kill. The only problem with the map is its aerial point and angle of view. It is the one least likely to reveal human beings—much less people as subjects, capable of calling us to account.

Even the cruise missile, credited by a story in CNN with the ability to follow street signs in Baghdad, actually requires virtual industrial scenes at a far lower altitude and angle of view against which to match

its radar. The military has lamented its lack of tactical intelligence (with its nearer, lower point of view) in the Gulf War. One could even say the cruise missile requires a more human vantage point, except that the target images it needs can be synthesized from single high-altitude overhead photographs. (Could humans within the industrial scenes also be synthesized?)¹²

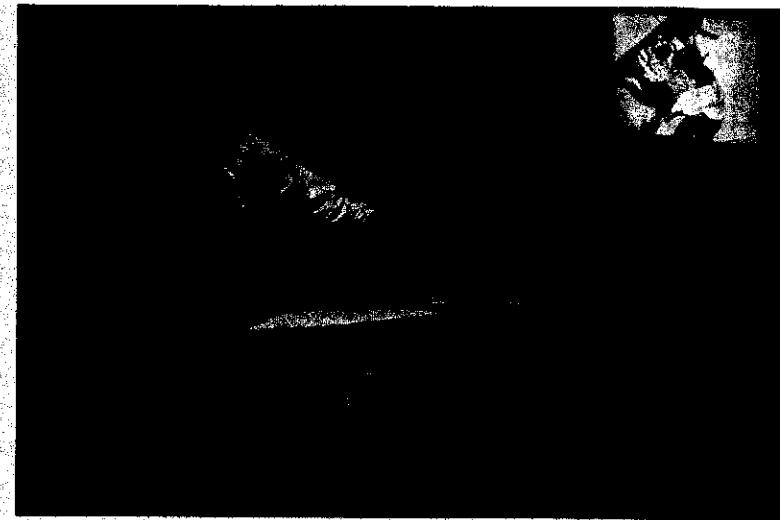
Although the Coalition goal was to "blind" Saddam Hussein, that is, to put out his infrastructure, each type of machine vision is already equipped with its own built-in sort of blindness. Similarly, dependence on image processing means that the "bad" computer in a Patriot's radar "never saw" the incoming Scud missile that destroyed an American barracks in Riyadh (Schmitt A9). The desire to create a closed system within which the map can obliterate the real adds a kind of willful blindness to what is inherent in technology—producing a realm where fantasies have few reality checks and physicality offers little resistance. Here is the fantasy of omnipotent thought and of interaction with a non-other, virtually but not really there, that unlinks the document from the world and transforms a medium into a kind of surrealestate all its own. That place could be coequal with the globe itself—the military version—or a place in nonspace where the world projection meets my living room—the television version—or a virtual world of the imagination or remote reality just the right size to wrap around you or me—the utopian nonspace of virtual reality.

Of course, in virtual reality taken on its own terms, any sort of interaction is morally acceptable because there is no one actually in its hallucinatory space. (Here the issue is virtual reality as a closed, "toy" world, not the vast field of cyberspace virtually distributed over many aspects of reality.) This machine is mapped over various sensory modalities of the body and its kinetic and proprioceptive (the awareness of the body of itself) orientations by means of interfaces like the glove, the helmet, or eye phone with sensors that respond to head position. The result is the virtual immersion of the body and its capability of interacting with the display—not apparently a place of dialogue or confrontation with other subjects. In fact, because there are no natives, no prior inhabitants, and difference is as accessible as a costume, it is almost an alibi, a voiding of responsibility for what goes on within nonspace—no colonial metaphor need apply. Note that "interactivity" applies to the interface; it is not yet intersubjectivity. One can now have discourse with others, but only those with the same access to the inside of the same virtual world and then only with their virtual avatars.

