Context Providers:
Conditions of Meaning in Media Arts

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Part Three:

Defining Conditions For Digital Arts: Social Function, Authorship, and Audience

Margot Lovejoy

A congruence of factors emerged in the last century that created conditions that broke down traditional concepts of art as object and forced the evolution of dynamic forms with new functions. These factors challenge authorship as well as relations between artist and audience in the construction of meaning, and they raise new questions about the relationship between theory and practice.

Once images could be captured by the machine eye, diverse ways of seeing and experiencing the natural world evolved along with methods of disseminating and transmitting them over distance into one's home or work environment. The immateriality of these processes began to affect ideas about art as object in terms of time and space issues. Also, by the mid-twentieth century, it became clear that the computer's capacity to process sonic, visual, or textual information as data objects created the potential for a vast new multidisciplinary direction for art. Data could be endlessly manipulated and stored in databases or archives to be called up for a myriad of uses within numerous contexts and disciplines, especially with regard to long-distance communications. These technological changes allowed for interactive exchange and participation to take place within an artwork, thus changing a work's potential form and function. In the context of the cultural developments that have emerged as a result of these major changes in technological standards, a new consciousness has evolved in which art as an object for individual viewing became more and more challenged. Not only had the artwork become immaterial and interactive, but it could be seen or experienced simultaneously by mass audiences in different locations. Although harnessing the creative process is still the artist's essential task, the loss of full authorship control in creating a digital work has become a reality for those artists who seek to create self-generating forms that allow for significant levels of participation and agency.

In the context of the early twentieth century, artists were already interested in the phenomenon of powerful, invisible, immaterial natural forces being discovered in science, such as electricity and the X-ray. Artists such as Marcel Duchamp and Alfred Jarry attended public lectures on these scientific discoveries, which they interpreted in their own way. Later, composer, philosopher, artist John Cage's explorations of hidden dynamics led to witty experiments with the randomness of chance operations. In the 1960s, the work of artists interested in happenings, performance, environmental works, sound, video, and independent film as well as new forms of public art led to the expansion and acceptance of the idea of art as an immaterial concept. Some of these interdisciplinary early forms had direct participatory aspects. A relationship began to grow as early as the 1940s between independent filmmaking and the use of projection in room-sized installations as experiments with time and space. The use of the film projector in these conceptual works was essential. This tendency led to the acceptance of the new medium's use as spatial installation forms by early video artists, such as Joan Jonas and Bruce Nauman, in the late 1960s and early 1970s. The simultaneous growth of the European Zero and Grav movements in the 1960s and 1970s with the art and technology movement in the United States created further acceptance of the use of technology in art making. With the widespread arrival of digital technologies at the turn of this century, new levels of participation and interpersonal communication have been achieved and have further emphasized the tendency through the use of media toward immaterial virtuality and the loss of the traditional object as art. Installations making use of multiple aspects of projection and sound have shifted the "white box" space of the gallery toward the "black box" of the movie theater. The complex potential of these artworks now often calls for interdisciplinary collaboration between visual and performance artists, programmers, designers, and musicians.

Audience and authorship

"Interactivity," a keyword used to describe the digital, has become so loaded with meaning that it is by now virtually meaningless. It has been used to describe anything ranging from point-and-click navigation—a monologic approach—as opposed to an open dialogic system that creates the opportunity for a fully collaborative dialogue to take place. Although dialogism in electronic media is interactive, it should not be confused with the potential for collaborative exchange provided by telecommunications-based artworks that interactively make use of global network connectivity. In such open works, the artist's intention is to introduce an audience to go beyond the type of interpretation expected of traditional work. The construction of digital artworks is specifically dedicated to create a desire for collaborative exchange with a wide public where the exploration of experiences in time and space has the potential to release new insights.

Russian philosopher and literary critic Mikhail Bakhtin's ideas intersect with the new media debate about interactivity (Holquist 1981). Writing in the early years of the twentieth century, he is one of the first to focus and explore the meaning and structure of dialogue as a collaborative rather than individual force. He believed that our individual acts of expression—whether visual, written, or oral—are the result of dynamic, difficult inner struggle, which may sift through one's social knowledge to experiences with others' dialogic interconnection or cooperative exchange.

Because digital media are often literally dialogic (as opposed to a dialogue that configures itself as a mental event), the position of "making" and the relations between artist and audience are altered. Their roles and identities are changed. The experience of the traditional art object is in the transposition from the look of the eye to the eye of the mind. All arts can be called participatory if we consider viewing and interpreting a work of art as reaching an understanding as part of a communicative monologic dialogue. In interactive digital works, however, the interface meeting point between artwork and viewer becomes an interplay between form and dialogue, similar to that which Bakhtin located in literature—that is, "stratified, constantly changing systems made up of sub-genres, dialects, and almost infinitely fragmented languages in battle with each other." Such collaborative systems, with their inherent contradictions, are a force for forging new unpredictability in aesthetic territory in a process Bakhtin termed "the dialogic imagination" (Holquist 1981).

In this process the role of the artist/author changes from one who has total control of the artwork to one who designs a "framing" or "ethnographic" structure that invites a wide public to collaborate. Without audience participation, the work is incomplete. However, as Sharon Daniel points out in her essay, "interactive" systems sometimes obscure the relation of "user" input to system output. In addition, the prefix "inter" suggests a "between" that can be erased in digital arts, which sometimes collapses boundaries to a point where the elements and parties between which a communication was established merge into one system.

Digital technologies change the nature of interaction itself. Digital functionality—such as algorithmic calculations, databases, and telecommunications—transform a work of art into a dynamic environment. Here, viewers become participants in a space that is unlimited by clearly set boundaries, with the potential for the emergence of new events and insights that unfold as an active collaborative process. [Fig. 1.i.1]

The term "interdisciplinary," also often used to describe a defining characteristic of the digital medium, raises similar questions. The connection between disciplines—aspects of the visual and performing arts, the humanities and social sciences, science and information theory, to name just a few—certainly plays a role in defining the dynamic nature of digital arts. New media works often are a product of complex collaborations between visual and performance artists, programmers, scientists, designers, musicians, and others. But the roles in this collaboration can range from that of a contractor or

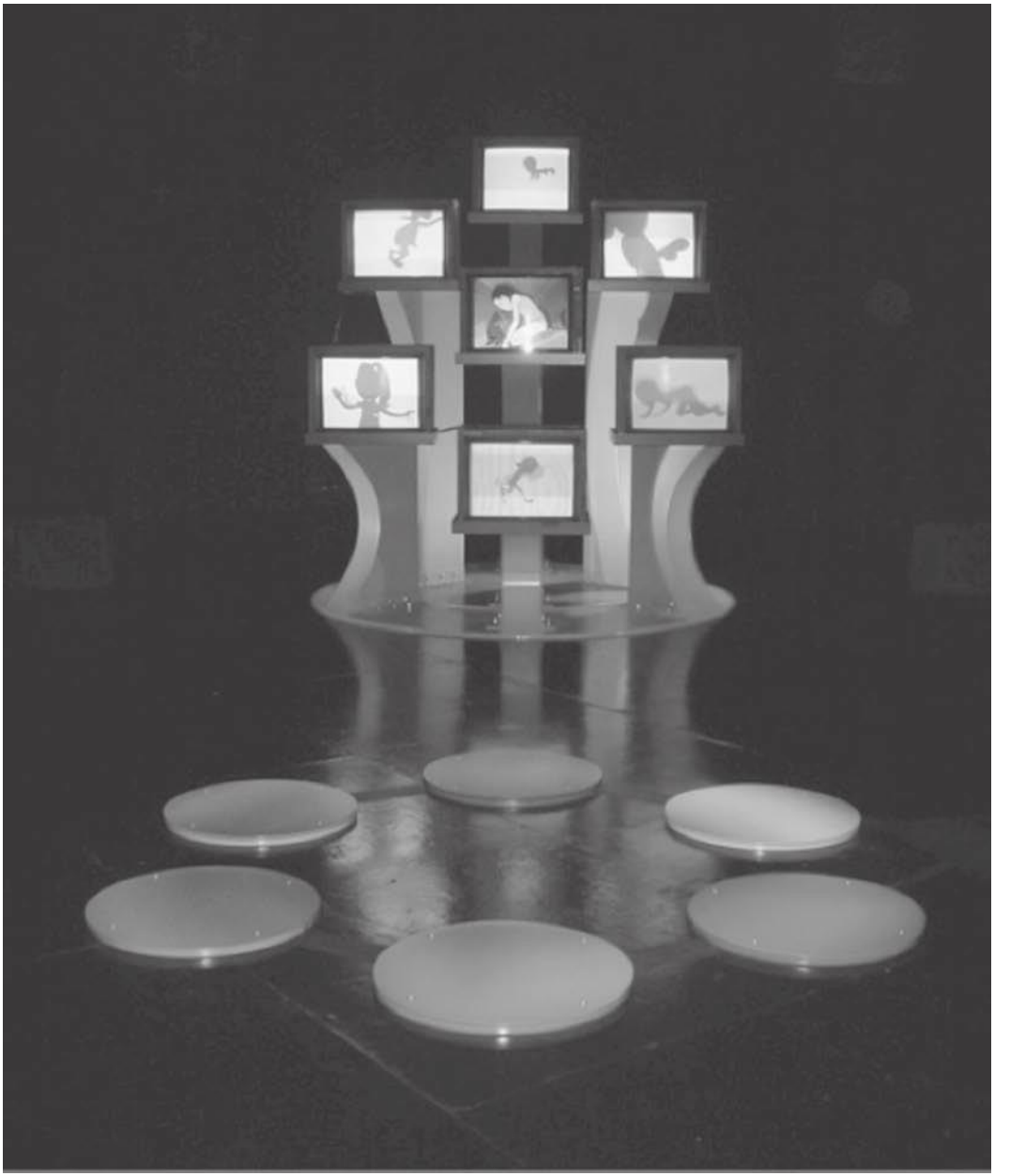

Figure 1.i.1 Marina Zurkow, "Nicking the Never," 2004, Interactive 7 DVD channel Installation, The Kitchen, New York, N.Y.: Design/Construction: Palmer Thompson-Moss; Technology: Julian Bleecker; Music: Lem Jay Ignacio. Photo by David Anderson / DaxoPhoto.

The viewer walks the wheel on the floor, mapping the character's interior dramas as a play on our own less manifest relationships between body, emotion and the projected imagination. "Nicking the Never" enacts the Wheel's states of selfhood through her physical gestures and surreal circumstance in a series of looping narratives. The work translates the Wheel's psychedelic and lurid aesthetic into a personal language, rife with graphic and cartoon styles and the tropes of Western psychology. As a pop, subjective interpretation of the ideas and iconography of the Wheel of Life, "Nicking the Never" is in dialogue with this vivid world-view. (Courtesy Marina Zurkow)

consultant to a full-fledged collaborator. Also, boundaries between disciplines are often erased, leading to a new form or field, or making a work equally important in the context of each field, such as art and/or science.

Navigation and process, as well as the creation of meaning in an environment without fixed entry points and hierarchies are among the issues that challenge traditional ideas about art. The common cultural desire has been to classify artworks as "objects." But in the creation of dynamic media works, the artwork becomes a project with openness for play and agency in which the artist tends to become a mediatory agent. Such a work now essentially depends on the grounds for communication that are constructed—and on the boundaries and poetics of control established through interface and navigation structures. However, the rapidly changing conditions of where and how a dialogic work is accessed and processed raise significant questions about the shifting relations between context and content. These shifts are addressed by the differing perspectives on aspects of representation and the creation of meaning throughout Part One of this book.

Given the phenomenal influence of Gilles Deleuze's writings (1953–1995) on culture, a phenomenon that has become known in France as the Deleuze effect, it is not surprising that many of the essayists in this book also refer in various ways to his influential philosophical meditations. His orientation lies away from the common sense logic of philosopher Immanuel Kant but toward seeking and finding unforeseen directions. His is a map "meant for those who want to *do* something with respect to new uncommon forces, which we don't quite yet grasp, who have a certain taste for the unknown, for what is not already determined by history or society" (Rajchman 2000: 6). His concepts seem to fit the instability of the times when there is a blurring of boundaries due to the "electric shocks" we are experiencing in every field. Deleuze's tendency is to position philosophy as a "reservoir from which each person could draw what he or she wanted… as an encounter" (Rabouin 2002, personal communication).

Although spectator participation had been theorized by Fluxus performance, happenings, and in work influenced earlier by Duchamp and Cage, Nicholas Bourriaud introduced in *Esthétique Relationnelle* (Bourriaud 1998), the phrase "relational aesthetics" to describe "a process-led, socially aware approach to audience/artwork relationships." Relational aesthetics is meant to describe process-led, socially aware, tangible models of sociability as the current approach to audience/artwork. He comments about art history: "In the beginning art dealt with Humankind and deity; and then between Humankind and the object; artistic practice is now focused upon the sphere of inter-human relations as illustrated by artistic activities since the early 1990s. So the artist sets his sights more and more clearly on the relations that his work will create among his public, and on inventions of models of sociability" (Bourriaud 1998: 28). [Fig. 1.i.2]

New media technologies challenge the way narrative forms of expression can be developed through dynamic experimentation. In their catalogue for an exhibition titled "Future Cinema," curators Jeffrey Shaw and Peter Weibel comment that among

Figure 1.i.2. Rafael Lozano-Hemmer, "BODY MOVIES: Relational Architecture 6," 2001–2003. Installed in public squares in Europe: Rotterdam; Lisbon; Linz – Ars Electronica; Liverpool Biennial; Duisburg. With the assistance of six developers.

This project transforms public space with 400 to 1800 square meters of interactive projections. The public effect is to invite anyone entering the square to communicate within the playful, phenomenological light and shadow relational environment. Thousands of portraits taken (on the streets of the cities where the project was exhibited) are shown using robotically controlled projectors. However, the portraits appear only inside the projected shadows of local passers-by, whose silhouettes can measure between two to twenty five meters high, depending on how far people are from the powerful light sources placed on the floor of the square. A custom-made computer vision tracking system triggers new portraits as old ones are revealed. (Courtesy Lozano-Hemmer)

the multiplicity of modes, three narrative types stand out as being central. *Transcriptive* forms involve multiple layering of interactive narrative that can create loops and the reassembly of narrative paths. *Recombinary* permutation strategies are controlled by the algorithm that defines the artistic definition of each articulated work. *Distributed* forms grow out of the modalities of Internet telecommunications accessible on mobile phones or multiuser devices. These become social spaces, so that the persons present become participants in a set of narrative dislocations.

Sound tracks have become integral to most of such new media works and introduce a new flux and momentum to them as a vibratory, immaterial, shimmering element that may integrate many different connected elements within contemporary installation projects.

Agency and social function

In an artwork as "open system," exchange leads to agency, a place where negotiation takes place as a form of shared authorship and social exchange. In their essay, Kristine Stiles and Edward Shanken maintain that agency is implicitly the primary goal and meaning of interactive multimedia art. If one of the functions of multimedia is agency, then meaning is derived from the qualities that agency obtains in interaction. As the authors put it, "agency involves the freedom to create, change, and influence institutions and events, or to act as a proxy on behalf of someone else." Agency, therefore, is the importance of each individual voice as part of meaningful social interaction.

Major changes in technological standards have always created conditions that have fostered enormous shifts in societal connectivity. In different historical periods that still resonate today, Walter Benjamin (1930s; Benjamin 1969, 1978), Stephen Willats (1970s; Willats 1976: 1; 2000: 1) and Hal Foster (1990s; Foster 1996) have attempted to understand the effect of technology on cultural production, the artist's role, and the meaning of the enterprise. Daniel explores and analyzes these important essays and the questions they raise in some detail, arguing for artists to use current media to innovate new forms that can connect social issues with the potential of interactive negotiation—agency as part of the function of art. This negotiation influences the current cultural environment and raises significant ethical questions about new directions for culture when the responsibility for the work's outcomes is shared.

In his essay "The Author as Producer," Benjamin (1934, translated 1978) was already aware of the changes and distinctions in the role of artists and of participants as producers of potential forms of personal agency. He asks those using new technologies to choose a production medium that influences others to participate, and then he raised these questions: What is the relation of a work to the modes of production of its time? What is (the artist's) position in them? Does it merely supply a system that already exists without changing or transforming it?

In a community-based work, content is often constructed through a retrieval of data that can be indexed, translated, and categorized according to the diverse perspectives of participants who contribute to the project. As Daniel points out, in this form of public art, content and its social context are inextricably linked. Works that use the public's will and need to communicate allow people to make discoveries within their own context of meaning. Is there then a form of ethics embedded in the structure of the artwork, making it a context provider because it addresses aspects of truth and integrity in the cultural realm? In her essay here, Daniel asks, "Can culture(s) or social systems evolve through networks of exchange and economies of relation? Is the relevance of art practice increasingly dependent upon a divestment of the tradition of individual authorship in favor of a model based on self-organizing systems?"

Contextual questions about art

An examination of current artworks using media as a medium in this book also brings up the need to examine important contextual questions about cultural history that explore the larger meaning of what art is—at the intersection between culture, representation, and the mediums that artists use. Understandings of what art is change with the context of historical and technological change. Art inevitably functions as an expression of the contrasting principles by which we live—shaped by powerful social and technological forces as well as the process of theoretical analysis, revision, and deconstruction.

> The need for art as an autonomous force in society does not fade or change, but rather our perspective changes about its role and its form. The latter are subject to wildly fluctuating external influences in the form of political and social forces, which grow inevitably out of changing technological conditions. These transform awareness, and provide new tools from which new art forms develop…Now, once again, we are examining art's different categories of value, such as use value, exchange value, commodity value, aesthetic value, as well as its different categories of production, whether by hand or by technological means, and what these entail. And we are examining its forms of dissemination; and its effects. The question is not whether art is dead but how the need for it has been transformed by technology. In the contemporary world, the questions need to be about how technology is being used for art and what new forms are evolving from its use. (Lovejoy 2004: 276–277)

Within the framework of the current widespread use of digital technologies by cultural producers, we can identify three groups: artists who use new media as a medium, creating work that is produced and presented by means of new media and makes use of the medium's characteristics; artists who use new media as a tool for the production of more traditional art forms; and those such as integrated, highly collaborative collective groups who use a wide range of forms and media—such as video, performance, robotics, and Internet capability—to create interdisciplinary forms. Some works produced by the latest technologies merely showcase technical advancements. These brilliant technological creations may be erased by new generations of technologies or appropriated as fodder in the development of new works.

In this context, it is instructive to look back on the different aspects of Modernism. In contrast to the Greenbergian[1] version of it (with its extreme formalist concerns focused only on process, aesthetics, and use of materials—influential since the 1950s and 1960s),

Figure 1.i.3. David Rokeby, "N'Cha(n)t," 2001. Interactive Installation, seven computers intercommunicating and responding to the voices of participants. Photo: Don Lee

In this installation, each entity is equipped with a highly focused microphone and voice recognition software. The ears visible on the computer monitors show the state of receptivity of each system. While a gallery visitor speaks into one of the microphones, these words from the outside "distract" that system, stimulating a shift in the entry's "state of mind." If a system hears a sound, it cups its ear to concentrate. When "thinking," a finger is pressed to the ear. If the system feels over-stimulated, it covers its ear with a hand to indicate unwillingness to listen. (Courtesy David Rokeby)

the earlier aspect of Modernism was a historical cultural shift at the beginning of the twentieth century. Artists, then in the context of that epoch, were driven by a multitude of larger questions and goals:

> [T]hese represented absolute values and spiritual life; creating a new visual language for the working class; representing the dynamism of the contemporary city and the experience of war; representing the concepts of Einstein's relativity theory; translating principles of engineering into visual communication; and so on…(Manovich 2003)

Although some of today's "digital artists" are formalists with their discussions centered on their particular medium, many new media artists are committed to exploring and commenting on larger political, social, and spiritual values. If, as essayists in this book contend, contemporary artists are capable of situating their work in relation to ideas that do not just showcase technologies but are based in discourse about the issues of our times, then their pioneering work will have a significant effect on the evolution of future culture.

Following on Duchamp's early major influence, many media artists have begun to develop their work more around larger concepts, some making use of the immense database capability now available. This tendency has often become defined as project art because it is organized around particular ideas or goals rather than as individual "objects." The best of these artists are often concerned with the larger social, philosophical, and political issues of our time, and they are able to find the right balance between a meaningful concept and the right choice of media to powerfully express it or to allow for public collaboration. This was evident in the Documenta XI exhibition (2002), which, although it featured little new media art, nevertheless presented many video and sound productions in black box spaces. These works provided rich layers of content focused primarily on aspects of the human condition in a global context.

Within the range of existing cultural production, art today does not have a well-defined function. However, art is a field in which one can make statements impossible to make in any other field because they are unique in terms of their content, their creative process, and the context of their presentation. [Fig. 1.i.3]

Figure 1.i.4. Andreja Kuluncic and collaborators, "Distributed Justice," 2002, ongoing Net work. Design: Eric Williams, Trudy Lane, Dejan Jankovic; Programming: Matija Puzar.

This net project deals with the topic of distribution of goods in society as a central issue of moral reasoning and political philosophy. It has been developed by a team of collaborators from different disciplines (philosophy, sociology, anthropology) and consists of two basic sections—a virtual game for onsite visitors (www.distributive-justice.com) in which participants in the project freely distribute material and nonmaterial goods building a "society" that undergoes dynamic changes. Several types of societies emerge as a result of this game. The second part of the project is the exhibition space, a real "working space" filled with both theoretical and practical materials. Participants in the project read materials, listen to lectures, chat, join the discussion, participate in the polls, surf the Web, print from the base, copy materials, or videotape or audiotape the events. All the parts of this project were later integrated in a Web portal. The participants thus gained a virtual space of their own designed for exchange of information for creating archives. In this way the project has eventually developed into a permanently open forum. (Courtesy Andreja Kuluncic)

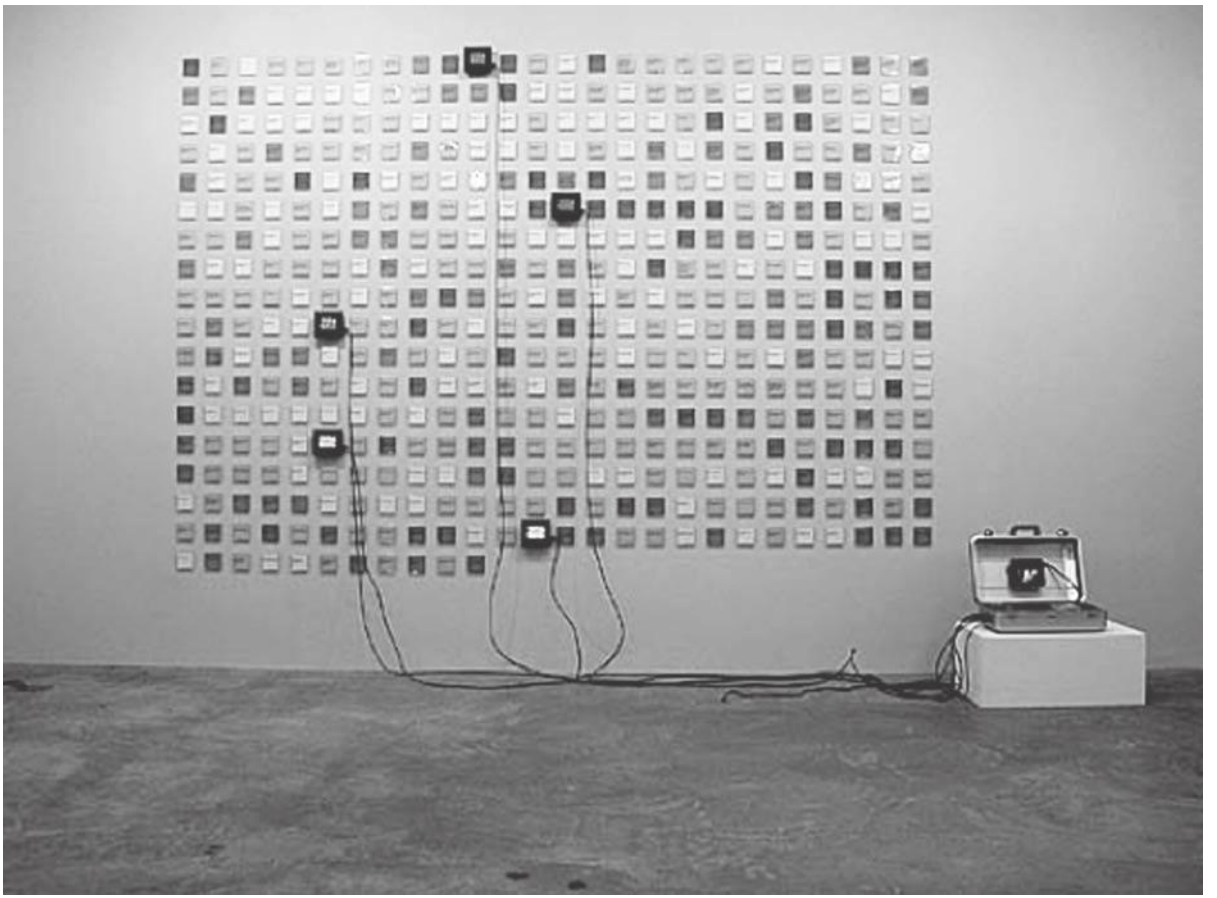

Figure 1.i.5. Jennifer and Kevin McCoy, "448 is Enough," 2001. Installation environment.

In this work, the McCoys have created the kind of archaeology of entertainment narratives they have perfected by dissecting shot-by-shot single episodes of commercial films and television soap operas in order to focus on the repetitious nature of these formulaic creations and their systems of violence. To make "448 is Enough," they broke down the episodes of "Eight's Enough," a family television series, into 448 constituent shots. These are compressed, numbered, and gridded onto a single wall and hung with small monitors according to where commercial breaks originally occurred. The installation uses the time scale of the show to map the structure of time onto a wall. A small suitcase on the right side is used to watch the show, one shot at a time. (Courtesy Postmasters Gallery)

Democracy and access

In the shift of emphasis from the creator's total control over the artwork to the participant's active negotiation, major responsibility for the work's outcomes is shared. Now that the social construction of interactive works has become more ambitious and is subjected to distribution beyond local geographies (as on the Internet), a more complex model of democratic art experience is evolving. [Fig. 1.i.4]

As a many-to-many dynamic communication system, the Internet embodies a certain access to democratic exchange. Net art exists within the public sphere and is potentially available to anyone, anytime, anywhere—provided that one has access to the network. Mailing lists, blogs, and other forms of networked communication (from mobile phones to other hand-held communication devices) have become a form of agency. Activists are making use of connectivity as a form of political participation.

However, questions of democracy pose global issues about the power of rhetoric and of access. A relatively small part of the world's population has access to computers.[2] Differences in geographical and cultural contexts as well as language also raise issues concerning global access and understanding.

Cultural contexts

The World Wide Web was originally founded in the context of science labs and dominated by research and educational institutions. Since its more public advent in the early 1990s through browser development, the shift to free information space is constantly being negotiated in the face of its growing commercialization and, in some countries, politics. Corporate control strives to harness the ever-developing technologies that potentially offer freedom of communication globally.

Net art projects, with all their community-building potential, exist in an environment that is commercially saturated. Can an artist's net art project attract the attention of a Web surfer who is subjected to the sheer volume of sites within the commercial context of the Web? Access is also a matter of filtration. The number of net art projects that are discovered accidentally is relatively low, unless they are adequately promoted to reach their audience and provide new experiences. Much of the public is still unaware of the presence of an artist's Web projects and thinks of the Web only as a commercial media environment—much in the way they see TV (excluding some public broadcasting and quality cable stations).

The dynamic forms of representation discussed by in Mary Flanagan's essay are enmeshed in the modalities of popular culture. What happens to the audience when it is placed in the position of agency rather than passivity? There is growing awareness of the cultural engagement now possible on the Web and the types of personal and social

communication tools, such as blogs and "text messaging" and video, enabled within today's cultural context. What are the dynamics and contradictions between the cultural forces embedded in both TV and the Internet? The "Set" seems more tied to the culture of representation and the spectacle, whereas the Internet seems to create a culture "of participation and virtuality" (Terranova, 2002, personal communication). In both cases, are these forms of collective intelligence, especially now that sophisticated mobile devices can embrace both? [Fig. 1.i.5]

Questions of commercial context also arise for artists whose technological works may be confined and inhibited in the predefined structures of context or the predefined structures of commercial hardware and software that can constrain the artistic process. Their work may also be caught in the meshes of the convergence between art and the entertainment industry. Author Simon Penny raises questions about this merger because it can divert the artist's voice: Art practice requires a holistic consideration of the cultural context of the subject matter, but the pace of technological change prevents such considerations (Penny, 1995).

In considering the historical, philosophic, and evolving technological aspects of communicative forms of exchange, the essays in Part One of this book provide a foundation for negotiating conditions of content, context, and meaning in digital media art practice.

Institutional contexts: challenges and paradoxes

On a daily basis, our social fabric is affected by rapid advances in fields such as physics, genetics, biology, robotics, astrophysics, telecommunications, and digital information systems. Research agendas in all of these fields raise a series of complex and sometimes disturbing questions that are difficult to digest in the form of traditional scientific or journalistic news formats. Many media artists regard their art as a form of knowledge and see their primary goal to locate and represent meaningful aspects of this constantly shifting context.

In the past few decades, artists have increasingly probed issues traditionally considered to be the territory of scholars and scientists in universities and corporate research departments. Their practice can suggest metaphors, narratives, and new ways of thinking that might be invisible even to those immersed in their fields. It may also extend the viewpoints of established cultural critics and the public. Cultural productions by media artists often address themes surrounding serious ethical and social issues which, through artists' sometimes dramatic interpretations, may become accessible and thought provoking to audiences from diverse backgrounds.

The hybrid and collaborative nature of art using digital technologies as a medium also questions established practices of institutions such as museums, funding organizations,[3] and the art world at large. Artists and curators face the difficulties of presenting art forms

Figure 1.i.6. York Zimmerman Inc., "A Force More Powerful: The Game for Nonviolent Strategy," 2006, Web project.

Developed by the International Center on Nonviolent Conflict (ICNC) media firm York Zimmerman Inc. and game designers at Breakaway Ltd., the game is built on nonviolent strategies and tactics used successfully in conflicts around the world. The goal of the game is to attract more people to align with those who want change. It simulates struggles to win freedom and secure human rights against dictators, occupiers, colonizers, and corrupt regimes, as well as campaigns for political and human rights for minorities and women. The game models real-world experiences, allowing players to devise strategies, apply tactics, and see results, http://www.aforcemorepowerful.org. (courtesy Marian Zimmerman).

that often either have no preconfigured physical components or have no established connections between the physical and the virtual realm. They may be obliged to tackle the lack of economic models for producing or selling the kind of public projects that were meant to exist in the public domain rather than in an art institution.

Rachel Schreiber (2001) reminds us of the loss of video art's visionary goals to reach a mass audience before it became entangled and co-opted within the institutional meshes of galleries and museums. Video artists "sought to shrink the gap between the viewer and producer, performing a critique of the passive relationship viewers typically have to television." Despite the potential of video to transmit to mass audiences, the medium was generally unable to overcome barriers to public broadcasting. It is primarily being presented in the format of projection installations and is now also featured on the Web as "extremely advanced new effects," such as YouTube videos which began to appear in 2005.

Can art institutions, while providing important support for artists' work, sustain participatory digital and net art projects as a form of mass agency when the work gains institutional status? Although the characteristics of the medium to a large extent resist traditional forms of "institutionalization," the degree of assimilation by an institution also depends on how deeply rooted the work is in community, or how much the work subverts corporate power structures. Presented in the public space of the museum in the form of an installation or in a kiosk setup, net art does not lose its "network contact" with a larger community outside the institution. Because net art projects simultaneously exist exterior to any museum, they could also gain even more agency as a result of the attention drawn to them by the institution's cultural community. Although a net art project validated by an important institution may attract a wider following, the filtering and stamp of approval provided by an art institution establishes curatorial control circumstances that net art tried to circumvent in the first place.

The loss of early utopian rhetoric surrounding the potential of the Web when it became widely available in 1994 has now been overcome by the phenomenal growth of access to computers; rapid advances in computers' processing speed, storage, and networking ability; plus increasingly sophisticated software that has now transformed culture in qualitative ways barely imagined years ago. These developments serve artists who are producing works that confirm the Web's power as a cultural medium and as a new aspect of representation and agency now superseding the Set and Internet. [Fig. 1.i.6]

Artworks as social interface

Most of the issues outlined here do not only apply to art existing on the Internet but to any form of digital art that is participatory and customizable, relying on an engagement with the public. All of these artworks reconfigure notions of the artist and audience

and raise questions about agency and social function. Relating to artist Joseph Beuys's[4] notion of social sculpture, these media art forms invite essential questions about potential changes in the role and function of art at this point in time.

Referring to an exhibition entitled "Art for Whom,"[5] Daniel includes a quote that outlines the context dependency of emerging artistic forms that require a commitment to a new model of exchange in which effective, productive works of art are not the product of one individual but dependent on relationships between people "and a desire among artists to function within the social fabric of the audience/participant's daily life." She is addressing a conceptualization of art practice that deals with the socioeconomic and intellectual environment of the audience as opposed to the socioeconomic and intellectual environment of the commercial "art world." However, the art world itself is changed by current cultural influences and new questions are arising—questions that are focused less on what art is and more on what it can do. The following essays are meant to provide a context for understanding relations between contexts and content that allows us to create meaning in media environments.

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Endnotes

1. Clement Greenberg's essay "Modernist Painting" (1960) focused only on aesthetics, process, and materials as the building blocks of art making. It refers to the use of characteristic methods of a discipline to criticize the discipline itself, not to subvert it, but to entrench it more firmly in its area of competence.

2. It is estimated that half of the U.S. population now has computer access.

3. However, funding is sometimes available from organizations such as the Banff Center for the Arts and Turbulence.org, both of which offer commissions, grants, and co-production awards.

4. Joseph Beuys (1921–1986) was an influential German artist who came to prominence in the 1960s. He is most famous for his ritualistic public performances and his energetic championing of the healing potential of art and the power of a universal human creativity.

5. An exhibition organized by Richard Cork for the Serpentine Gallery in London, 1978.

Missing In Action: Agency and Meaning In Interactive Art[1]

Kristine Stiles and Edward A. Shanken

A legend of interactivity

Cynthia Mailman fell through the roof of a garage on which she was dancing as a participant in Al Hansen's "Hall Street Happening" (1963). Bleeding and hurt, she screamed for help but initially no one came to her rescue; participants and viewers alike presumed her action was part of the happening and ignored her pleas for assistance. Writing about the event several years later, Hansen (1965: 17) remarked,

> I ran out into the warm midnight-Brooklyn slum street and looked up and down each way—my first impulse was to hitchhike to Mexico and forget the whole thing. Then an ambulance and the police arrived…It was a fine bit of mayhem and quite abstract. (Hansen 1965: 17)

For better or worse, only a few happenings resembled Hansen's "Hall Street Happening" in its obliteration of the tangible, objective difference between aesthetic and ordinary events, artist and spectator. This slippage is one reason why Allan Kaprow abandoned happenings less than a decade after theorizing them in the mid-1950s. Even though the aims he outlined for happenings included keeping "the line between art and life…as fluid, and perhaps indistinct, as possible," and "eliminat[ing] audiences entirely," Kaprow found that audiences were culturally unprepared to interact responsibly in constructing a work of art (Kaprow 1965, reprinted in Stiles & Selz 1996, pp. 709, 713; Kaprow 1966). While little has changed in the public's capacity to interact in art or life, fostering audience agency remains a utopian activist goal for many artists and is presented as an ineluctable formal quality of digital multimedia. Yet, the extent and quality of interaction by which

an individual actually participates in and contributes to the process of creating meaning remains troublesome.

Using "Hall Street Happening" simultaneously as both a model and an anti-model of interactivity, this essay asks: "In what ways, or to what degree, is interactive art meaningful?" We begin with a consideration of the commercialization of the notion of interactivity and its rhetoric of "the new," marketing and discourses that aim to transform technology into ideology in order to promote commercial interests, be they those of industry or art. Next, we turn to the role of agency in interactive digital multimedia, its humanist underpinnings, and several artists whose works take into account myths of technologically mediated agency and interactivity. Finally, we consider interactivity in terms of its meaningfulness with respect to responsible action in a social context.

The "new" in interactivity

In the 1990s, the concept of interactivity became a marketing mantra of Silicon Valley, a phenomenon that Simon Penny described as "consumer commodity economics" (Penny 1995: 47). He pointed out that three years after Canadian artist Nancy Paterson completed "Bicycle TV" (1990), an interactive laser disc that interfaced with a bicycle and its rider, "exercise cycles were available with simulated travel on graphic displays" (Penny 1995: 48). [Fig 1.1.1] Since much of the extensive, heterogeneous history of interactive art has pursued a decidedly anti-commercial direction, we pose the rhetorical question: In what ways does such commercial saturation of interactive multimedia challenge its ability to resonate with artistic meaning? [2]

Throughout the 1960s and 1970s, performance, process, installation, environmental art, video, and other experimental tendencies provided a fertile and interconnected ground for the evolution of interactive art.[3] Artists developed interactivity as a means to widen the social base for art, and as an exercise in active interconnection with cultural and political milieus.[4] But as sophisticated interactive installations using laser disc, virtual reality, and telematics emerged, concentration on the newest technologies, rather than on the quality of interaction, tended to diminish the activist dimension of much interactive art. In many cases, such art served the interests of industry by popularizing its products and endorsing the ideology of interactivity and agency, which already had been co-opted by commercial concerns.

In an era marked by the proliferation of digital technology, widespread social passivity, political conservatism, and awakening public awareness of massive technological surveillance, the augmentation of individual agency—however superficial—offered a veneer of imagined personal control to consumers, and it insured instant cash rewards to the technologists who brought interactive merchandise to market. Advertisements for digital media (ranging from CD-ROMs to VR—virtual reality and webcams) emphasized

novelty, interactivity, and the enhancement of personal agency. In the 1990s, industry journals (which often were difficult to distinguish from advertisements) hawked these technologies as heralding a new social paradigm of interactive community and global consciousness. Artists nominated themselves to be the architects of interactive contexts in which a presumed, ever-eager public would be able to generate its own images, identities, and experiences. The rhetoric of "the new" promoting digital technologies in the 1990s was as rampant in propagandizing electronic multimedia as it was in the 1980s

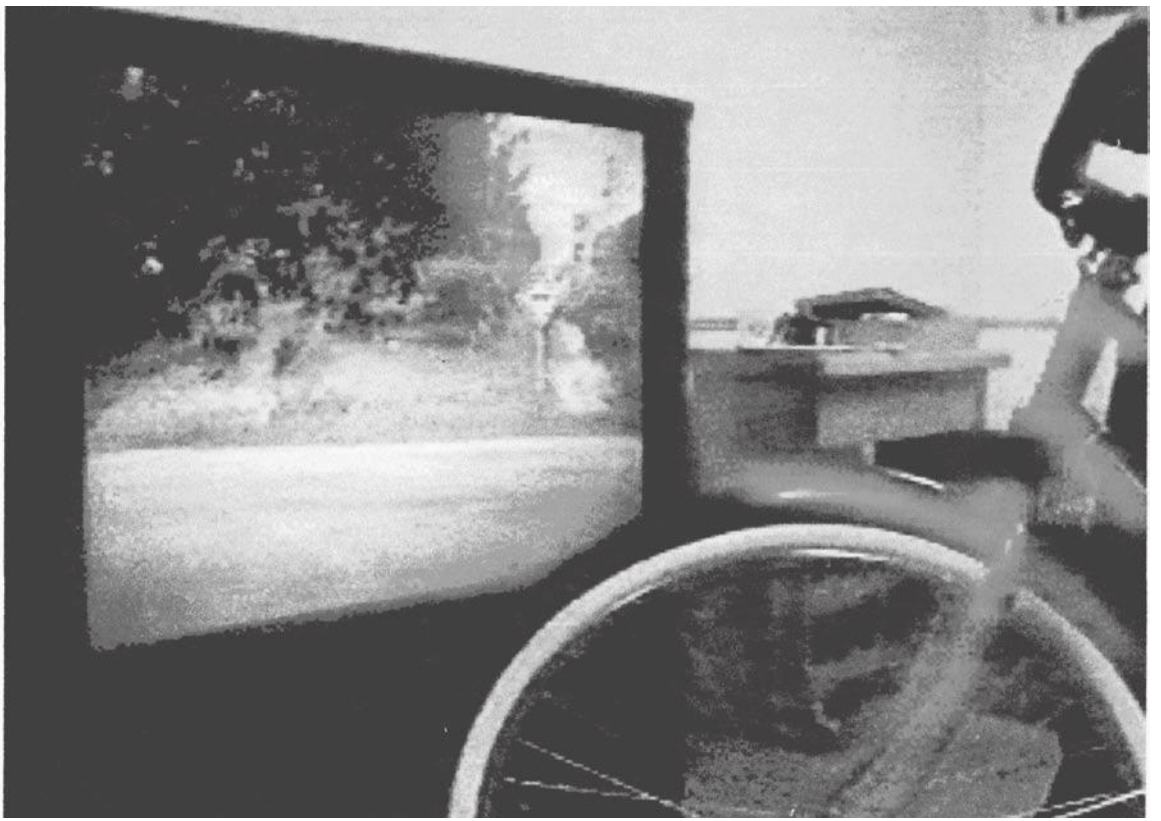

Figure 1.1.1. "BicycleTV: Some Interactive Exercise," Nancy Paterson (1989). The handlebar and pedals of the interface bicycle provide the viewer interactive control over the direction and speed of travel. Cycling is transduced into the virtual environment, distilling the active body in the virtual scenario. A video projector or large screen is used for display. The arrows on the screen indicate choices to the rider. The image is from an exhibition (curator Luc Courchesne) in Montreal titled "TeleVisions" at PRIM in 1991.

when critics made equally exaggerated claims for Postmodernism. In the introduction to his influential book *Postmodernism or, The Cultural Logic of Late Capitalism*, Fredric Jameson breathlessly sited such constellations as Postmodernism's "new international division…vertiginous new dynamic…new forms of media interrelationship…new structure…new system…'new structure of feeling'…new technological prerequisites of the 'new long wave' of capitalism's third stage…the psychic *habitus* of the new age," to quote from only two of many paragraphs (Jameson 1991: xix–xx). Following a similar cultural logic, in the 1990s and 2000s, the appropriation of the concept of interactivity as a novel feature of specific technologies falsely implied that interactivity did not exist before or without those technologies.