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We saw the degraded, infrared machine vision of warriors in the video footage supplied by the military to television in which bombs almost always hit their targets—and missed humans. In one of General Schwarzkopf's press briefings from Riyadh, for example, we are shown the "luckiest man" in Kuwait, a dark dot passing through the crosshairs and out of range of the extremely grainy, schematic image of a missile guidance system. Then, we saw a bomb fall and, again, there was no one there. The duality of us versus them becomes personalized only in the TV images of George Bush and a Saddam Hussein sometimes shown superimposed over the desert meant to represent Iraq itself. For the rest, "we" met the enemy and "he" was not just dehumanized, he was a nonentity, for there was no one there.¹³

But it is that no one is *actually* as opposed to *virtually* there I want to set in question. Actually, there are not merely two worlds—virtual and physical; there are at least four connected with virtual reality—all of them are populated. The felt or proprioceptive body is the motor and source of agency for the virtual body. The virtual body can inhabit several degrees of person within a virtual world, from a ghost observer or "lurker," to a first-person participant, to being represented by an avatar or "me," to identification with third-person characters. Beyond the virtual is the largely male-dominated world where virtual reality is invented, produced, and programmed and the largely female world where it is assembled and maintained. To imagine the virtual without those who produce and service it is magical thinking on a par with the hidden servants of *Nosferatu*, *Beauty and the Beast*, or *Repulsion*. Then, there is the physical body seen making blind, infantilized motions that generate the feeling of "flying" or performing surgery or composing molecules within the virtual world.¹⁴ This infant body is vulnerable, requiring not just an interface or second skin, but a fortress within which it can move with majesty and without fear. Finally, what is the virtual realm itself but externalized imagination, the product of a shared symbolic system and the unconscious? These symbols, furthermore, can be telematically linked to machine agents and very physical bodies. Then what happens in the virtual realm is a symbolic event, which is not without psychic or actual consequences. After all, the physical and felt bodies are linked to this symbolic world, and, so to some degree or other is the psyche, all the more so since, unlike the identification in fiction with third-person characters elsewhere, the felt body is linguistically and actantially engaged to some degree or other with the persons of "I" and "you" and is not just a voyeur. How could one have imag-



While sitting on a bed used as an image projection surface, Susan Kozel gazes at the monitor that displays a virtual bed that is a mixture of her bed interpolated with another distant one in Paul Sermon's "Telematic Dreaming" (1993). (See Frontispiece.)
Photo: Paul Sermon. By courtesy of Paul Sermon.

ined that the virtual realm, even when blank and empty, would be devoid of other (un)consciousnesses or be a world without contingency or history?

"Telematic Dreaming"

In writing on her experiences as a participant for several hours a day over several weeks in Paul Sermon's first ISDN-based art installation, *Telematic Dreaming* (1993), Susan Kozel describes her relation to her own virtual body. The piece draws people in two separate rooms together—in this case, on "a" bed—by combining their images via computer and projecting it or screening it on monitors. For Kozel, the "experience was one of extending my body, not losing or substituting it. My intuitive conviction that the virtual body is entwined with the flesh was reinforced by my experiences of intimacy and violence" (12–13). While her physical body was the ultimate ground for the image, "my electronic body could do things that the latter could not, such as map itself onto another or disappear, yet it could not exist independently" (31). She could also disappear and reappear, fragment her body and reunite it.

Kozel describes interrelationships with others based on vision and motion as capable of a profound intimacy, and even responded with "little electric shocks" at a virtual touch. More often the behavior of visitors was predictable, constrained by an automatic code of behavior for sexual and social interaction called forth by the "bed." The only time she divorced herself from her virtual body was in reaction to "cybersexual violence" of two men who attacked the head and pelvis of her virtual image on the bed. Kozel began to see the "bed" as a "social and cultural space as well as virtual one," externalizing a symbolic field of behaviors, including gender roles, that "challenged visitors (and myself) to identify their cultural formation and overcome it" (46-47). Events that occur solely in virtual image space—*symbolic events*—can have material consequences. The premise of virtual realms taken on their own terms—that any sort of interaction is sanctioned because there is no one actually in its hallucinatory space—is contested here. Symbolic acts in image space can be as potent and dangerous as physical force. So, even in a disconnected, autonomous world, in which no one is "really" there, how could one really elude responsibility for one's fantasies and actions?

When frames and conventions are lacking that set the everyday world in which we are responsible for most everything we do apart from a liminal realm where anything can happen, the task of discourse, including critical writing, is to invent ways of coming to terms with the situation. In a world undergoing a process of derealization, art can also serve this work of acculturation by refining our sensibility for the shadowy mixtures of delegated and deferred humanity invested in machines. "Framing" as a task does not entail a referential "mapping" of what is already there—the two-dimensional forms of the "map" and even the "frame" are no longer appropriate metaphors for what is an enunciative process, namely, the construction of cultural models. The task of constructing conventions and markers of the various fictions of person and of here-and-now would ideally be undertaken in a public sphere, mutually and intersubjectively, in a way that no longer relies on the referential "truth" but rather on the expression of many points of view.