Novelty drives the cultures and economics of both technology and art, making multimedia doubly bound to the doctrine of "the new." Thus, the purported qualities (agency) and conditions (empowerment) of the "new" digital media served as proselytizing slogans for the social imaginary and the cultural and industrial marketplaces. Combining capitalist strategies with the symbolic means of art, the rhetoric of "the new" has been used to sell interactivity as technology when it is more properly an effect of ideology. As Dieter Daniels has observed:

> Due to the interweaving of human society and its digital back-up, it is becoming increasingly difficult to tell whether we are communicating with machines instead of people, or with people by means of machines, or talking to people about machines, or to machines about people. This entails a blurring of the boundary between ideology and technology, and technology is indeed a central part of ideology in the '90s. (Daniels 2000)[5]

In this regard, John T. Caldwell pointed out that, "When Time-Warner merged with AOL in January 2001, many analysts announced that this marriage of two worlds—'old media' and 'new media'—would usher in the final arrival of 'convergence'" (Caldwell 2003). In these ways, Postmodernism and multimedia have proven themselves to belong to what Harold Rosenberg had already described nearly half a century ago as "the tradition of the new" (Rosenberg 1960). One might argue that their claims for novelty reveal the continuation of a trope that remains sexy despite having grown long in the tooth.

Interactivity has become inextricably and commercially paired with technology as "new," market-chic, engaged, and thus, empowering, while non-digital forms of conventional, experimental, and interactive art are presented, by comparison, as old -fashioned, passive, and lacking structures for empowerment. Founded on false binary oppositions, such representations exacerbated widespread critical claims since the 1960s that art (especially painting) was dead and that the avant-garde lacked social purpose. Paradoxically, many critics who proclaimed originality still-born and the avant-garde

dead also invoked the postmodern "new" but scorned interactive multimedia art. Artists and critics from within the new media community who theorized such art as related to Postmodernism and its tropes of the loss of aura, death of the author, stylistic pastiche, and so on, did so strategically, in order to ally the marginalized field with an already academically empowered discourse. Surely, many elements of interactive art lend themselves to such interpretations, often even more fittingly than examples drawn from conventional fine art. However, as the periodicity of Postmodernism becomes ever more clear, continuing to draw parallels between multimedia and Postmodernism undermines any claims for novelty and instead threatens to relegate the former to an antiquated movement and/or genre. Postmodernism, too often confused with or collapsed into poststructuralism, is more properly understood as a brief moment in aesthetic and intellectual history, while poststructuralism appears to have instituted an enduring shift from a universalizing epistemology to socially constructed systems of knowledge, institutional practices, and multiple subjectivities. It is this latter intellectual modality that offers interactive multimedia a richer field of inquiry and an altered context for the history and criticism of its practices. Thus, the innovation and significance of the concepts, basic technological functions, and ideology of personal agency being promoted as new and meaningful demand closer scrutiny, as even the rhetoric and packaging follow predictable formulas.

Agency

Agency repeatedly has been identified as a primary goal of multimedia technology. Interactive technologies and agency have become so closely connected that meaning in multimedia signifies as agency, in so far as meaning derives from the qualities that agency obtains in interaction. Meaning is purposive, entailing intention, aim, and objective result. While meaning is inherent in the semiotics of the interactive exchange among artist, artwork, and audience, in order to be *meaningful*, agency and interaction must activate semiotic signification that is literally *full of meaning*. Interactive multimedia art, therefore, can be meaningful when it enhances the fullness of agency, otherwise meaning is missing in interaction, and meaningfulness is missing in agency.

Discussions of multimedia have tended to make the concept of agency abstract by attributing meaning to its formal components and by deferring the question of meaningfulness. But the introduction into art of such formal elements as moving a trackball or clicking a mouse to recombine images and texts, moving the body to negotiate a VR environment, and/or posing questions for which there is no substantive feedback, enhances neither agency nor meaningfulness. Although works employing these limited ranges of physical and mental activities are routinely described as "interactive," if the works have meaning at all, it resides primarily in artists' decisions, rather than in

participants' agency to shuffle or activate images, sounds, texts, and pattern sequences, and so on. The physical interaction by which viewers can trigger different effects may be pleasing and even surprising, such as playing with a kaleidoscope, but the visual and conceptual stakes of the work still finally reside in the artist's aesthetic choices.

Such art, then, may be astonishingly conventional regardless of its technological novelty, especially when compared to interactive Internet sites such as "Second Life" (http://secondlife.com), massively multiplayer online role-playing games (MMPORGs) such as "World of Warcraft" (http://www.worldofwarcraft.com) or the official US Army's game "America's Army: Real Heroes" (http://www.americasarmy.com), all of which not only require intense engagement in the construction of alternative realities but also have tangible effects, in so far as "Second Life" has a functioning economy and the latter two are well-known sites for military recruitment. Multimedia works, by contrast, may be meaningful for reasons that have little or nothing to do with interactivity or agency, but with the traditional qualities that have made works of art meaningful throughout history: the ability to change (or affirm) the way viewers see, understand, and act upon the world. Similarly, the interactive features of multimedia become meaningful when they engage and activate complex emotional and decision-making responses, such that interaction itself reinforces the transformative effects of the overall piece and plays a constructive role in creative change and exchange. However, given the limited forms of agency currently exercised in much interactive multimedia, it is useful to consider the concept of agency further in order to imagine different forms of engagement.

An opposition between active agent/participator (in interactive multimedia) and passive/observer (the recipient of pre-coded and unalterable meaning in traditional media) has been frequently identified in discussions of interactive art. This polarity has had the effect of sanctioning digital interactivity and discrediting non-digital interaction. Interactive multimedia is claimed to strengthen agency by allowing individuals or groups to alter the artistic composition or determine an artwork's meaning by contributing to the construction of its data content or narrative path. But as Douglas Browning pointed out nearly forty years ago, the philosophical goal of agency is to function as a locus of morality and individuality: "The concept of the agent is required in order to allow for the possibility of freedom, communication, comprehension, and mystery. "Culture in general…rests upon…agency" (Browning 1964). Agency also has been tied to the execution of volition: "a person is the agent of an event if and only if there is a description of what s/he did that makes true a sentence that says s/he did it intentionally" (Davidson 1971: 46). Agency involves the freedom to create, change, and influence institutions and events, or to act as a proxy on behalf of someone else. In both cases, agency is measured by the ability and the responsibility to have a meaningful effect in a real-world, inter-subjective, social context. Given Browning's claim that agency is necessary for the coherency of individual identity and social interaction, it is not surprising that the commercial multimedia industry has seized upon it as the principle underlying a self-

congratulatory rhetoric of promoting individual empowerment through technology and that the discourses of interactive art have adopted similar promotional strategies.

In addition, it is important to note that technology complicates agency by mediating the "accordion effect" of agents, intentions, acts, and events (Feinberg 1965: 134–160). In telerobotic systems, for example, it is expected that the intentions and acts of an active human agent (master) in location A will be executed by corresponding acts performed on his/her behalf by a passive robot (slave) in location B. Because intention is a prerequisite, robots generally have not been thought of as capable of agency, although this situation is changing. Human masters endow robotic slaves with the responsibility to act as proxies, or agents, on their behalf, presenting a conundrum regarding agency in human-machine systems. To complicate this problem further, suppose there is not a 1:1 correspondence between a master's expressed intention and a robotic event, or that a master is unable to ascertain unequivocally that his/her intended action has been executed (for more on these questions, see Goldberg 2000). A master might be said to have lost or relinquished agency in proportion to the difference and uncertainty between the expressed intention and the acts carried out by the robot. Who or what, then, are the agent(s) responsible for the behavior of the system? Attempts to consider the varying forms and degrees of agency negotiated and exchanged between artists, participants, and technologies in multimedia works of art become even more convoluted, and will pose increasingly paradoxical questions with the continued advance of artificial intelligence and genetic engineering. In this context, the contemplation and construction of meaningful interaction matters even more.

Bruno Latour, contributing to this long philosophical discussion, turns traditional notions of agency inside out. He suggests that systems comprised of humans and technologies display unique hybrid characteristics that are not properly attributable to either one or the other, and that since such hybridity characterizes human history, the concept of agency as a trait particular to humans must be questioned (Latour 1994). Thus, it could be argued that notions such as freedom, individuality, and responsibility themselves require rethinking. As in much poststructuralist philosophy, the centered, autonomous, humanist subject ceases to exist as subject *qua* subject, but it is always already constructed as a social entity in relation to technology. Technology, in turn, is inseparable from various instruments of control and the legal, moral, and religious codes embodied and reified in the cultural institutions, economic systems, and social conventions that structure human relations. In other words, the very concept of agency (and the interrelated constellation of humanist values associated with individuality, freedom, and responsibility) is complicit with systems of power and technologies of control that deny agency by demanding conformity. From this vantage, the pursuit of individual agency (in humanistic terms) amounts to doing the devil's handiwork. Rather than earnestly pursuing technological enhancements of agency, artists might instead focus attention on deconstructing the vast ideological apparatus that enlists individuals

in their own subjugation. Such an effort is the starting point for a potentially rich social project that rethinks agency around tropes of collective interaction. As background for this discussion, we shall cite several very different artistic projects that used interactive multimedia as a critical device to interrogate the hyperbole of interactivity and agency.

In 1969, Kaprow created "Hello," an interactive video happening for "The Medium Is the Medium," a thirty-minute experimental television program.[6] [Fig. 1.1.2] Five television TV cameras and twenty-seven monitors connected four remote locations over a closed-circuit television network.

> Groups of people were dispatched to the various locations with instructions as to what they would say on camera, such as "Hello, I see

Figure 1.1.2. "Hello," Allan Kaprow, 1969. Screen grab.

> you," when acknowledging their own image or that of a friend. Kaprow functioned as "director" in the studio control room. If someone at the airport were talking to someone at M.I.T., the picture might suddenly switch and one would be talking to doctors at the hospital.[7] (Youngblood 1970: 343)

Kaprow explained that he was interested in the idea of "communications media as non-Communications" (23 July 1998 telephone interview with author), and that the most important message was the idea of "oneself in connection with someone else" (Youngblood 1970: 343). "Hello" offered a critique of the disruptive manner by which technology mediates interaction. It metaphorically short-circuited the television network, thereby calling attention to the connections made between actual people.[8]

Following a similarly critical logic, in 1978, Peter D'Agostino proposed using QUBE (Warner Cable's interactive television system) in a video installation that interrogated the degree of participation that QUBE advertised to offer users:

> The "interactive" system available to QUBE subscribers takes the form of a console attached to the television set that enables the home viewer to "participate" in selected programs by pushing one of five "response" buttons…the console feeds a central computer and the results of the home responses are flashed on the screen. (D'Agostino 1980: 14)

D'Agostino noted that in a 1978 program on eggs, "forty-eight percent of the homes had pressed the *scrambled* button." [Fig. 1.1.3] Commenting on a newspaper headline that celebrated the QUBE system, the artist ironically added, "This is how viewers are 'talking back to their television sets.'" While Warner Cable chairman Gustave M. Hauser used the rhetorics of novelty and opposition to claim that, "We are entering the era of participatory as opposed to passive television," D'Agostino argued that such "participation is defined solely by the formal properties of the medium—rather than its content " (D'Agostino 1980: 15). Predictably, though unexpectedly, the cable-cast component of the artist's proposal was cancelled "due to 'special programming'" and was never rescheduled by the network.

In 1993, Keith Seward and Eric Swensen created the CD-ROM journal "BLAM!," a raw critique of the rhetoric of interactivity. [Fig 1.1.4] Produced at a time when CD-ROM drives were relatively uncommon, "BLAM!" attacked concepts of empowerment at the foundation of technological correctness. Wielding irony like a blunt sword, "The Ode to Interactivity" segment bludgeons users into submission with a hyper-kinetic montage of sexually explicit images and the false promises of technological utopianism. Narrated by a monotonous, rhyming soliloquy that is read in the voice of a horror show host, "The Ode" describes the narrator's search for interactive media that will satisfy all

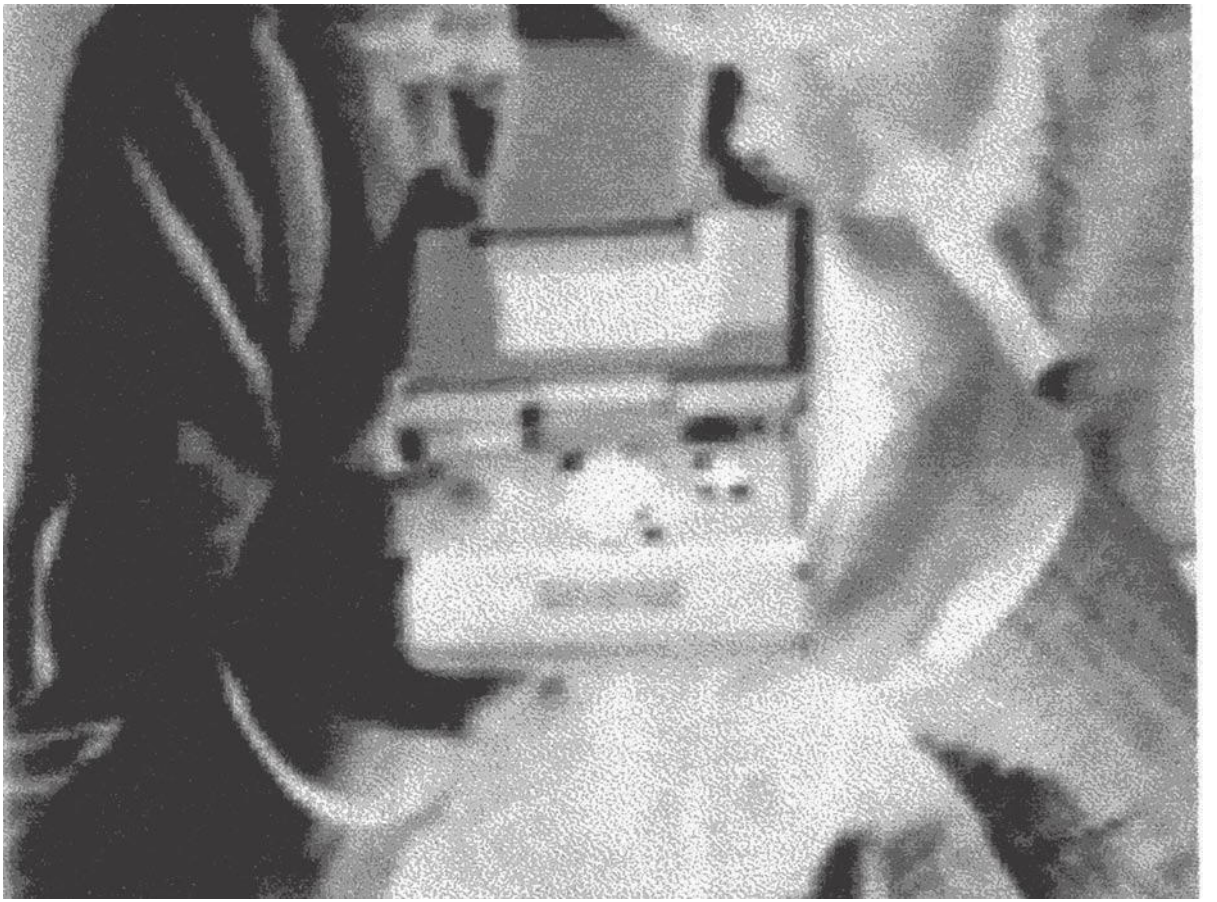

Figure 1.1.3. QUBE, detail , Peter D'Agostino, 1978. Proposal for video installation using Warner Cable interactive television system.

of his perverse sexual desires, thus making the neighborhood safe for children. The only option to experiencing the whole segment is to crash the computer. In the "Necro-Enema Amalgamated Agenda" manifesto, the authors explained their use of digital multimedia as an assault on naïve conceptions of interactivity:

> "Interactivity" is one of those euphemisms like "democracy" or "equality." There's no color to the word. It paints a grey picture of a world where used-car salesmen would give you your dollar's worth, little boys wouldn't pick on little girls, and snakes wouldn't eat cute little furry creatures…All that no-caffeine rhetoric about empowering users makes us laugh—not with

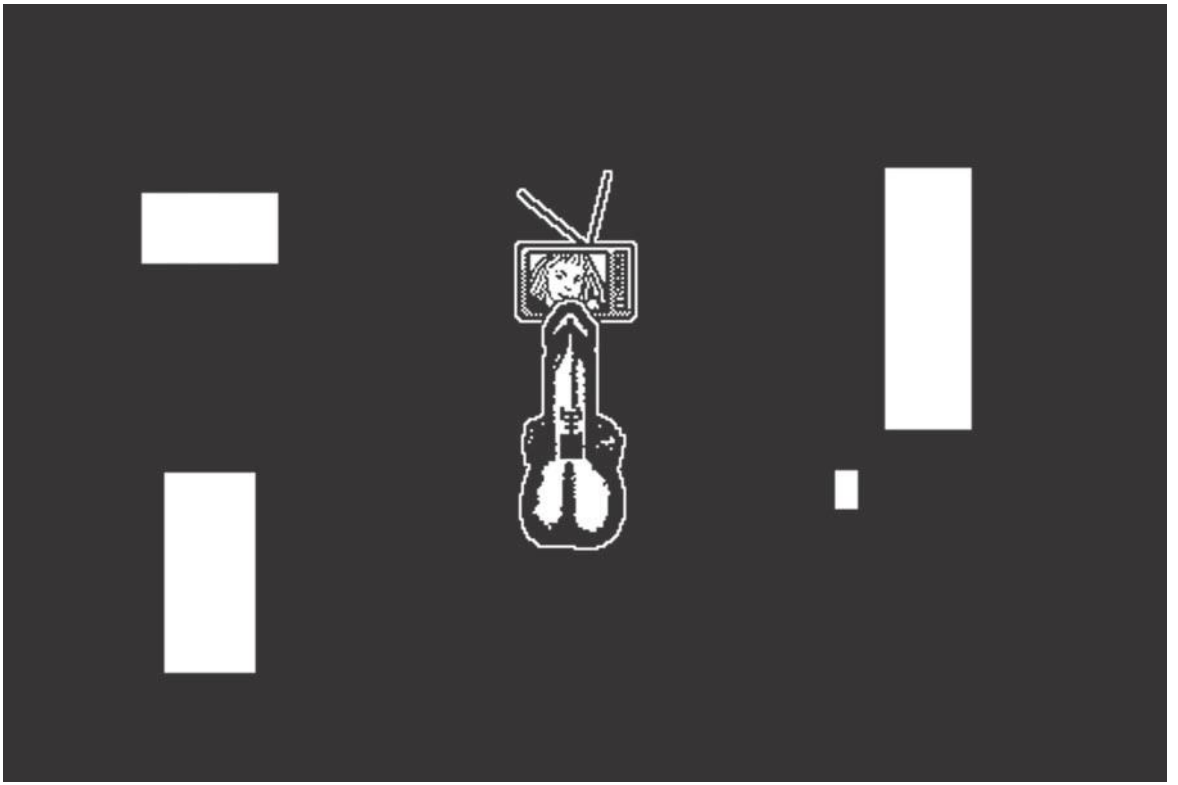

Figure 1.1.4. "BLAM!," Keith Seward and Eric Swensen, 1993, Necro-Enema Amalgamated CD-ROM, Hypercard. Screen grab,.

> but at…Giving a user more buttons to click is like giving extra links to a dog chain. Sure you can call three feet of mobility "freedom," if you want. You can think of BLAM! as empowering you, but we know that we're the ones jerking the end of your chain… We train you to use BLAM! Just as Pavlov trained dogs to salivate . (Seward & Swenson 1994)[9]

Here, technology becomes the handmaiden not of personal liberation in communal intercourse, but of an onanistic, anti-social, repressive, and degrading diatribe.

Distinguishing between agency in conventional "active—passive" telerobots (as in the master-slave relationship described earlier) and agency in "active-active" systems offers further insights into the moral conditions of interactivity (Shanken 2000). In Norman White's and Doug Back's "Telephonic Arm Wrestling" (White & Back 1986) [Fig. 1.1.5] and Paul Sermon's "Telematic Vision" (Sermon 1994) [Fig. 1.1.6] agency is symmetrically balanced between identical human-machine interfaces at remote locations. Such works may be interpreted as interrogating the hierarchical organization of occidental systems

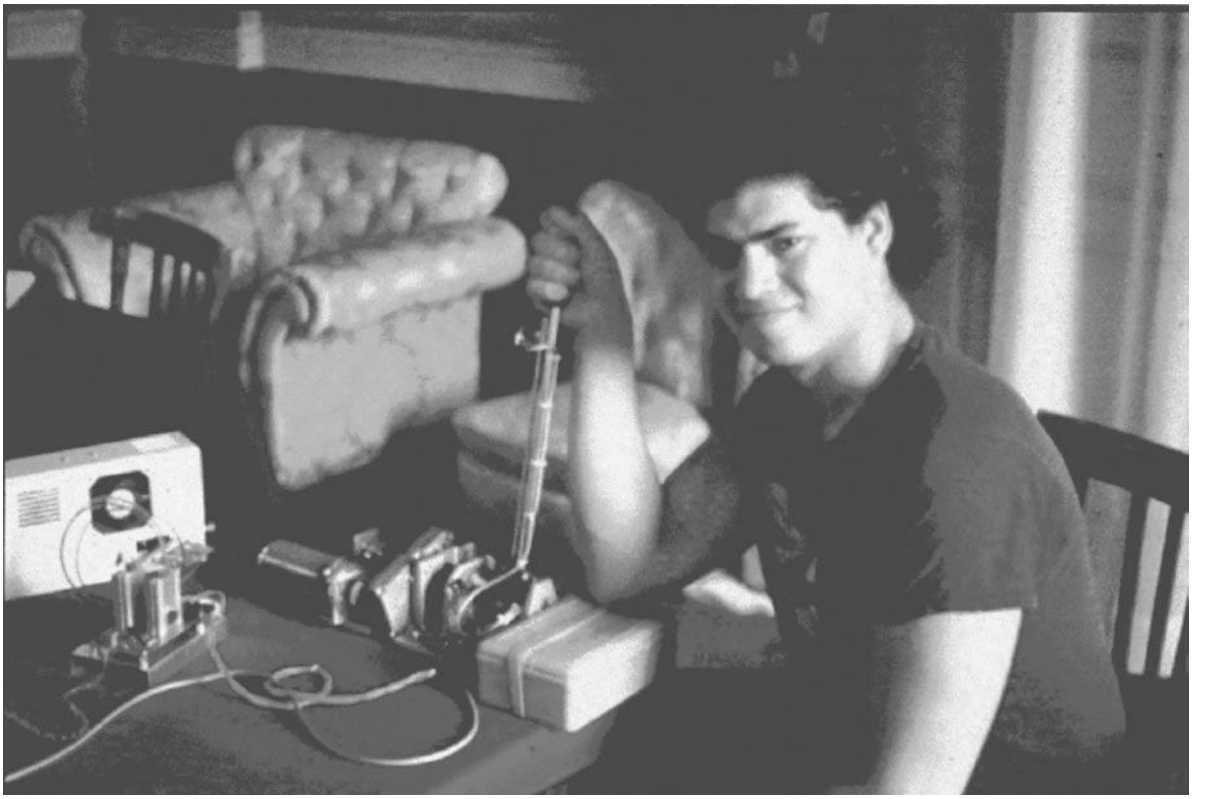

Figure 1.1.5. "Telephonic Arm Wrestling," Norman White and Doug Back, 1986. Technician Ian McGuigan at Salerno Opera House. Dual remote installations with telephone line, force-feedback devices, electronics.

Figure 1.1.6. "Telematic Moment," Paul Sermon, 1994. Dual remote installations with ISDN, video camera, video monitor, furniture.

of knowledge (and their embodiment in master-slave relationships from colonialism to fascism) and opening up alternative spaces for co-mutual interaction between equal partners. These philosophical issues and artistic examples demonstrate diverse forms of agency and the various ways that technology can both usurp and amplify them.

More recently, Marie Sester's "Access" (Sester 2004), a public art installation, uses Web, computer, sound, and lighting technology to spotlight individuals in public places without their consent or ability to escape the robotic spotlight being controlled by Web

Figure 1.1.7. "Access," Marie Sester, 2001-2003/2005. Co-production: Marie Sester and ZKM (Center for Art and Media, Karlsruhe, Germany) 2005 with support from Eyebeam, and Creative Capital Foundation. "Access" lets web users track anonymous individuals in public places by pursuing them with a robotic spotlight and acoustic beam system. It explores the ambiguities among surveillance, control, visibility, and celebrity.

users. The interaction in this work was both controlled and voluntary, as some people attempted to evade the light while others basked in the public attention it brought them. In a related kind of action that did not involve interactivity, Michelle Teran's (2003) ongoing series of performances "Life: A User's Manual" (2003-present), the artist walks through urban areas and hacks into surveillance cameras to map and make visible the proliferation of the invisible, private, wireless closed-circuit television (CCTV) streams that monitor the public's movements. Such works bring into play the pervasive impact effect of surveillance technology and increasing loss of privacy after 9/11.

In addition, Maurice Benayoun's and Jean-Baptiste Barrière's "So. So. So (Somebody, Somewhere, Some time)" (2002) [Fig 1.1.8] is an interactive media installation that tracks retinal movement to create a palimpsest of memory, again, from which a viewer cannot escape. Looking through binoculars fitted with VR screens, the viewer/voyeur

Figure 1.1.8. "So-So-So (Somebody, Somewhere, Some Time)," Maurice Benayoun, 2002. Interactive installation, Internet, VR binoculars, video projection, musical Composer, Jan-Baptiste Barriere.

searches for and hones in on a focal point. The darting of his or her eyes is recorded to what the artist calls the collective retinal memory, which registers and projects to the outside audience a visual map of the viewer's interest, thus transforming the viewer into the viewed.

If expanded forms of interactive agency are to be desired and claimed for multimedia, the following questions might be useful: How do the goals and works of contemporary artists compare with various historical efforts to produce interactive aesthetic contexts? In what ways does their use of interactive media: a) challenge or change the creative process and the ways in which artistic meaning is constructed and received? b) enable alternative or expanded roles for the viewer as a producer of meaning? c) enhance individual and collective agency as a vehicle for social change? How are the intentions of the artist and the participant related to the events that result from encounters with interactive art? Do participants have the freedom to influence real-world events or assume interconnected responsibility? Lastly, how meaningful is the act of making meaning in the context of multimedia? Such questions challenge the presumption that interactive multimedia necessarily promote agency. They demand that users reconsider the utopian instrumentality of augmenting social efficacy through technology. And they seek responsible, interdependent action amongst individuals, collectives, and their technological, cultural, political systems.

Empathy and collective interaction

"All arts can be considered interactive," Itsuo Sakane has noted, "if we consider viewing and interpreting a work of art as a kind of participation" (Sakane 1989: 3; Rokeby 1995: 134). In short, viewers of conventional artworks are not simply passive recipients of encoded messages, but active interpreters, who construct meaning through engagement with symbolic form and the materiality of its concretion. In digital art, participation in the processes of creative interaction becomes central to the content of a work, and to see one's volition materialized arguably heightens viewer involvement. The nexus where the tropes of movement and engagement meet is key to charting the intellectual history of audience involvement in art. From cave paintings to chrono-photography, virtual reality installation, and genetic art, artists have sought to represent and connect art to life through representations and presentations of movement. Movement—both virtual and real—was used by artists throughout the twentieth century to activate viewer perception and to include "the spectator in the center of the picture" (see Boccioni et al. 1910: 290). With live action and the appearance of the artist in, and as, the work of art in the 1950s, life routinely entered the frame of art. The very presentation of lived experience is itself a manifestation of corporeal engagement in the socio-political cultural sphere. At mid-century, interactive works in both technological and non-

technological media linked theories of empathy to movement in life and the motility of interpersonal relationships. Henri Bergson's influential concept of durée (duration) is significant here, for the ways in which he suggested the blurring of subject and object in the fluid, temporal continuity of consciousness (Bergson 1911; Antliff 1993). In 1902 Theodor Lipps claimed that a viewer might "imaginatively project himself [sic] into the object" in his concept of *Einfühlung* (empathy in the sense of "feeling-in"); and Wilhelm Worringer (1953) brought these notions into widespread discussion in "Abstraction and Empathy" (Barnes et al. 1997; Lipps 1902). The unity of concepts regarding empathic projection and aesthetic research in movement culminated when artists introduced the body in interaction with the viewer.[11] This conjunction augmented a structural change in art: it increased interrelation through metonymic extension, drew the physiological processes underlying visual perception into the terrain of interactive contingency, and altered the communicative means of art from a dependence on metaphor to one of virtual and actual connection.[12] This history of motion, empathy, and performance has shown that interactivity is not simply a question of media or technology but involves art audiences in the most critical conditions of political life: inter-subjective engagement and interpersonal responsibility.

Such changes in art bring us back to Hansen's "Hall Street Happening" (1963), which challenged the limits of interactivity by dissolving the boundaries between art and life so effectively as to imperil a participant. "Hall Street Happening" unleashed the anarchy of unmediated levels of the real, enabling an apparently indistinguishable interaction, and illuminating the extreme poles of agency in art. In this regard, drama theorist Geoff Pywell theorized that, "the closer to actuality the artwork approaches, and the more it behaves like the real thing, the greater is the strain on [the] mimetic contract" (Pywell 1994: 27). Not surprisingly, when Hansen's ill-fated event raised the stakes of physical interaction and personal liability to a dangerous level, the artist wanted to flee the scene. In addition to signaling the boundaries of interactivity, Hanson's happening also exposed the circumscribed codes of conduct that govern art, codes that disable empathic, responsible interactions by dictating that art must remain at an autonomous aesthetic distance. "Hall Street Happening" dissolved the boundaries between art and life in a perverse way: viewers and participants were involved in an interactive work but in so doing rescinded their agency—their humanity—to the etiquette of art. In short, indeterminate interactivity vacated agency, and with it, responsibility. Participants and viewers alike could not mobilize action, let alone empathy for and interaction with the screaming dancer, because they did not realize that her accident was not part of the happening itself. Hansen's "Hall Street Happening" is, thus, simultaneously an ideal model of interactivity (in its total synthesis of art and viewer), and a counter-model of interactivity (in its failure to activate agency at the deeper levels of meaningfulness that structure interaction). As a moral to the story of "Hall Street Happening," we suggest that agency that sets empathy in motion toward responsible interaction and constructive change is meaningful.

The meaningfulness of interpersonal engagement and the psychological stakes of interaction must be extended. Once this territory is accessed, the moral, political, and affective considerations of human activity come into question—and that is meaningful. As we noted earlier, despite exaggerated claims to the contrary, authorial power and agency in digital multimedia remain largely entrenched in the purview of artists, while viewers, as D'Agostino so astutely noted in 1978, get to select how they like their eggs cooked. Such kinds of interactivity remain tied to a paradigm of Enlightenment individualism, and are distinctly apolitical. This is especially true in the context of capitalism, in which commerce and the culture/theory industries readily co-opt artistic products. At the other end of the spectrum from capitalist individualism, communist socialism has proved equally hegemonic, as the history of the former Soviet Union so clearly demonstrated.

Between these poles, meaningful collective exchange remains a model for art to pursue. Philopsher Andrew Feenberg has noted:

> In reality subjects and means are dialectically intertwined: the carpenter and the hammer appear accidentally related only so long as one does not consider carpentry as a vocation shaping the carpenter through a relation to the tools of the trade…In such cases, the agent is its means of action viewed from another angle; they are not accidentally related. (Feenberg 1991: 65–66)

Andrew Feenberg further observed that "technology is not neutral but fundamentally biased toward a particular hegemony, [and] all action undertaken within its framework tends to reproduce that hegemony," within both "authoritarian socialism and reformist capitalism" (Feenberg 1991). Because individuals and society are not autonomous, but are interdependent, he concluded that, "a coherent conception of radical change must identify contradictions and potentialities traversing both society and its individual members in ways specific to each" (Feenberg 1991). In other words, social transformations that challenge the status quo can occur only when interconnectivity is honored and when the complicity of technology in hegemony is acknowledged and reformed.

Fluid electronic networks can enable exchange and revitalize collectivist strategies in ways that may alter entrenched structures of power and capital by waging critical philosophical and aesthetic offensives coordinated by interconnected, interdependent participants.[13] Such a potential has already been exhibited in the vitality of Internet interaction on a range of social and political issues, demonstrating how the meaningfulness of interactivity is inseparably tied to the ability of agents to change a work, the audience, and larger cultural and social milieus. In 1985, Ernesto Laclau and Chantal Mouffe imagined "a radical democratic politics" of shifting vortexes of shared power and diversified discourses (Laclau & Mouffee 1985). Fifteen years later, Michael Hardt and Antonio Negri

identified political interchange in different but related terms: "Today the militant…must rediscover what has always been its proper form: not representational but constituent activity" (Hardt & Negri 2000: 413). Constituent activity implies the acts of empathy, responsibility, and interdependency demanded by contingency. To expect anything less from interactivity is to be missing in action.

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Endnotes

1. This essay was first completed in 2000 in an entirely different circumstance for the authors. In addition, much has changed since that date in art and art-historical publications on the topic of interactivity. For example, John T. Caldwell's essay "Second-Shift: Media Aesthetics, Programming, Interactivity, and User Flows" (2003: 127-144) contains views similar to those we explore in our essay but updated in the language of "digitextuality." More recently, a phenomenological method for interpreting the bodily experience of digital multimedia interfaces, particularly VR, has been proposed by Mark B. N. Hansen in *Bodies in Code: Interfaces with Digital Media* (2006), though its implications for an ethics of agency remain to be explored. While we individually hold varying views on the subject today and were able to update this essay only in very limited ways, we nonetheless believe that aspects of it remain pertinent to current discourses.

2. For further discussion of the commercialization of interactivity see, Söke Dinkla, "The History of the Interface in Interactive Art," http://www.uiah.fi/bookshop/isea_proc/nextgen/08.html.

3. Simon Penny has also acknowledged "the vast untapped knowledge base for the development of interactive media [that] exists in the corpus of Happening-Environment-Installation-Performance-Fluxus artwork of the last thirty (sic) years" (Penny 1995: 53). Actually, the history of live art dates from the early 1950s. While there is a large body of art-historical writings on such work, this research and writ-

ing has been widely ignored in Art History. A good example of early multimedia interactivity is Myron Krueger's "Metaplay" (1970), which used a computer data pad that enabled images to be sketched and combined in real-time with a video image. Krueger aimed to engage the viewer/participant directly in a work of art, a goal that came out of the nexus of research between Happenings and technology in the late 1960s. A participator in the "Metaplay" environment could observe the composite image of his/her own movements together with the artist's responsive drawings, and respond in turn. See Krueger's *Artificial Reality II* (1991: 18-24). In subsequent works by Krueger, such as "Psychic Space" (1971) and "Videoplace" (1975), computers created and altered virtual environments in response to participator behavior, producing what the artist—in the mid-1970s—termed "artificial reality." Numerous artists have transferred their interest in participatory concepts of art, to multimedia installations, among them Jeffrey Shaw, Peter Weibel, Lynn Hershman, Jill Scott, and Bill Seaman.

4. Digital art also can be seen as a technological cousin of various large-scale social and political projects such as Mierle Laderman Ukeles' "Maintenance" performances with New York City sanitary workers (1968 to the present), Tim Rollins' work with Kids of Survival (K.O.S.) beginning in 1982, Suzanne Lacy's interactive public projects for the last thirty years, including her most recent "Code 33" (1999), which brought thousands of people in Oakland, California, into the inner city to listen in to one hundred Oakland police officers and one hundred inner city youth talk to each other about in an interactive public workshop; and *Collectif d'art sociologique*, founded in 1974 by Hervé Fischer, Fred Forest, and Jean-Paul Thénot, a group organized for the purpose of augmenting interactive social contexts and public intervention in and alteration of the media.

5. See also, Jean Baudrillard's discussion of how media produce ideology in his "Requiem for the Media" (1972).

6. Produced by Fred Barzyk for the Boston public television station WBGH (Davis 1973: 90). The other artists commissioned to contribute to the show were Nam June Paik, Otto Piene, James Seawright, Thomas Tadlock, Stan Vanderbeek, and Aldo Tambellini.

7. Since his "Handing (The Austrian Tapes)," 1972, Douglas Davis has created numerous critical works dealing with the subject of interaction and the media.

8. The terrain of interaction has been widely mined by a variety of artists, but it has received much criticism by artists experimenting with technological media. Ca-

nonical in this regard is Bertolt Brecht's manifesto "The Radio as an Apparatus of Communication" (1932), which denounced the conventional unidirectionality of radio transmission (from one point to many points) and advocated a multipath model of radio communication (from many points to many points), whereby listeners became broadcasters. Such ideas have been central to diverse conceptualizations of interactive art from video and television to computer networking and multimedia (Brecht 1987: 53-4).

9. The segment "This Is Your Final Warning!" does not permit the user to leave before reading the entire piece. It punishes premature attempts to depart with a special supplement, "Devil in a Dead Man's Underwear." Only crashing the computer can stop this unbearably banal poem (accompanied by voice and annoying sound effects).
10. For a different view by art historians who have theorized the period as apolitical and "indifferent" see Moira Roth (1977: 46-53); and Francis Frascina (1999).

11. Kinetic Art and Nouvelle Tendence collectives (Groupe Recherche d'Art Visuel (GRAV) in Paris, ZERO in Germany, Gruppo T and Gruppo N in Italy, and many others), researched, practiced, and theorized audience participation in visual art. Nicolas Schöffer's "CYSP I," 1956, for example, was programmed to respond electronically to its environment, and to involve the viewer as a key component, influencing how the work behaved over time. The best, most comprehensive overviews of the history of kinetic and participatory art remain Frank Popper's *Origins and Development of Kinetic Art* (1968) and *Art – Action and Participation* (1975).

12. For a discussion of the operations of metonymy in the interconnection of subjects, see Stiles, "Synopsis of the Destruction in Art Symposium (DIAS) and Its Theoretical Significance" (1987: 22-31); and, more recently, Stiles' "Performance" (2003: 75).

13. The best example of such networks is the powerful resistance to World Trade and G8 globalization conferences. The current cultural desire for such a social, aesthetic, and political interchange accounts for why the Situationist International (SI) strategy of détournement remains so compelling. The theory of *détournement* suggests the "integration of present or past artistic production into a superior construction of a milieu...détournement within the old cultural spheres is a method of propaganda, a method which testifies to the wearing out and loss of importance of those spheres (Situationist International 1958, reprinted in Stiles and Selz 1996: 702).

Collaborative Systems: Redefining Public Art

Sharon Daniel

Prologue: on authorship and publics

This essay is both a reflection on the politics of authorship and something like a manifesto on the social function of art. The subtitle, "redefining public art," references a process and a personal narrative. But this is not merely an exercise in anecdotal self-reflection. Rather, to articulate a theory of practice of context provision, I trace an autobiographical trajectory across a map of historical influences and plot a line that links my praxis to a constellation of social theories.