Not too surprisingly, mass culture relies on the fallacies of referentiality and enunciation and uses engaged forms of imagery to enchant the world, not to come to terms with it. The critique of presence that began in speculative philosophy continues in cultural criticism. Art forms that disrupt and disengage the body from virtual relationships

to images also perform this service in a way which involves learning with the body itself. The cultural task is to assess the very symbolic tools with which we think and express ourselves about experience—an assignment that this book approaches case by case.

VIRTUALITES: AN OVERVIEW

Virtualities is divided into three parts: the first part, "Virtualities as Fictions of Presence" includes this chapter defining the conceptual framework and theoretical tools of the book, while chapter 2, "The News as Performance: The Image as Event," takes a more historical approach to explore how power is inscribed in news discourse. After introducing a model of the subject, format, and levels of address in television news and talk shows in relation to the public sphere, the chapter looks to televisual events that happened during the Romanian Revolution to address how the news image and physical space interact.

Part two, "Immersion in Image Worlds: Virtuality and Everyday Life," begins with chapter 3, "Television Graphics and the Virtual Body: Words on the Move." After discussing the historical styles of television graphics, various figures and tropes associated with the "glitz" of network logo and ID sequences in the 1980s, particularly the vortex and the "fly-through," are proposed as anticipations of the immersive and interactive imagery of "virtual reality" and virtual environments in the 1990s. Chapter 4, "An Ontology of Everyday Distraction: The Freeway, the Mall, and Television," takes account of image-surrounds that are analogs of television: freeways and malls. Images in print and on television have surrounded Americans in everyday life incrementally since the takeoff of mass culture in the 1960s. While a television, magazine, or billboard advertisement is not strictly speaking a virtual image, its relation to the consumer can be. This chapter also refines the idea of a fiction of presence by describing its effects or the metapsychology of distraction associated with engaged cultural forms. The next chapter, "What Do Cyborgs Eat? Oral Logic in an Information Society," might be considered an extension of the movement into the image described first in "Television Graphics." The chapter grew out of an originally quite different paper I had delivered in the late 1980s on "Culinary Postmodernism." When I returned to the subject again in the early 1990s, I found that culinary culture had been transformed along with the advance of information society. Contemporary culinary fantasies involv-

ing the desire to be incorporated into the electronic machine are set in relation to the pervasive oral logic in cyberculture of immersion and wrapping or enclosure.

While sampling cultural forms of over a decade or more is not a very long-term study of cultural change, *Virtualities* assesses many fundamental assumptions about reality and electronic images that have shifted even within this time frame. In any case, the chapters in this book are concerned largely with aspects of culture that are part of the background or architecture of daily life, the features of which we have tangential awareness, but on which we seldom settle our conscious awareness or powers of reflection. Art, or more accurately, particular art forms and artists bring this tacit dimension to light. A trend in art began in the 1960s, if not earlier, and was concerned with the exploration of fictions of presence. Many movements from minimalism, pop art, and happenings to media art and virtual environments are part of this larger aesthetic field which investigates the dimensions and properties of a social and experiential reality in flux.

Part three, "Media Art and Virtual Environments," is arranged in order of the degree of virtuality of the media art discussed: chapter 6, "The Body, the Image, and the Space-in-Between: Video Installation Art," proposes a generic model and a metapsychology of an art form which composes electronic images within a three-dimensional material space. I regard the experience of a successful installation as a deep cognitive process that is a kind of learning with the body itself, in a mode of experimentation that is, unlike that of science, vastly underappreciated. Chapter 7, "Cyberscapes, Control, and Transcendence: The Aesthetics of the Virtual," uses specific examples of electronic art to discuss the construction of subjectivity in electronic culture and to propose ways of thinking about the reality status of the virtual. It begins with a description of the exhilaration of navigating in a virtual world and offers several propositions about art forms in which the image space is an immersive and interactive virtual environment. Then it explores the metaphor of travel or the journey through a virtual landscape, especially as it illuminates the relation between virtuality and a paradoxical status between life and death.