When I was first asked to write for a collection titled *Context Providers*, my practice involved developing systems for collaborative and collective authoring online.[1] I thought of the Internet as a public space and saw my work as "public art." But I was troubled by the delimitation of who and what could be considered "Public" in this context. Every definition of "Public" I have found includes the phrase "the people." It is a curious contradiction that in modern European languages, the phrase "the people" always also connotes the poor, the underprivileged, and the excluded. The same phrase simultaneously identifies the citizen or political subject (big "P" people) as well as the class that is excluded from politics—the marginalized and technologically disenfranchised (Agamben 2000). At this time I had started to wonder how, or if, public art practice could effectively exploit information technologies to create a more inclusive public sphere—one that would engage both the People and the people. The complex struggle over civil liberties and social rights in electronically mediated information space is materially different from the one on the street. There is another public outside.

When I began work on this essay, I lived in a part of east Oakland that could accurately be described as a post-industrial wasteland. My neighborhood was also home to the

homeless—a nonspace, a marginal, semiautonomous zone in the midst of the urban mainstream. There was an HIV prevention program down the street that ran an open-access needle exchange three nights a week. For a few years, I volunteered at the exchange. I believed in the efficacy of needle exchange, and I wanted to know the people who came to swap needles. Most of them lived on the street, had no official identification—either because they had a criminal record or no fixed address—and therefore had no access to basic civic rights or social services. Their absence in the dataspace of the Public sphere had serious implications for them in the physical world. They were in a sense invisible—a kind of secret public.

I got to know one of the women—I'll call her A____. She was sharp and funny when she was not depressed or violent. I learned a lot from A____ about the third world inside the first. I learned that the realities of poverty, racism, social isolation, past trauma, sexual abuse, and sex-based discrimination can make a person, even an extraordinarily intelligent person, vulnerable to addiction and psychosis. I learned a lot from A_____ about desperation and about resilience.

The needle exchange was the last frayed layer of the social safety net for someone like A____. Needle exchange programs are part of a larger therapeutic strategy called "harm reduction," which employs a kind of practical ethics: de-escalating moral conflict, recognizing the value and dignity of all individuals, facilitating communication, and providing information so each person involved in a given circumstance can see the other's point of view. To me, this seemed like a good model for the way a work of art might identify and engage its public.

Art as Social Function

In 2001, not long after I first met A_____, I saw Atelier Van Lieshout's (2001) "A-Portable" at the Venice Biennale. [Fig. 1.2.1 and 1.2.2] "A-Portable" is a shipping container repurposed as a floating abortion clinic. It was designed to allow women from countries where abortion is illegal to terminate their pregnancies in international waters just outside national jurisdiction.

The text, which accompanied the exhibition, proposed a radical reconsideration of the social function of art.

> To understand the work one must move from ontology, (what is art?) to pragmatism (what can art do?). Herein lies a possible revival of avant-garde politics—no longer historically "ahead", nor operating through shock and estrangement, but rather producing works that make things possible *right now*…(italics mine; Allen 2001)

Figure 1.2.1. Atelier Van Lieshout's "A-Portable" installation at Venice Biennale 2000.

Figure 1.2.2. Atelier Van Lieshout's "A-Portable" interior view.

Right now is a schizophrenic moment. According to Fredric Jameson, who often describes culture in terms of pathology, "The postmodern, or late capitalism, has at least brought the epistemological benefit of revealing the ultimate structure of the commodity to be that of addiction itself (or, if you prefer, it has produced the very concept of addiction in all its metaphysical richness)" (Jameson 2004). The world is in a dissociative state. In the first world, we enjoy unparalleled wealth, which allows us to take pleasure in consuming an embarrassing array of goods and entertainments and to rely on technological innovation and scientific advances for communication, safety, and health. The first world is permeated by another, a "third world," not identified in terms of nation–states but rather as a state-of-being characterized by oppression, political disenfranchisement, disorder, and social disintegration on an unprecedented scale. Poverty is crime. Difference is terror. What can art do right now?

Right now, the figure of the citizen is eclipsed by that of the consumer—the most powerful minority in a world population dominated by other figures—the refugee, the homeless, the prisoner, the HIV positive, the addict, the squatter, the internally displaced, the racial other. For this majority, life is what Giorgio Agamben has called "bare life"—without power, without political agency, without political subjectivity. In Agamben's analysis, the state can only assert its power and affirm itself by separating "naked life" or biological life from its social and political agency—reducing the subject to a biological entity, a bare life preserved only as an expression of sovereign power. Bare life is an ontological matter that requires a pragmatic answer, For Agamben, "intellectuality and thought"—which I see as equivalent or necessary to self-representation and self-articulation—are forces that can reunite bare life to its "form"—its particularity, identity, subjectivity, political agency, and power of choice. What can art do to encourage and facilitate the intellectuality and thought of "other" political subjects? "Intellectuality and thought" are means of ethical resistance. Ethical resistance does not come from power but from lack of power and, "…is perhaps paradoxically the most powerful form that resistance can take" (Hoy 2005: 15–16).

Art is a privileged discourse linked historically to political aggression and personal arrogance. Artists concerned with the social and political function of art practice, those who "…wish to ethically engage the complexity of social life…" (Strathern 1999) need to *do something different*. As Van Lieshout's (2001) "A-Portable" shows, ethical engagement means both recognizing and realizing other subjects. This may require artists to rethink their own subject positions, revise their methodologies and aesthetics, and redefine public art practice. In contrast to the "shock and estrangement" that constituted the project of the aesthetic avant-garde, the project of ethical resistance both requires and produces an acceptance of each individual's particular, subjective perspective.

Ethics and the avant-garde project

According to Slavoj Žižek, ethics depends upon the recognition of the symbolic universe of the other. This understanding of the ethical can inform the sociopolitical (the relation between the *public* and the *Public*) as well as the psychoanalytic (relations between individuals). In his essay "Formal Democracy and its Discontents," Žižek (1991: 156) develops a Lacanian definition of an "ethics of fantasy" adding to Jacques Lacan's maxim, "do not cede your desire," his own "intersubjective supplement".

> Avoid as much as possible any violation of the fantasy space of the other, i.e., respect as much as possible the other's 'particular absolute,' the way he organizes his universe of meaning in a way absolutely particular to him. Such an ethic is neither imaginary (the point is not to love our neighbor as ourselves, insofar as he resembles ourselves, i.e., insofar as we see in him an image of ourselves) nor symbolic (the point is also not to respect the other on account of the dignity bestowed on him by his symbolic identification, by the fact that he belongs to the same symbolic community as ourselves, even if we conceive this community in the widest possible sense and maintain respect for him 'as a human being'). What confers on the other the dignity of a 'person' is not any universal-symbolic feature but precisely what is 'absolutely particular' about him, his fantasy, that part of him that we can be sure we can never share. (Žižek 1991)

Žižek's "intersubjective ethics of fantasy" bears a close resemblance to the "practical ethics" of harm reduction therapy. Each asserts that ethical relations require a recognition of the dignity of the other's world of meaning, not only in adherence to universal human rights and moral law, but in acceptance of the absolute particularity of the symbolic reality that defines the "other" as other. In contrast, the goal of the psychoanalytic process is, in part, to destroy the individual subject's fundamental fantasy, thus allowing her to acquire some distance from the central support of her symbolic reality. Similarly, the project of the avant-garde has been, in part, to disrupt or rupture, through critique, inversion, irony, parody, among others, the expectations or symbolic universe of its audience. But, if one accepts the possibility that the only ethical position one may assume relative to the "other " is to face the "other" with a lack of comprehension and accept this lack of comprehension—accepting the other as other—then one must agree that the avant-garde project is essentially unethical.

In the catalog for "Art for Whom," an exhibition organized by Richard Cork for the Serpentine Gallery in London in 1978, Cork calls the avant-garde impulse "fundamentally irresponsible" (Cork et al. 1978). The "collective statement," a ten-point

position paper written for the catalog by Cork and the artists included in *Art for Whom* (Conrad Atkinson, Peter Dunn and Lorraine Leeson, Islington Schools Environmental Project, Public Art Workshop, and Stephen Willats) insists that the routine modernist continuum of revolt and counter revolt must be replaced by integration in broadly based context. Points three and four of this position paper—also a kind of manifesto—read as follows:

> 3. We refuse to accept that art today must inevitably be regarded as a marginal, mercantile and misunderstood activity, alienated from most members of its potential audience.
>
> 4. We are convinced that art must be transformed into a progressive force for change in the future. Understanding and accepting this premise, artists practicing now should inhabit and understand the context, perspective and social environment of the "other," or audience/participant, and seek to change that social environment for the sake of more human and egalitarian future (Cork et al. 1978).

This collective statement articulates the position that art and its social context should be inextricably linked and that art can function critically and ethically without being oppositional, disruptive, or alienating. According to Cork and the artists included in *Art for Whom*, this requires a commitment to a new model of exchange, communication, collaboration, and mutuality; an understanding that the meaning of "Art" is historically contingent; a recognition that productive and effective works of art are dependent upon relationships between people and not the product of one individual; and a desire among artists to function within the social fabric of the audience/participant's daily life (Cork et al. 1978). Here, Cork has provided a brief outline of what I will call "context dependence," a term coined by one of Cork's artists, Stephen Willats. Context dependence represents a conceptualization of art practice that produces a shift in the role of the artist and in the function of aesthetics—stretching the concept of artistic creation from making content to making context.

Chance Operations

> "The end of the avant-garde is only the end of a particular western tradition."
>
> – Robert Stam[2]

> "…instead of the possibility of repetition, we are faced in life with the unique qualities and characteristics of each occasion…"
>
> – John Cage, *Diary: How to Improve the World (You Will Only Make Matters Worse)*

John Cage was perhaps the first "context provider." He initiated a transition from avant-garde practice to context-dependent practices. When Cork, Willats, et. al. published their position paper for the Serpentine in London in 1978, I was studying opera at the University of Texas in Austin. Several years earlier, under the influence of percussionist friends, I had begun to follow and study the work of John Cage. Opera is, in general, highly deterministic, both in form and content. The works of Cage that captured my attention were generated through chance operations. At the time I was not entirely conscious that the coexistence of these two interests implied a certain contradiction. I realized much later, having abandoned the formal strictures and narrative certainties of the opera for the intellectual freedoms of conceptual art, that Cage's work informed all of my subsequent thinking on contingency, context, and collaboration—as well as my early experiments with interactive installation and my own attempts to use random and chance operations to escape authorial perspective.[3]

Many of Cage's compositions such as "4′ 33″" were open systems in which the audience/participant, or subject, was constructed as interpreter, author, and actant in the system. In "4′ 33″" Cage used chance operations to "compose" a temporal frame, which played off of the formal conventions of the recital performance. David Tudor sat at the piano opening and closing the keyboard in precisely timed "movements" framing a silence that revealed the sounds produced by the astonished audience. The audience experiencing "4′ 33″" had an opportunity to listen to whatever there was to hear (see, e.g., Cage 1990: 25–27). Cage repositioned his audience as author/interpreter. He provided a context for his audience, which required that they listen, hear, make sound, and understand all sound as music. In "4′ 33″" Cage eliminated the distinction between musical and environmental sound, thus achieving a fusion of art and life (Bernstein 2000).

It is clear that there is both a causal and a philosophical connection between Cage and contemporary conceptual, ethical, and dialogic art practices. By sharing the creative process with audience–participants, Cage rejected the Modernist avant-garde's emphasis on the author (the stylistic and the psychoanalytic) in favor of contextual inter-authorship[4] with a specific audience and/or site. This approach corresponds, in part, with what the Marxist literary critic Raymond Williams has called *alternative culture*. In his model of

cultural hegemony, Williams contrasts alternative culture with *oppositional culture* in relation to *dominant culture*. Both alternative and oppositional culture strive for social change, but oppositional culture, which would include the historical, radical avant-garde, relies on tactics of subversion, rupture, and confrontation, whereas alternative cultural strategies offer new models and experiences without violating the symbolic order of dominant culture (Williams 1989: 384)

With "4′ 33″" Cage initiated a body of work that was simultaneously disruptive or oppositional (consistent with the perspective of the radical avant-garde) and alternative in a constructive sense. By identifying "4′ 33″" as a musical composition, and situating its performance in relation to the formal conventions of the recital hall, Cage engaged the radical project of the avant-garde. "4′ 33″" subverted the expectations (or symbolic universe) of the concert audience. Through this transgression Cage deconstructed the notion of the masterwork—questioning the power and control of individuals (author/composer/artist) and institutions in the Modernist era. Alternatively, each movement of "4′ 33″" drew a frame around historically contingent phenomena and random events—collapsing compositional method into an act of contextualization and initiating a context-dependent practice that liberated the work of art from stasis and closure.

Near the end of the 1960s, Cage was increasingly focused on the relation between art and political and social structures. Cage explains in his essay "The Future of Music" (1974) how a work of art might provide a model for constructing an ideal world.

> Less anarchic kinds of music give examples of less anarchic states of society. The masterpieces of Western music exemplify monarchies and dictatorships. Composer and conductor; king and prime minister. By making musical situations, which are analogies to desirable social circumstances, which we do not yet have, we make music suggestive and relevant to the serious questions, which face Mankind. (Cage 1979: 183)

Cage's intent was political. He conceived of his works as alternative epistemologies that might lead to a radical reshaping of political and social structures. Cage's political aims were shared among his students and colleagues, such as Christian Wolff, whose compositional technique involved analysis of the inner politics of the performing ensemble and the construction of games and rule-based systems that yielded works resembling ideal social communities (Bernstein 1999). Wolff described the aesthetic and compositional goal of his work "Changing the System."

> To turn the making of music into a collaborative and transforming activity (performer into composer into listener into composer into performer etc.), the co-operative character of the activity to be the exact source of the music. To stir up, through the production of the music, a sense of the

> political conditions in which we live and how these might be changed, in the direction of democratic socialism. (Logos Foundation , 2003)[5]

By authorizing a trajectory in art practice that privileges the experience of the audience over the intentions of the artist and exploits the work of art as a tool for modeling alternative social systems, Cage made a major break with the project of the avant-garde and Modernism. When framing contexts and modeling social structures displaced composition and expression in Cage's work, there was both a beginning and an end, a "death of the author."

Deaths of the author

> "We know that to restore to writing its future, we must reverse its myth: the birth of the reader must be ransomed by the death of the Author."
>
> – Roland Barthes, "The Death of the Author"

Cage's "4′ 33″" was first performed in 1955. In 1934, more than thirty years before Barthes declared "the death of the author," Walter Benjamin wrote "The Author as Producer." Benjamin challenged the author to resist colonizing, appropriation and (mis) representation, to change the technique of traditional artistic production, to become a revolutionary worker against bourgeois culture, to intervene, like a worker, in the "means of production"(Benjamin 1978) Benjamin urged the author to become an "operating" author. He warned that a correct "tendency" was not enough—that standing "beside the proletariat" as a benefactor or patron was "an impossible place."

In his essay "The Artist as Ethnographer," Hal Foster (1996) returns to these historical and conceptual models as the context for his own argument.

> One of the most important interventions in the relation between artistic authority and cultural politics is "The Author as Producer" …A glance at this text reveals that two oppositions that still plague the reception of art—aesthetic quality versus political relevance, form versus content—were "familiar and unfruitful" as long ago as 1934. Benjamin sought to overcome these oppositions in representation through the third term of production, but neither opposition has disappeared.

Foster recounts the history of the influence of Benjamin's essay on various types of art practice in the 1970s and 1980s but focuses a critical analysis on what he characterizes as "a new paradigm structurally similar to the old 'Author as Producer' model…[which] has emerged in advanced art on the left: the artist as ethnographer" (Foster 1996: 172), a paradigm

which he traces back to the influence of Benjamin's essay. Foster echoes Benjamin's implicit concerns, reshaping them in a contemporary context: that the desire of artists to go out into the community, to engage sites not identified as art spaces, may be primarily a way for the artist to transcend the limits of personal identity or style and appropriate otherness; that the artist may ethnographically plot her own existence in an alternative site to appropriate the community as an identity and absorb it into her own autobiographical exegesis. Or worse, that an artist may un-self-reflexively assume the ability to represent a community from an external and possibly condescending, colonizing, appropriative, or romanticized perspective—as the community may then come to be identified with and through that perspective.[6] The problem of "projection" in Foster's terms is an ethical problem.

> When the other is admired as playful in representation, subversive of gender, and so on, might it be a projection of the anthropologist, artist, critic, or historian? In this case an ideal practice might be projected onto the field of the other, which is then asked to reflect it as if it were not only authentically indigenous but innovatively political. (Foster 1996: 183)

Foster argues that the model of the "artist as ethnographer" exploits anthropology's "privileged tropes" of alterity, cultural contextuality, interdisciplinarity, and self-reflexivity. For Foster it appears that the appropriated discourse of anthropology is favored primarily for its status as a "compromising" discourse that already participates in the two contradictory models dominating contemporary art and criticism; on the one hand, incorporating the linguistic turn that reconfigured the social as symbolic order and advanced the death of the author and, on the other hand, a longing for a referent, context and identity. Foster (1996: 183) complains that

> [w]ith a turn to this split discourse of anthropology, artists and critics can resolve these contradictory models magically: they can take up the guises of cultural semiologist and contextual fieldworker, they can continue and condemn critical theory, they can relativize and recenter the subject, all at the same time.

But this statement may be a "projection" of the type that Foster warns artists against. I prefer to invert his critique and restate it as a proposal, for example:

> Through a critical reevaluation and adaptation of the discourse and methods of ethnography artists may productively explore contradictory models and discover new praxises in the space in-between: they may take up new subject positions (semiologist, field worker, etc.) in order to interrogate modes of representation. As such, they may simultaneously

> continue and condemn critical theory. (*And yes! Why not? Isn't that what theorizing is for? Is it not a continuous re-thinking of the real that keeps us from merely accepting reality as it is?*) They may question the nature of subjectivity and systems of subjectification, by both relativizing and recentering the subject, all at the same time.

Foster is justifiably concerned about the probability of reductive, idealistic representations—about primitivizing, colonizing, or mythologizing, about identity (essentialism) and identification (appropriation) in the work of the artist-as-ethnographer. But he fails to see the potential escape from the collapse of difference through identification or mythologizing essentialism that is already articulated in Benjamin's conclusion that, "what matters therefore is, the exemplary character of production, *which is able first to induce other producers to produce, and second to put an improved apparatus at their disposal*. And this apparatus is better the more consumers it is able to turn into producers--that is, readers or spectators into collaborators…" (italics mine; Benjamin 1978: 233)

Foster's assumption is that the artist-as-ethnographer will engage in observation to produce a representation and that any representation so produced will become a projection of the artist's own perspective and assumptions. Certainly this is a likely outcome of many authorial approaches. However, Benjamin does not propose a new approach to representation but the construction of a new apparatus that provides a context for self-representation. He asserts that the author should operate as a context provider, avoiding representation, not speaking for others, but providing them with the means to speak for themselves.

Spectators into collaborators

> "If at the end of the twentieth century one were inventing a method of enquiry by which to grasp the complexity of social life, one might wish to invent something like the social anthropologist's ethnographic practice."
>
> – Marilyn Strathern, *Property, Substance & Effect: Anthropological Essays on Persons and Things*

British artist Stephen Willats' practice of "behavioral art" in the 1970s appropriated methods from social anthropology and ethnographic practice without colonizing, mythologizing, or essentializing. behavioral art shifted responsibility for the production, analysis, synthesis, and representation of content from the "artist/ethnographer" to the "participant/interlocutor." By framing a context (directing the participants to consider a specific set of issues) and devising a process to facilitate self-analysis and self-

representation, Willats avoided the pitfalls Foster ascribes to the artist-as-ethnographer and realized the "apparatus" described by Benjamin.

Willats is the author of *Art and Social Function*, which was originally published in 1976. It had long been out of print and was apparently much sought after when it was reissued, with a new preface by the author, in 2000. I had never heard of Willats or behavioral art until I discovered a used copy of the 2000 edition of the book at a shop in Berkeley (this was only a few months after I began working with injection drug users at the needle exchange, distributing disposable cameras and cheap audio tape recorders to allow them to participate in a project of self-representation online). The book was printed in an unusual format—only 4 1/8″ by 5 3/4″ and about 3/4″ thick; its odd shape (like a little handbook or field guide) and its title caught my eye.

In the preface, which I read while standing in the bookstore, Willats (2000: 14) explained that, for him, art has a social function when

> the artist directly uses the audience's world of references…Instead of presenting a preferred view, i.e. presuming that the artist's views will be seen as meaningful by his/her audience, the artist embraces the concept of pluralism and accepts the relativity of the audience's perception and the context-dependency of this work. The artist directs the audience's attention towards a given view, and provides the means to examine it in a particular way, but does not prescribe specific meaning that should be brought to bear on it. Instead the audience experiences the work and searches for a new meaning from within the realm of what is already meaningful to them.

When I read this I was struck by how closely Willats' approach to the relation between artist and audience resembled Žižek's "intersubjective ethics" (and the "practical ethics" of harm reduction therapy). And as I read more, I realized that his practice provided an excellent example of Williams' notion of alternative culture—a frame of particular significance to my work in this moment of my reading.

The book includes detailed descriptions and illustrations of Willats' "West London Social Resource Project," "Edinburgh Social Model Construction Project," and the "Meta Filter." The chapters on the West London project described a complex, process-intensive, community-based, participatory ethnography framed both as "social resource"[7] and a work of art. It was clear from the illustrations of completed workbook pages and public "register boards" that the West London project was designed to facilitate interpretive and authorial experiences for participants, who were given an opportunity to analyze and question codes of behavior and meaning within their own social environment. Willats solicited participation from door to door for what could be called a "neighborhood specific" work. He developed workbooks, questionnaires, and other materials that addressed the

social and physical "coding structures" (Willats 1979) present in the neighborhood. The framework provided for analysis was non-normative and authorized rethinking these codes. Participants were invited from four social groups from West London who initially saw each other as geographically, economically, and socially dissimilar. The project was structured to facilitate interaction between these groups. [Fig. 1.2.3]

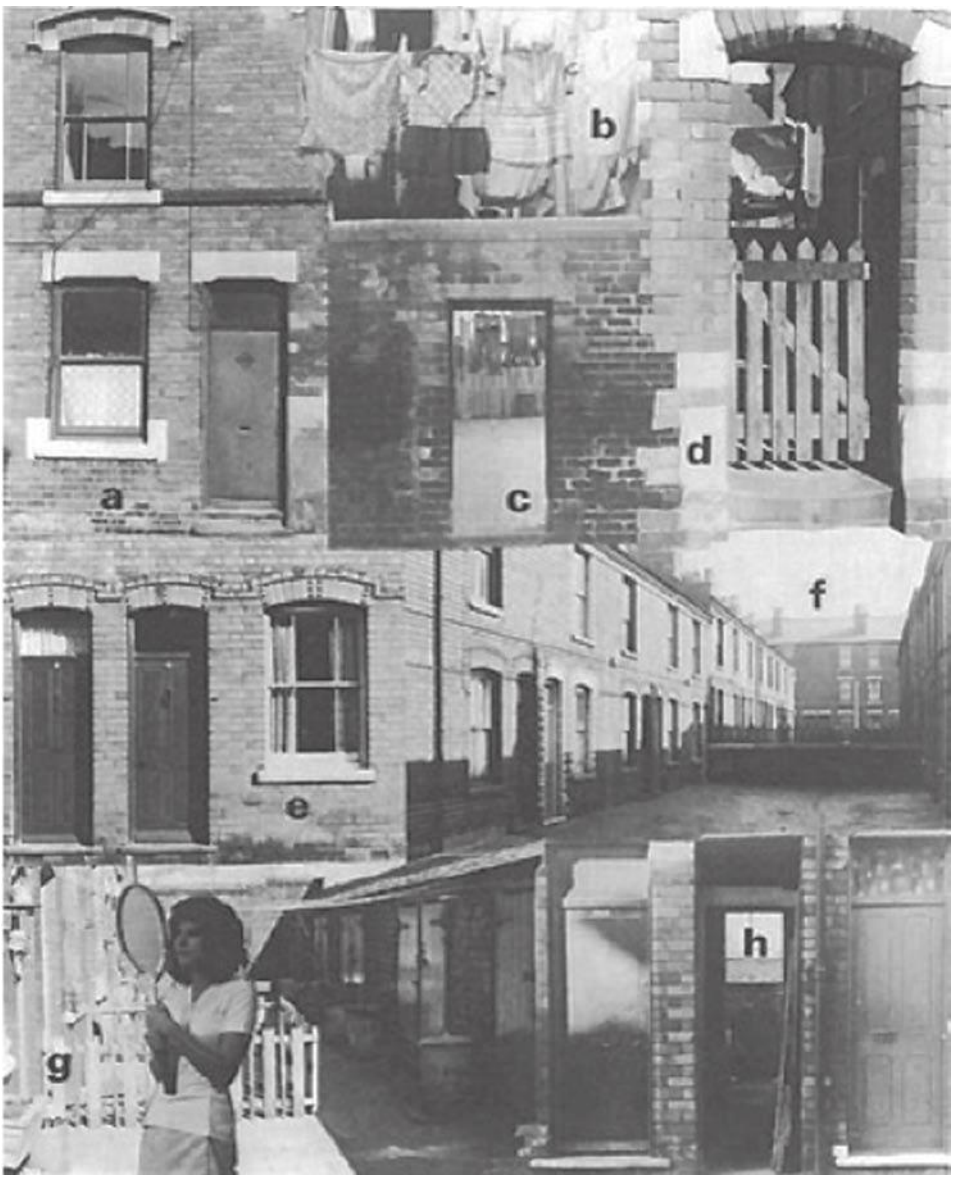


Figure 1.2.3. Steven Willats, Poster for "West London Social Resource Project."

First, workbooks were distributed and participants were asked to examine their environment by following a series of daily exercises to identify common perceptions, attitudes, and behaviors. Then participants were asked to describe how their physical environment met their needs and draw or diagram any alterations and changes they would like to make. Participants were questioned about their own homes and gardens and then about their neighborhood and the West London area around their neighborhood—

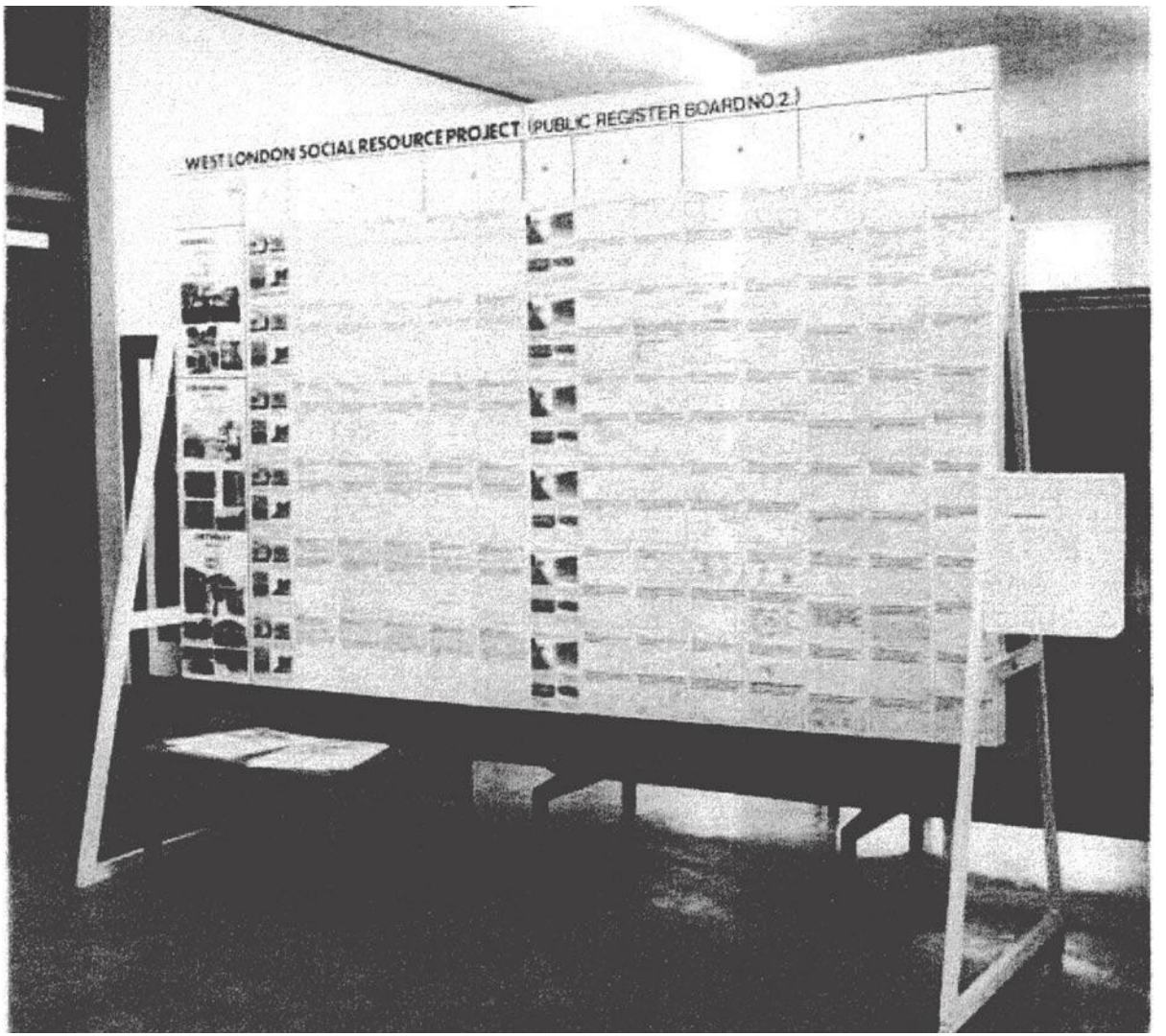


Figure 1.2.4. Stephen Willats, "West London Social Resource Project" Register Board.

including associations they might have to images of the neighborhood and area. This process was carefully structured so that each participant had time to thoughtfully examine the community's social and physical environment and develop his or her own analytical perspective. Participation was cultivated through visits to participants' homes. The workbook pages that showed the results of this process were displayed on public register boards in local libraries. The public exposure of underlying neighborhood relationships through the register board, displays, and polls increased the participants' understanding of social groups outside their own and created new opportunities for communication and community action. "While no systematic investigation was made into the effect of the project on the participants, they did carry out the intended re-modeling procedures" (Willats 2000: 49). [Fig. 1.2.4]

Art and Social Function (Willats 2000) is 240 pages long. One hundred pages at the center of the book are devoted to illustrations of the West London project—scaled-down pictures of completed workbook pages and photographs of the public register boards. The workbook pages reveal the handwritten descriptions, idiosyncratic drawings, and thoughtful diagrams produced by the participants. Seen as often illegible, tiny scrawls and figures in the pages of the little book, these traces of a dialogic and very personalized analytic process function as both evidence and anecdote.

An anecdote is, "the literary form or genre that uniquely refers to the real" (Fineman 1991: 67 quoted in Gallop 2002). The anecdote, however literary, is always knotted to the real. In its particularity, it "interrupts what is too fixed, too abstract, too eternal and a-historical" (Gallop 2002).[8] The number and specificity of the workbook pages reproduced in the book renders an excess of the personal. *Art and Social Function* both documents and contributes to a project of making knowledge that opens to the real. With "West London," Willats rejected the notion of a dominant or universal symbolic and focused on the personal and particular. In so doing he adopted the ethical position, described by Žižek—that is, assuming a distance from his own symbolic order and accepting the symbolic order of the "other." He demonstrated this ethic; first, by privileging the everyday—understanding that through personal stories of everyday life, with which we either intentionally or inadvertently articulate our individual symbolic order, we establish the possibility for an ethical social space—and second, by respecting the ability of the participant community to resolve the questions framed by the project from within their own symbolic order—what Willats would call their organization of a world of meaning. [Fig. 1.2.5]

When I first picked up *Art and Social Function*, I was struck by a seeming contradiction between the social-scientific attitude (method and tone) and the highly personal quality of the drawings and writing on the reproduced workbook pages. The language Willats used to describe each phase of the project was formal and theoretical, but the illustrations produced, for me, a sense of the personal—a living image of the door-to-door visits, the workbook sessions in the homes, the details of their interiors, the social interaction at the library. There was something so intimate about the drawing of the mantelpiece, the curve and wobble of the handwritten answer to "describe your ideal existence." I later

WITH PHOTOGRAPH D DESCRIBE WHAT KIND OF PHANTASY PROJECTION YOU ASSOCIATE THIS FEATURE WITH.....
..HIGHER ROOMS, WEAL ENTRANCE). Family
BEARDS. SHADOWS.....

DESCRIBE WHAT FUNCTION THE OBJECTS THAT MAKE UP E HAVE. THEY HIGHLIGHT WHAT THEY APPEAR TO BE. THEY TO MADE IN THE FRONT VIEW OF ANOTHER SMALL HOUSE.....

DESCRIBE WHAT SOCIAL ROLE Y HAS.....
IS HAS MONEY OR IS RATE PAYER.....

DESCRIPTION SHEET NO 2

WHAT SOCIAL FUNCTION DOES A HAVE.....
PROVIDES SOME STIMULATION FOR
WHITE MIDDLE.....

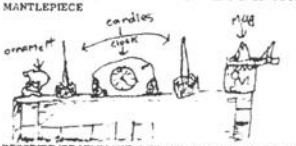
DESCRIBE WHAT B MEANS IN YOUR NEIGHBOURHOOD.....
THE IMPORTANCE OF THE CENTRE LOC.....

DESCRIBE WHAT FUNCTION YOU THINK A FRONT GATE HAS
BARRIERS, WINDOW VISITORS, DOGS, FITS
HOUSES, ADDRESS, OF ENTERING, VIEWS, PRUNING
ETC.....
WHAT SOCIAL DISPLAY FUNCTION DOES D HAVE.....
PRIVACY. APPEARANCE OF THE PLACE.....

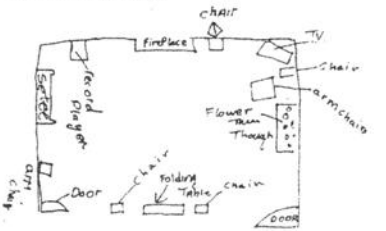
DESCRIBE THE ROLE E HAS IN AFFECTING THE SOCIAL BEHAVIOUR OF WEST LONDON.....
MEANTS.....

THE DAY SHEETS ARE MEANT TO BE USED AFTER YOU HAVE FILLED IN THE FIRST PART OF THE BOOK. THERE BEING SEVEN SHEETS, ONE FOR EACH DAY OF THE WEEK, PLEASE FILL THEM IN CONSECUTIVELY. IF THERE IS NOT ENOUGH ROOM ON THE FRONT OF THE PAGE PLEASE USE THE BACK.

SUNDAY SHEET 1
DESCRIBE/DRAW/MAKE A PLAN OF WHAT IS ON YOUR MANTLEPIECE



DESCRIBE/DRAW/MAKE A PLAN OF THE ROOMS IN YOUR HOUSE YOU USE TO EAT IN



SHEET ONE
DESCRIBE WHAT ASSOCIATIONS YOU HAVE WITH A, B, C, AND D, BELOW.

An place to meet people for a drink and a chat. Usually full of old men drinking Guinness

Co cheap institution where Retiring Centre is full of old men & women in dark suits

Bo cramped badly designed ugly High-Rise Windows no over-adventurous Front Entrance

Although painted shutters does not convey an Image of Affluence

MONDAY SHEET 2
DESCRIBE/DRAW/MAKE A PLAN OF WHAT YOU SEE FROM YOUR FRONT ROOM WINDOW

BLOCK OF TWO STOREY FLATS
SIMILAR TO MY OWN BLOCK

DESCRIBE/DRAW/MAKE A MAP OF YOUR BACK GARDEN

Figure 1.2.5. Stephen Willats, "West London Social Resource Project," workbook pages.

saw how, as an object and a text, the book joined the theoretical to the real—like a pocket guide to understanding everyday life.

What I know about Willats' work I know only from this little book. I have never seen or experienced any of the work, and though I have read some of Willats' other writings, mostly manifesto-like statements and explorations of systems thinking (which, of course, I appreciate), my relation to his work is really a relation to this book. Until I discovered it on the shelf in the used-book store, I did not realize that I had actually

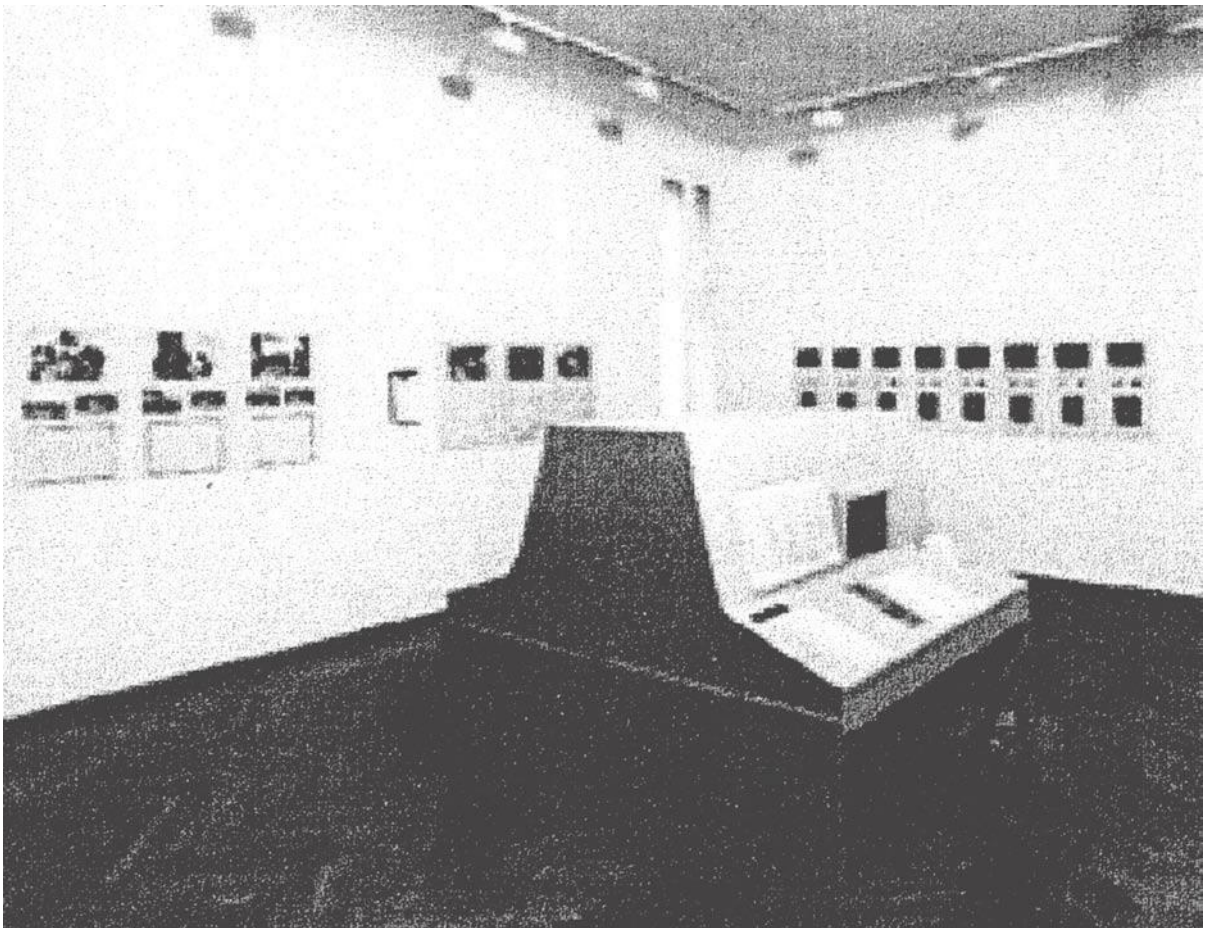


Figure 1.2.6. Stephen Willats, "Meta Filter."

been looking for a historical model—something beyond Cage's "silence"—to authorize and inform my own dialogic approach at the needle exchange. When I saw the pictures of the "Meta Filter"[9] at the end of the book, like stills from an old science fiction film, I knew I had also discovered a useful exemplar of thinking at the intersection of context dependency and information technology. [Fig. 1.2.6]

Willats had been developing what he referred to as his "machine works" since the early 1960s. The "Meta Filter" generated an interactive process, a kind of analytic word game that two "operators," or participants, used as a tool for cooperative analysis (Willats 2000: 212). It seemed obvious that, even in the 1960s and 1970s, Willats' behavioral art process could translate easily into interactive computer interfaces in which the machine might stand in for the artist/ethnographer and shift relations with interlocutor/participants. This translation would necessarily produce both new possibilities and new potential problems. The "Meta Filter" was designed to engage two individuals who may or may not know each other into a joint analysis of the codes governing interpersonal behavior. "A formal interactive structure is established which operating partners use as a neutral tool for externalizing what is mutual in their perceptions of interpersonal behavior… it is intended that it will increase the operators' awareness of such structures as basic elements within any human organization…" (Willats 2000: 212).