While the issues this book addresses are cultural rather than technological, new image and information technologies are imbricated with a global socioeconomic reorganization that is increasing disparities of wealth and well-being. The roots of social injustice are cultural as well as socioeconomic. Many commentators have noted the lack of sympa-

thy (or feeling with) that characterizes many aspects of contemporary political and social policy, unwinding a web of sociality built over this century. Our image of sociality has become impoverished and the apparatuses which forge the bonds of affinity and link disparate groups into a well-functioning society are loosening. For instance, for those people without access to the worlds on-line where everything from business to scientific publication to communal life and intimate conversation is conducted, social differences become absolute. To be excluded from information society is to become invisible to those enveloped by virtual worlds and engrossed in interaction with machines.

As the century draws to a close, we face the challenge of producing a cyberculture out of or in spite of the instrumental economic imperatives of an information society. Commitment to social justice and the desire for varied and rich communal life cannot be approached through technology or political activism alone without a better understanding of how power is tacitly distributed by such mundane things as television formats or how a little recognized kind of fiction permeates contemporary life from freeway driving habits to the conduct of war.

Notes

I. Virtualities

1. The imaginary (prevalence of the relation to the image of the counterpart), the symbolic (structured like a language), and the real (a third but inaccessible order) are essential orders of the psychoanalytic field, as developed in the work of Jacques Lacan.

2. Simulation is pejoratively identified with the loss of referentiality by Jean Baudrillard. Here, simulation and referentiality are neutral terms and occupy different planes of discourse, one oriented on the speaking situation, the other on the world evoked by the utterance. The epochal cultural change that Baudrillard has observed, analyzed, and addressed in many different texts, is, differently interpreted, also the subject of *Virtualities*.

3. To paraphrase John Perry Barlow of the hacker-oriented activist group, the Electronic Frontier Foundation.

4. For popular as opposed to scientific definitions of virtual reality and other technical terms, see Rucker, Sirius, and Mu. Computers are the main source of virtual realities in the strictest sense. See Binkley. "The Virtual Environment Workstation" developed at the NASA Ames Research Center is an example of an utterly virtual world. A similar wide-angle stereoscopic display was marketed as the "eye phone" and dataglove by VPL Research. See also Cornwell.

5. According to Gamson, unlike our family, friends, and neighbors, celebrities "literally have no power of any kind over audiences. . . . What matters to celebrity watching play is that celebrities do not matter." Games with celebrity are "deep play," which mediates between the hierarchy of personal distinction and democratic equality. Freedom to gossip and play with the lives of others is possible precisely because the celebrities are not entirely "real" and the discourse about them is trivial and without consequence (184). It disturbs Gamson that "rationalized celebrity culture" has spread into the news and politics, as these are arenas that do matter and in which discourse can effect a "lived difference." What amounts to the semifictionalization of discourse as spectacle "signals a severe alienation from the democratic process that is very difficult to change" (193).

6. Gérard Genette has applied Benveniste's distinction between story and discourse to genre theory in "Boundaries of the Narrative," and Roland Barthes

has applied the model in "Historical Discourse." See Chatman on this distinction in print fiction and film. Barthes points out that the historical utterance is actually a "false performative"; that is, it calls forth into existence rather than represents.

7. Consider the perverse situation of CNN reporters in the Al-Rashid Hotel during the initial bombing of Baghdad, January 16, 1991. Despite the historical comparisons to Edward R. Murrow's radio reports from the midst of the London blitz, the first twenty-four-hour-a-day "live" report of the war on CNN was a truly novel situation. Hotel reporting of the police action in Panama might be more apropos as comparison, but even here there was a new wrinkle—the hotel was in enemy territory under bombardment, a strange loop, if not a short circuit in the news. Just by reporting where they estimated the bombs to have struck, the CNN reporters at the El-Rashid were providing real-time intelligence information to bombing strategists.

8. For instance, Tom Ray's "network-wide biodiversity reserve for digital organisms," one of the works featured at the Interactive Media Festival, June 4–7, 1995, in Los Angeles, was inspired by the disappearing rain forests and the desire to understand the generation of diversity in the Cambrian era. Ray has enlisted CPU cycles or computer-processing units at rest from other tasks to explore complexity and diversity evolving over countless generations. It should be emphasized that artificial life as a critical tool depends on treating it as a metaphor. For an introduction to the tenets of artificial life research, see Stephen Levy. For a survey of the science of artificial life or theoretical biology, see Emmeche. Hayles (1996) critiques the equation that researchers have made between the models or simulations of artificial life and life itself.