> "Meta Filter" is an artwork, which is context dependent and in this respect it is similar to "The West London Social Resource Project" but "Meta Filter" depends on its context in a quite different way. Instead of referring to the participant/operator's world, the machine and its interface are "neutral" and the work is "loaded" by the reference worlds that participants bring to it. (Willats 2000: 215)

Willats explains his problematic claim regarding the neutrality of the system by detailing a process of participatory design during which the responses of two test groups "representing two different outlooks" (Willats 2000: 213) were recorded and incorporated into the design of the system.

Willats' machine works were informed by his study of cybernetics and information theory, and the language he uses to describe them is grounded there; however, with its focus on social codes and dialogic processes, the "Meta Filter" also represents an early attempt to exploit information technology for social inclusion. Willats' theory of the "social function" of art emerges out of an ethos that I share—one that engages both the practical ethics employed in harm reduction therapy and the subjectivism promoted by the "feminist" approach to research method and software design. Although Willats says nothing about feminism (or harm reduction) in *Art and Social Function*, I can actually imagine him in conversation and in accordance with feminists on the ethics of authorship, the politics of collaboration, and the relation of subjects and systems.

Authorship/authority/audience

What characterizes a "feminist approach?" A rejection of the desirability or even the possibility of value-free research; an emphasis on collaboration; an attempt to showcase a multiplicity of viewpoints and perspectives; and to encourage others to find their "voice," in the metaphoric sense of "voice" used to "denote the public expression of a particular perspective on self and social life—the effort to represent one's own experience, rather than accepting the representations of more powerful others" (Cassell 1998).

In her essay "Storytelling as a Nexus of Change in the Relationship between Gender and Technology: A Feminist Approach to Software Design," Justine Cassell (1998) suggests that the principals of feminist research practice offer a solution to the problem of power in the complex relations between author/authority and audience. In feminist software design authority is distributed to collaborating participants by allowing most of the design and construction to be carried out by the participants rather than the designer. The role of author, and in some cases the role of system designer, is given to the participant. Subjective and experiential knowledge is valued in the context of computer use, which is encouraged for many different kinds of users in many different contexts. The feminist software designer's goal is to give the "user" a tool to express something about the truth of her existence—to tell her story.

Anecdotes and stories are distinct from narrative in that they describe, rather than prescribe, real-lived experience. Storytelling facilitates the construction of self and the exploration of social roles. It allows individual subjects to inform others about their beliefs and experiences and to redefine and negotiate the "norms" that govern their participation in communities of practice—including that of art practice and software design.

Much like Willats, Cassell proposes that software designers (and artists), "focus on the subjective, experiential, everyday lived experiences of individuals, emphasize collaboration, and attempt to promote the distribution of authority" (Cassell 1998). The principles of feminist software design provide an ethical framework in which to pursue the exploitation and development of information technologies as environments for self-representation. However, whereas the increasing flexibility of digital technology may make a more balanced relation between artist/designer and participant possible, this is not always achieved. "Real collaboration is often undermined by the authority of the artist, who retains control of the technology. The apparent autonomy given to a participating spectator is often a false front, simply a product of digital technology's ability to offer more varied, but still strictly controlled routes through a closed set of prescribed material" (Kelly 1997). The transparency of *input to output*, the accessibility of control parameters and the balance of open-to-closed data/information structures are limitations imposed by a system that either establishes or undermines the collaborative role of the audience and, thus, express the artist's authority. When addressing the distribution of

authority in software and systems design, there is an important distinction to be made between "interactivity" and "collaboration."

Interactor, participant, and collaborator are fundamentally different subject positions. Interactive systems address their subjects as users. Mapping is the kernel of intersubjective communication in system and interface design. "Interactive" systems often, either intentionally or thoughtlessly, obscure the "mapping" of input to system output. For example, many contemporary computer-based works rely on sensing technologies that "average" input, like gesture or population density within a space. Such systems appropriate the body of the viewer, typically called the user, to drive the system. This user is reduced to mass or velocity, or trajectory within a prescribed sensing field—often with no opportunity to know how her presence has affected her environment and no means with which to learn the system to produce results based on her own, as opposed to the artist's, intentions. This sort of interactive system uses the user.

Two philosophies of mapping are common in technology-based art practice. These could be described in musical or textual terms as phrase based and note (or, letter or word based). Phrase-based mapping is assumed to "reward" the user under all conditions. This philosophy is based on the premise that the system should respond with aesthetically pleasing output (as defined by the artist/designer), regardless of the level of understanding or virtuosity the user develops in relation to the system interface. Phrase-based systems privilege the author of the system as artist/composer and merely allow the user to trigger or reorganize already aesthetically viable and vetted content. Note, letter- or word-based systems allow the user to become a participant—to develop her own content based on her own intentions within the limitations prescribed by the system and its interfaces. This approach expresses a higher level of respect for the subjective perspective of the participant and, to varying degrees, refigures authorial interrelations. Some systems are designed to be "learnable" to varying degrees. Learnable systems allow the participant to develop an understanding of the structure and content of the system (how it maps input to output) and use it to express her own intentions within the limitations prescribed by the system. When note-, letter-, or word-based systems are designed to "learn" from the interaction of participants, the agency of the participant is increased. But when participants are allowed to contribute data to a system, it becomes a *collaborative system*.

Politics of collaboration

The Vietnam War Memorial has been transformed from a monument into a collaborative system interface. Because it was not originally intended to be a site for public contribution, but emerged as such, spontaneously and seemingly out of necessity, it represents a specifically political formulation and application of the concept of collaborative systems in the public sphere.

Traditionally, public architecture, memorials, and monuments articulate narratives of power in an attempt to produce histories and foster historical consciousness. This particular memorial embodies the recognition of a cultural impossibility—the impossibility of a return to traditional representation from a single point of view in contemporary public art and politics.

The contested place of the Vietnam War in the political imagination meant that dead and returning soldiers were not understood as heroes in the universal sense of past wars. In the first five years after the war ended, more than fifty-eight thousand Vietnam veterans committed suicide. The number of veterans that took their own lives was greater than the number killed in combat. By 1980 thirty thousand Vietnam veterans were in American prisons (Hass 1998).[10] Returning Vietnam War veterans were seen as emblems of a bad war and the malaise of the nation. There was then and is now no consensus either culturally or politically about this war—and there was no possibility of finding a coherent and singular perspective from which to represent it.

The power of Maya Lin's design for the Vietnam War Memorial (VWM) lies in the presence of the names of the dead. Lin said that for her the shape of the monument "is not a "V" but a circle to be completed by the thoughts and feelings that visitors bring to it" (Lin 2000). However, she did not predict that visitors would complete this circle through acts of contribution. Lin's design alone was unable to resolve public memory of the Vietnam War. Instead, it inspired hundreds of thousands to bring their own memorials to the Wall. Day after day, the Wall provides a monumental frame around small gestures, narratives written in the first person, individually authored memorials to lives lost in large-scale social, political, and cultural crises. Through these contributions, individuals have taken responsibility for representing their own grief and annexed a space for dialogue, self-representation, and self-narration across the boundaries of class, race, and politics.

The transformation of the VWM from monument to interface has established a new paradigm for a form of memorial that is multivocal, where no single perspective is assumed and thus a unified image, a monolithic presence, is inappropriate; where a space is made—a "silence" created (in Cage's sense)—for the community to represent and interpret loss on their own terms.

In comparison, the individual works that directly referenced 9/11 in Paul Virilio's exhibition on accident and catastrophe, "Unknown Quantity"[11]—even Wolfgang Staehle's 24-hour webcam broadcast of the panorama of lower Manhattan—somehow collapse into banality and fail to represent the effect of the event. The reproduction of the skyscraper, the quintessential monument to global capital, in the plans to rebuild the World Trade Center site is indicative of how traditional art and architecture are, by definition and by nature, incapable of resisting the force of power and oppression. This inability is inextricably linked to traditions of authorship and monumentalism. In the face of catastrophic global upheaval, poverty, and terror, there is a crisis of representation that renders these traditions both obsolete and objectionable.

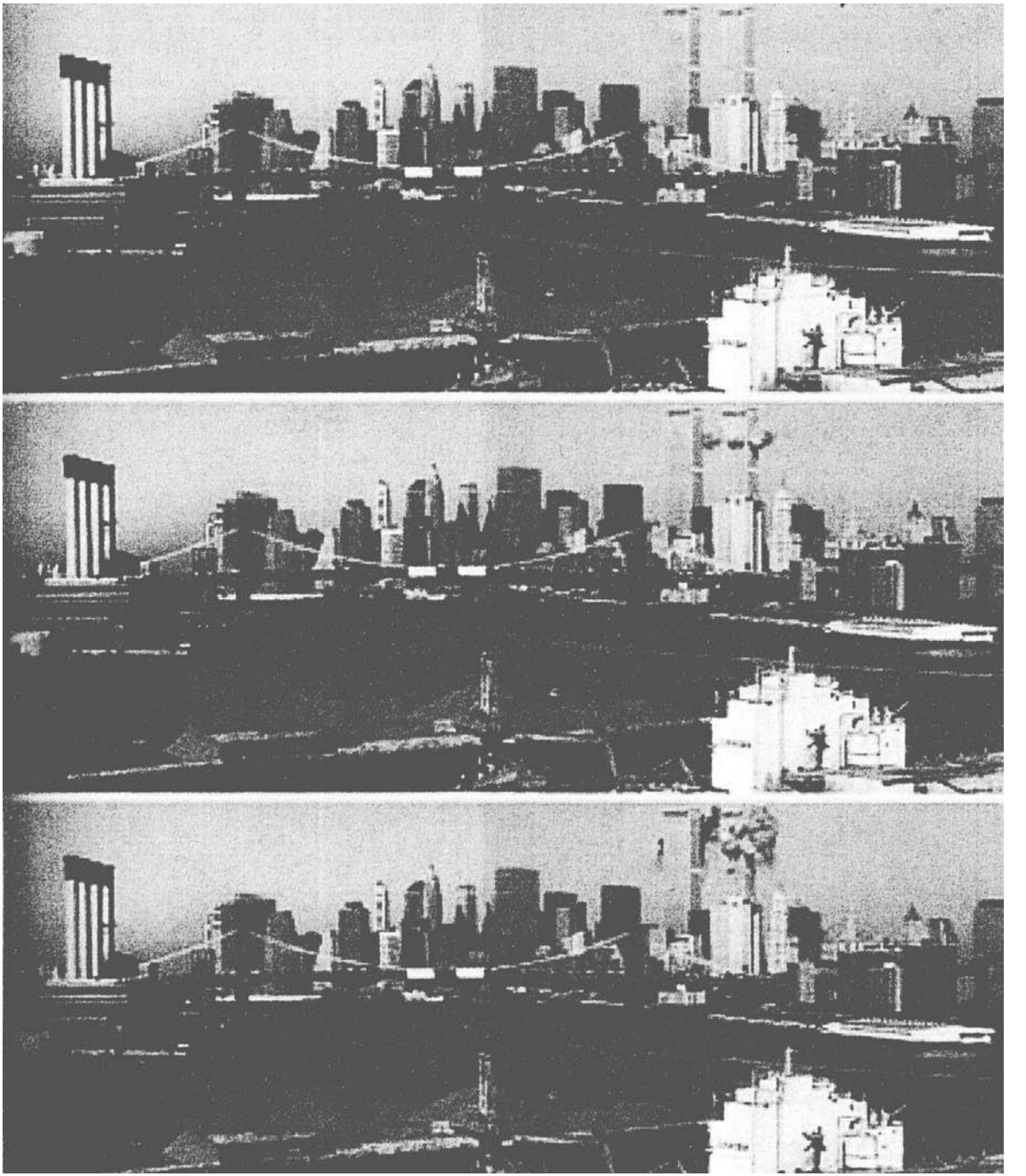


Figure 1.2.7. Wolfgang Staehle, "Untitled, 9/11," 2001, live video projection.

Earlier I stated that artists who wish to ethically engage need to "do something different." Right now, in this schizophrenic cultural moment of global inequality, it is politically imperative that the socioeconomic–political other engage in collective self-representation. I believe that this can be facilitated in the context of collaborative systems, either spontaneous or intentionally framed as a works of public art. Thus far I have attempted to bring together Cage's "silence," Willats' ethnographic systems, Cassell's feminist subjectivism, and my own critique of the ethical shortcomings of interactive interface design to formulate a theory of art practice that has the potential to address the crisis of representation right now. Right now we have the opportunity and the need to do something different—to link public art practice and information technology facilitate social inclusion, to produce a productive mechanism for dialogue, to provide a context for multiple voices to bear witness to their world as a form of critical resistance. [Fig 1.2.7]

There are potentially significant and, for some, rather frightening political implications in the notion of a shift away from the work of art as a closed system of representation and interpretation to one that is emergent, multivocal, and social. In part, this is because the modernist notion of authorship is closely linked to that of subjectivity itself. The subject defined by and identified with authorial perspective is threatened if "audience as viewer" becomes "audience as collaborator." Change in the dynamics of power always produces anxiety for those with power.

Systems and subjects

> "Anxiety over prospect of total systemic change is equivalent to that of loss of self…The fear with which this prospect immediately fills us is then to all intents and purposes the same as the fear of death…"
>
> – Fredric Jameson, "The Politics of Utopia," 2004

Is it possible, if paradoxical, to attempt to develop a theory of subjectivity that "begins with the position of the 'other'?" (Oliver 2001). This presents the prospect of "total change" within the system of subjectification—the process of differentiation between self and other. Feminist philosopher Judith Butler has theorized that oppression and domination are at the heart of the formation of subjectivity itself. Social oppression and dominance are reflections of this. Oppression creates the demand for recognition. The struggle for power or recognition is a result of the pathology of oppression. This is a feedback loop, a complex system of subjectification and othering, for which there is seemingly no "outside"—from which there is seemingly no escape.

The fundamental presupposition of all systems is that the system itself cannot be changed (Jameson 2004). Given this inherent contradiction, the desire for change in

any system—political, social, or psychological—may seem utopian, idealized, and impractical. In his essay "The Politics of Utopia," Fredric Jameson claims, "Utopia is somehow negative. It is most authentic when we cannot imagine it. Its function lies not in helping us to imagine a better future but rather in demonstrating our utter incapacity to imagine such a future . . . to reveal the ideological closure of the system in which we are somehow trapped and confined" (Jameson 2004: 46). Yet Jameson encourages us to construct a political imaginary in resistance to this closure, to take "unimaginable mental liberties" with structures whose modification seems impossible, to make the most radical demand possible of a system, one which "could not be fulfilled or satisfied without transforming the system beyond recognition, and which would at once usher in a society structurally distinct from this one in every conceivable way…" (Jameson 2004: 36), to combine imagining and theorizing to attempt to step outside the system, but simultaneously hold on to the knowledge of what it is, in each moment, to remain inside it?

Willats turned to cybernetics and systems theory for a set of theoretical tools with which to examine human behavior and the coding structures of social systems. Cybernetics also provides a thorough analysis of the dualities of system and self, observer and observed—from self-regulation (homeostasis) through self-organization (autopoiesis) to self-evolution (emergence). Cybernetics offers both productive and destructive ways of thinking about the boundaries of the human subject and the "apparatuses" we use to cross them. By radically rethinking the subject as a system, we can imagine new models and new political formulations that are not entirely circumscribed by the dualities of inside/outside, subjectification/oppression.

Katherine Hayles notes that "of all the implications that first-wave cybernetics conveyed, perhaps none was more disturbing and potentially revolutionary than the idea that the boundaries of the human subject are constructed rather than given" (Hayles 1999). If the subject is constructed and its boundary frame is fluid or flexible, then this boundary crossing poses a threat to the subject of liberal humanism. Discussing this notion in her essay "Liberal Subjectivity Imperiled: Norbert Wiener and Cybernetic Anxiety," Hayles relates the story of Gregory Batesons' famous question to his graduate students, "Is a blind man's cane part of the man?"

> The question aimed to spark a mind-shift. Most of his students thought that human boundaries are naturally defined by epidermal surfaces. Seen from the cybernetic perspective coalescing into awareness during and after World War II, however cybernetic systems are constituted by flows of information. In this viewpoint, cane and man join in a single system, for the cane funnels to the man essential information about his environment… (Hayles 1999: 84)

Here Hayles and Bateson describe the cybernetic collapse of subject, technology, and information into a single perceptual/experiential system. I would like to embrace the cybernetic finding that the boundaries of the human subject are constructed rather than given and to adopt this notion of cybernetic collapse to reimagine the relation between subject and system, inside and outside, self and other. Where the boundaries between individuals, communities, information, and technologies blur, subject relations may become mobile, transient, and recombinant.

Complex systems

One example from systems theory that provides an interesting model for thinking about the relation of subject to system is the cellular automata. Cellular automata are self-evolving or emergent systems that extend in space and unfold in time according to local laws. The automata is a field or frame, usually visualized as a two- or three-dimensional grid of cells or pixels. Each cell or pixel may "behave" independently at each "step" in time based on a table of rules and a given initial condition. The table of rules is a set of definitions for the behavior of each pixel or cell in relation to the state of each neighboring pixel or cell. A global state emerges from the local interactions of discrete entities in an iterative and evolving system. In emergent systems such as cellular automata, subjectivity is socialized. The system itself functions both as an individual subject and a "community" of subjects.

Cellular automata exemplify a collapse of the binary opposition of autonomy and community and embody an oscillating, productive tension between the individual and the social, which suggests the potential of a new subject position, one I will call the "system_subject."[12] For the system_subject, the cybernetic collapse is mobile; it may be reversed, inverted, repeated, and revised. The enlightenment model of the individual "I" is displaced by a contingency that may function as a single entity or a distributed network of entities within a system narrative.

It is difficult to imagine our "selves" in this way

Years ago, just out of graduate school, I worked as a freelance illustrator's freelance illustrator. Much of our work involved creating ink-on-PET filmdrawings of machines in "exploded" view. An exploded view or diagram shows the parts of an object separated and suspended in space as though a small explosion had just occurred at the center of the object. When I try to imagine my "self" in terms of the system_subject, I have to picture an animated "exploding" machine diagram. The elements fly apart, merge into new forms, freeze momentarily, and are redistributed, reorganized, and, perhaps,

renovated before they coalesce again and emerge, now in another form. I try to imagine this simultaneously from the perspective of the machine (system), its operator/animator, and one or any number of individual elements that are repurposed, renovated, reformed in each collapse. In this example, the system, a narrative of dynamic, recombinant, and emergent relations between elements (which stand for individual subjects) is a context (social, political, technological, and informational) in which it is possible to sustain simultaneous, yet diverse, embedded perspectives at multiple levels of scale. The machine, its diagram, its narrative, its elements and their relations, its operations, its operator/animator, the context, and the entire multiple and particular coextensive perspectives, together, comprise what I call here, the system_subject.

System and narrative

System and narrative, community, and individuality are traditionally understood to be antinomies, but in the system_subject, particularities and relations between particulars are the key to constructing and reconstructing community—thus perpetuating the evolution or emergence of the system and its historically contingent narrative.

Acts of imaginative speculation, differentiation, interpretation, and traversal are essentially narrative. Narrative and its biographical contingencies open systems of all types up to historical specificity and context dependence. If an individual consciously contributes her particular, historical narrative to a sociopolitical dialogue, her relation to her community is realized. This relation, allowed to flourish, produces the system_subject. For the system_subject, narrative is absolutely particular. Here there is no cinematic "suture," no stereotype, no loss of awareness or identity, no identification with an ego ideal. The individual subject "does not lose its qualities but may be re-qualified" (Hayles 2000). Specificity remains but the potential for recombination is foregrounded. Biography is reinvented in the emergent system_subject as both individual and communal, narratively, and historically contingent.[13]

To attempt to reimagine the subject—or the world without the binary of subject/object is both impossible and utopian—we cannot literally step outside—yet to make an attempt through this sort of theoretical and speculative appropriation may produce a freer play of the political imagination. As Jameson suggests, taking mental liberties with the construction of subject positions and cultural practices may be the first step toward social change.