9. Examples and biting criticism of Gulf War graphics and symbols can be found in the "Designing War" chapter of John R. MacArthur's *Second Front: Censorship and Propaganda in the Gulf War*.

10. O. B. Hardison, Jr. on Myron Krueger: "Man is 'acquiring powers once reserved for the gods' and finds himself 'not the final goal of evolution but its conscious agent'. Krueger's 'conscious environments' are a metaphor for the fact that there is no longer anything than can rationally be called 'natural reality'. Nature has disappeared. What remains is reality created or structured consciously by man for human purposes" (228–29). Krueger's own "artificial reality" apparatus does not, however, cover the eye, unlike virtual reality. The American military arsenal offers another instance of total occlusion: "Simnet places tank crews in exact simulations of an M-1 tank. The tank can sink in the mud, fire shells, and be hit. In the latter case, there is a powerful crashing sound and the 'windows' that provide video simulations of the outside world go blank. Thomas Furness III, a designer of simulations systems, has been working since 1982 to create a 'Super Cockpit' for the F-16 in which the pilot will have the option of blanking out the real world and relying entirely on images supplied by a 'virtual world generator'" (226).

11. For example, the anti-Scud defense of Saudi Arabia and Israel was conducted globally by triangulating Defense Support Program satellites in geosynchronous orbit to cue Patriots to the trajectory of Scud launches. Then, the Saudis had first consented to American (and Western/Arab) multinational occupation after the invasion of Kuwait, persuaded by overhead satellite pho-

tos of the Iraqi army poised "like a sword ready to strike at the Saudi kingdom" (Woodward).

12. "Today it is already possible via satellite to determine what a man on the streets of Baghdad is reading in his newspaper. It will soon be possible to beam through the clouds and then the houses that receive reflections, and transfer them into images. For greater vividness the satellite perspective will be translated into that of a young boy who is cleaning the man's shoes while he reads his newspaper on the Baghdad streets" (Farocki 77).

13. There was one body that did appear on television at the end of the Gulf War that has since refused to go away—the body viciously beaten by four Los Angeles police officers on March 3, 1991. The video of the beating of Rodney King provided the body in contact with suffering and the possibility of death that was largely missing from the image of the war itself (see Doane 222–39). The King video was shown, obsessively, night after night, at the flimsiest provocation during the first war to be conducted and presented by digital graphic visualization systems—a war reportedly conducted with surgical precision, to excise evil without the usual consequences of human suffering and death. To show such violence on the actual enemy was taboo, yet the referential lure is something that our presentations evidently cannot do without.

14. The man Scott Fisher imagines in the year 2001 composing a model for a new pharmaceutical in virtual space seen from outside, is crawling on all fours, as if "miming a wrestling match with himself, or recapitulating his infancy" (423–24).

2. The News as Performance

1. Max Weber developed this religious concept for sociology. Richard Dyer, in his section on "charisma" in *Stars*, discusses Weber's concept of charisma as one means of legitimation of political order (34–37).

2. "You know it's Tom, Dan, and Peter. . . . Sometimes I think they're all the same guy. They must move from studio to studio." Reese Schoenfeld, speaking on PBS in 1984.

3. Beyond literally upstaging the news anchor, the East Coast feed of the ACT UP protest in front of the CBS news set had a visually demystifying effect of making the space of the set itself seem shallow and artificial. The event is reported in Hall and elsewhere.

4. Bush's words include: "None of this is what we wish to think of as American. It is as if we were looking in a mirror that distorted our better selves and turned us ugly. We cannot let that happen. We cannot do that to ourselves. We've seen images in the last 48 hours that we will never forget. Some were horrifying almost beyond belief."

5. Hallin finds that journalism's responsibility as "the major institution outside of the state which performs the function of providing political interpretation and critique" accounts for its conventions of representation, including a greater tendency to frame and interpret, the use of narrative structures, and extensive use of visual images and their integration into the semantic structure of the story (124–25).