Conclusion: context provision as political, public art practice

> "Public and Private are Dimensions of the Political."
>
> – Arthur C. Danto, "The Vietnam Veterans Memorial"

Benjamin saw that it was not the "attitude" of a work of art to the "relations of production of its time" but its "position" within them that determined its social function. In 1965, Willats was actively framing a new social territory for art to operate in. Willats' works provided a context—the means with which a community could engage in self-critical analysis, exchange views, and produce results. By allowing the "audience" to analyze the "coding structures" of their own world of reference, and organize to change them, Willats fulfilled the goals of Brecht's epic theater described by Benjamin as "…alienating the public, in an enduring manner, through thinking, from the conditions in which it lives…" (Benjamin 1978). There is a thread following Brecht's "Alienation… through thinking," to Cage's "silences," and through Agamben's "intellectuality and thought," that ties self-representation to social change. I take hold of this thread. In this passage from "The Author as Producer," also quoted earlier, Benjamin precisely described my artistic vision and my position as a practitioner.

> What matters, therefore, is the exemplary character of production, which is able first to induce other producers to produce, and second to put an improved apparatus at their disposal. And this apparatus is better the more consumers it is able to turn into producers—that is, readers or spectator into collaborators… (Benjamin 1978)

I see myself as a context provider, stretching the concept of artistic creation from making content to making context. My goal is to avoid representation—not to speak for others but to provide them with the means to speak for themselves, to speak and be heard. Context provision is about decentering—making multiple spaces—not telling a truth but truths in the plural. It is about facilitating the kind of critical, utopian imaginaries that force us to see the contextual realities of social oppression and othering—the terrible closure of the system in which we are trapped. Context provision is Benjamin's "apparatus."

My focus is on employing information and communication technologies in the service of social justice and social inclusion. My practice involves the development of collaborative tools and community networks. This has taken basically two forms: I have engaged in software design and development projects (building free media and information technology tools for collective self-representation) and initiated project collaborations with nonprofit organizations that address specific groups of participants in their own social contexts.[14]

Both of these approaches require conversation with a community to establish a context-dependent frame, in which the community consciously engages in a sociopolitical dialogue—internally and externally. Within this frame collaborating participants build databases of texts, sounds, and images from their own world of experience and have access to (or the opportunity to build) the tools they need to structure and interpret their own data themselves.

For me, context provision is a public art practice

Public art has always presented the problem of a colonizing or objectifying approach shadowed by potential failure (Danto 1998). The ethical strategy of context provision is neither objectifying nor colonizing. This approach to public art avoids representation and appropriation, producing a context in which to imagine something "other"—not organized into a representation that appears to be true for any and all contexts.

What is the possibility of real social transformation linked to art practice? "What can art do?" Can access to information technology and the opportunity for self-representation and subjectification in the digital public domain assist those who have no rights in the physical public domain—literally, in the street? How else?

In the historical narrative of social and political systems, local exchanges proliferate as global states—nothing is inevitable. I believe that substantive social and political change *can* be enacted through an ethical, context-dependent, public art practice. I believe that social change can occur through collaborations that make possible new practical and political realities for the individuals and communities they engage, both in the digital public domain and the political public domain. How else will marginalized communities have an opportunity to become the agents of their own political enfranchisement? If ethical resistance is, in fact, the resistance of the powerless, then to take hold of the power of representation, of imaginative speculation, may be the only means the powerless have to make a change in their own reality.

What is the position of the context provider in relation to these "relations of production"? I hope to serve as an "operating author," in Benjamin's terms, "not to report but to struggle; not to play the spectator but to intervene actively."[15] How can I avoid that impossible place, the place of the ideological patron that Benjamin decried? I can refuse to stand outside the context I provide. As a context provider, I am more of an immigrant than an ethnographer, crossing over from the objective to the subjective, from the theoretical to the anecdotal, from authority (artist/ethnographer) to unauthorized alien. In these crossings, I am internally displaced and I recognize the refugee that I am—that we all are. This is not an identification in the standard sense; it is a type of disappearance, or death, or loss of self that is necessary to becoming something else.

At first I hesitated about including my own story here. I have been uncomfortable about producing a kind of self-reflexive, anecdotal essay. But my position is not neutral;

in theory or in practice, that would, indeed, be an impossible place. So I have crossed over into the anecdotal, and in practice both my story and theory are also in the frame. Theorizing and storytelling, together, constitute an intervention and a refusal to accept reality as it is right now. Borders are crossed in this intervention—when, through both speaking and hearing, we become and disappear.

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Endnotes

1. Here I refer to two specific projects titled "Subtract the Sky" and "Narrative Contingencies." These projects are no longer online but descriptions are available online (http://furtheresearch.com/).

2. Quote taken from a public lecture given by Stam at the University of California, Santa Cruz, spring 2001.

3. My work with chance operations was the basis for the video and Web projects titled "Narrative Contingencies." For the video, the script, imagery, and editing were determined through a series of chance operations determined by an algorithmic system I built in the graphical programming environment *Max* (now known as *Max/MSP/Jitter*). The Website based on this video, also titled "Narrative Contingencies," engaged its audience, both by inviting them to contribute personal artifacts and stories and by allowing them to generate random results, constructing a narrative from chance combinations of words, sounds, and images.

4. My thanks to Seaman who, I believe, coined the term "inter-authorship."

5. Wolff was quoted in the program notes for a concert by the Ensemble for Experimental Music of the Ghen Royal Conservatory sponsored by The Logos Foundation http://logosfoundation.org/kursus/Avero-prognotes.html. The program was published online on September 28, 2003. The Logos Foundation is a professional organization for the promotion of new music- and audio-related arts by means of new music production, concerts, performances, composition, technological research.

6. See detailed issues in Variant 3, "Hal Foster Interview," Summer 1997, http://www.variant.org.uk/3texts/Hal_Foster.html

7. Willats defines a social resource as "a behavior routine or physical context that is used by a community to facilitate interactions between its members. The objective of these social interactions can vary though generally it is associated with maintaining the internal structure of a community" (Willats 2000, 231).
   An earlier project "The Social Resource Project for Tennis Clubs" focused the attention of the community on an existing social resource and provided a process for examination of its internal coding structures and their relation to other social structures.

8. The use of personal anecdote in the structure of this essay (and the figure of the "knot") is influenced, in part, by Gallop's book.

9. As described in *Art and Social Function* (Willats 2000), the "Meta Filter" is described as an interactive (learning) machine designed to develop the relationships between individuals, and between individuals and groups through the examination of differing perceptions of interpersonal and group behavior. The work functions on

two levels, "involving both the general perceptions the operators have of group behavior, and more specifically the relationship established between themselves when constructing a joint model of their perceptions." The "Machine Works" allowed Willats to widen the potential field of participant/operators, as the work does not presume a preferred world of reference (like the West London neighborhoods). The system presents both operators with a set of problems concerning how they perceive a symbolically coded group of eight people. This reference group is depicted in a series of "ambiguous" scenes representing "everyday" situations. Each scene is meant to represent one of five kinds of group behavior.

10. I am grateful to Hass for her book, which informs this discussion of the Vietnam War Memorial as a collaborative system.

11. The exhibition was held at the Fondation Cartier pour l'art contemporain in 2002–2003.

12. The concept of "system_subject" is influenced by Hayles's notion of the "posthuman" as "new ways of thinking about what being human means" in Hayles (1999).

13. I would like to note here that this section of the essay has been profoundly influenced by Hayles's work on chaos theory and cybernetics. I rely heavily on her analysis, for which I am extremely grateful.

14. For example, "Need_X_Change," a community access project that engages injection drug users in Oakland, California, in a process of documenting and representing their own experience online using "Public Secrets," an online audio archive of statements made by women incarcerated in the California state prison system, and Palabras, a Web application and set of media tools designed to facilitate collective self-representation and cultural exchange among communities that are technologically disenfranchised.

15. In "The Author as Producer," Benjamin (1978) gives Sergei Tretiakov as an example of an "operating" writer who "provides the most tangible example of the functional interdependency that always, and under all conditions, exists between the correct political tendency and progressive literary technique…Tretiakov distinguishes the operating from the informing writer. His mission is not to report but to struggle; not to play the spectator but to intervene actively…"

Identity Operated In New Mode: Context and Body/Space/Time

Marina Gržinić

The dematerialization of our presence on the Internet (Net) and World Wide Web (WWW) has produced a condition in which identity is no longer attached to a topos, a specific place. As a consequence, there are a variety of transformations that are intrinsically connected to the reconstruction of social identity and different contexts in digital art. The relationship between body and space as well as the digital reconstitution of temporality and space is reconfigured.

In the following essay, I will systematically approach each of these changes, giving a rereading of the transformation of contexts and meaning in digital media and Internet art. The point of departure for this approach relies on a slogan coined by Peter Weibel that is applicable to many actions, contexts, and situations in virtual spaces and digital worlds: "everything, everywhere, everybody." This slogan immediately results in a confusion of contexts, bodies, concepts, and strategies—a type of out-of-joint situation for the subject. It is possible to identify this situation as the loss of traditional concepts of identity. A classical concept of identity was/is grounded in topographical nodes that rely on positive content. National groups are often identified with this type of traditional concept, which could be defined as an ethnocentric program of identity. It is a process that grounds identity in a concrete space, relying on a predetermined context.

Everything, everywhere, everybody implies a fundamentally misleading situation of "fluid identity." I would argue that it is not identity itself that is fluid but rather the variety of different roles we are forced to perform today. Being a woman, video artist, mother, lesbian, among others, at the same time is not a sign of the fluidity of identity but of an accelerated dynamics of roles that we perform and present as our identity, to adjust and position ourselves in time. We have to balance ourselves within different

codes today. Identity stays fixed, so to speak, while the matrix of different codes allows for a constant process of commercializing identity roles. The act of quickly changing roles and performing according to different codes is first and foremost required from and exercised by those who are not in power. Strategically speaking, artists must be flexible to survive in the first place, and this flexibility is particularly effective on the Internet. Flexibility of identity produces a flexibility of contexts and transforms artists and activists not into a new proletariat, subjugated to the digital elite, but into a new precaria, constantly pressured by communication, exchange of information, and isolated digital creativity. Such a context produces an apolitical position. Thus, it is imperative to develop a political intervention in the digital realm.

A Rearticulation of Political Activity through Hackers' and Activists' Internet Art

If the Internet with its WWW is a specific community—where millions of "wired" people are searching for new information, sites, and the fulfillment of desires, or trying to discover possible interfaces, shifts, and paths—one of the questions we have to pose as artists, social activities, and cyborg-political entities is, how can we define the basic elements of this wired condition? How is it possible today to construct new, individual, responsible activism and actions on the Net without a superficial morality and pathos? Or more precisely, what kind of context is produced by political agencies formed through singularities and digital networks? Other related questions include the following: are we servicing the art, the digital mass industry, or the (political) concept?

The Internet—as defined by the implicit ideological understanding of a pure unrestricted communication tool—has seen a lot of censorship actions [the ETOY (http://www.etoy.com) story, e.g., in which the large U.S. e-commerce corporation etoys.com started a juridicial process against the art organization etoy, without the "s," on the basis of the similarity of their names]. These actions raise profound questions, such as, who can communicate, in what form, and with what kind of data circulation? What kind of information can be freely distributed over the WWW today? At times, what counts seems to be specialized legal procedures. The idea of the Internet as a place for voicing and developing public opinion also seems to imply conditions of losing territory, transposing borders, and being in a constant state of flux. "Over-De-Trans-territorialization" are the new passwords. Territory seems subverted. Fluidity equals Internet? Various art projects and activists' groups are telling a different story. From the point of view of activists or (ludicrous) hackers' minds, the Internet is all about (re) location and territorialization: there is a lot of transference of activism from physical spaces into the virtual domains, centering both on real people and fictional/functional stories and narratives. Many of the actions and interventions are connected to questions of censorship, naming, accessibility, and visibility.

In the beginning of 1997, opposition forces and students protested in Belgrade because the party in power (led by Slobodan Milošević) refused to recognize the victory of the opposition forces in the municipal elections of Belgrade. First-hand information about it was initially transmitted via e-mail and then spread through the WWW. Lack of additional analysis and reflection—on the actual events in Belgrade and the participants in the protests—seemed to be enough to lead some of the "inhabitants" of the WWW to proclaim that they were also taking part in the "Serbian revolution," simply because they were obtaining first-hand eyewitness information over the Web. Every day, the Internet and WWW seem to come closer to attaining the position of the prime medium and ideological communication force of the so-called new world order of postdemocracy (Rancière 1994). Postdemocracy could also be described as all is possible, but in fact, nothing is allowed. We face a situation that often seems driven by a strong conservative middle class and blocked by conservative morality and impossibilities: everything is prohibited, although it seems that everything is allowed.

It is a final result of a series of discourses that developed over the last four decades of the previous century, from 1960 to 2000—a cataclysm of discourses of liberation and emancipation that today seem to have come to a dead end.

What is currently happening in the United States in the so-called public, digital space? And what is the "new Europe," as its good servant, implementing? Censorship is often governing digital media, society, and culture. On the one hand, we are looking at an almost industrial production of public opinion (if we think about CNN and other network news) and process of constant commercialization of each and any action in public space through electronic media; on the other hand, we see a vast number of nongovernmental organizations (NGOs), a matrix of institutions that—on the downside—can provide a perfect humanitarian alibi for political, military, and economical solutions provided by the most powerful capitalist states and their doctrines. Every political action can be deleted at the base or be turned into a commercial advertisement. At times, specialized legal procedures seem to be all that counts and can become a way of explaining and developing public opinion. This is what happened during the course of the trial for Milošević in the International Criminal Court against war crimes in The Hague that started in July 2000.

The only possible countercultural actions seem to be the ones that are often performed by marginal figures. They occur on the margins of the system or are immediately pushed into marginality after a visible transgression.

The "hijacking" of sites with restricted access (through an act of copying and mirroring sites and making them freely accessible) by groups of Internet activists, or the WWW activism supporting groups, such as the Zapatista movement, exactly match the idea of political relocation through obsessively processed measures and protocols of actions. Ricardo Dominguez, for example, actively pushed the support of the Zapatista movement on the Internet through his Electronic Disturbance Theater.[1] In one of their

early projects, 0100101110101101.ORG, a duo of net artists/activists from Italy, hijacked the hell.com site, which was not accessible to everybody, by copying and mirroring it and making it publicly accessible via the Internet (http://0100101110101101.ORG/).

It is obvious that the history and current practice of theory, art, and political activism would look very different without the Internet and its servers, e-mail, and digital media in general. In terms of agency and information production and distribution, our future will be different because of these technologies, although not all of us have the possibility to use them. The Internet is being transformed into a vast new territory of capitalization and historicization. The Internet is the new archive.

As such, the Internet—similar to the logic of the archive as developed by Derrida (1995)—brings about new technical, political, and juridical meanings.

It is important to distinguish the archive from the experience of memory and also from the notion of archaeology. The Internet is a dematerialized prosthesis for action and cannot be simply seen as a progress of representation; it has to be perceived as a new logic. Living in and with the server archive is not a question of "seeing"; it is a cerebral act. Having complete "visibility" of the server archive is not enough; most important are the connections between the materials, the intersections and different levels, and most of all, its blind spots. The archive offers possibilities for political interventions through repetition, postproduction, and relocation. One might say that the archive is always connected with what is destined for destruction, because the archive charts intrinsic relations to power structure and expansion of capital. There are two modes of dealing with the archive/Internet and these two modes also correspond to the ways in which Internet users repeat, postproduce, and relocate data. The whole spectrum of power and hierarchic relations embodied and included in the Internet shows something more: that our historical ideas about how we construct the institution of art are vanishing in the face of this new situation. We have to recognize the redistributed relations of power and the new inner agents and forces in the very institution of media and digital art.

The first mode or principle of engaging the Internet, is the one of impression, repression, suppression (Derrida 1995). This is the way of the hacker's understanding of art and of actions on and for the server. Hijacking on the Internet "in the name of the server" (Gržinić 2004) is all about impression, repression, suppression. It is the process of destroying data to disseminate errors [which has been practiced, e.g., by the duo Jodi.org (http://www.jodi.org) from the Netherlands]; or to produce play with or produce "raw materials" that seem to be ready for the desktop garbage can—as net artists Alexei Shulgin (http://pzwart.wdka.hro.nl/mdr/research/ashulgin/) and Olia Lialina (http://art.teleportacia.org/olia.html) from Russia have done.

The second mode or principle of dealing with the network is to store, to accumulate, and to capitalize, which is the basic goal of the archive as well as the activist's understanding of the server. This model also is the reason why the archive is, at the same time, hypermnemic (too many) and hypomnemic (too little), as argued by Derrida (1995). The activists' servers

constantly lack data and/or provide too many facts about our actions. This is an interesting way to think about 0100101110101101.ORG's project "life_sharing" (http://209.32.200.23/gallery9/lifesharing/); commissioned by The Walker Art Center, United States, which made the files and file structure of the artists' server, which would usually remain "hidden," accessible on their Website. [Fig. 2.2.1] The project presented a bizarre shift; it was not a transformation of the dull, drab life of the archive into the ecstasy of Internet art but a radical detour from thousands of exciting possibilities of Web design that led to drab existence in itself, to the impotent situation of life, to the impotence of everyday bureaucracy, and to the exchange of e-mails as captured in the metaphor of the archive. With a gesture that allows us complete access to a private life, 0100101110101101.ORG created a hole in the brain of the machine and a kind of "alien" situation, a derealization of the system of the computer and of the content of so-called everyday life. The project puts together the aseptic, quotidian social reality (life itself) and parallels it with its phantasmic supplement—that is, glossy, designed Internet pages. One possible way of understanding this new situation is to see the effect of derealization as an effect of juxtaposing reality and its phantasmic supplement: to parallel one with the other.

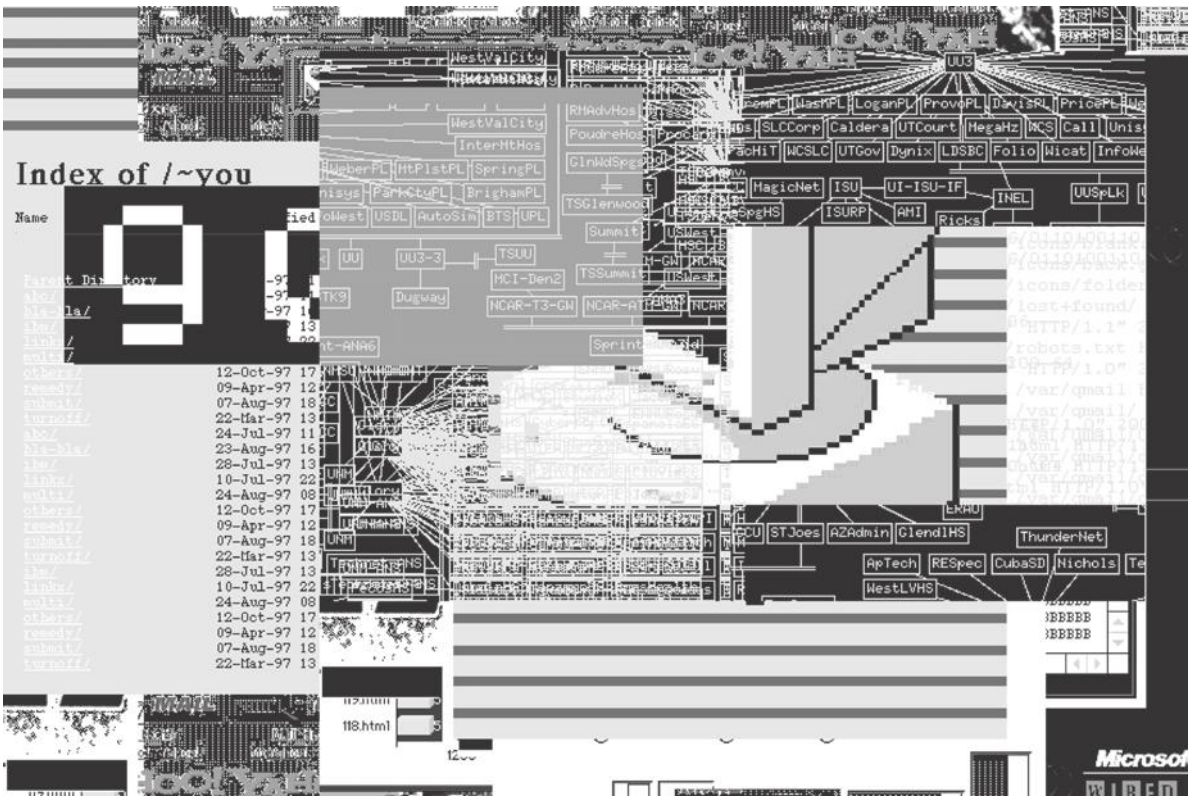

Figure 2.1.1. Eva and Franco Mattes (0100101110101101.ORG), "Life Sharing" (2000 – 2003), Website screenshot. Courtesy Walker Art Center.

There are several projects that, in a very specific way, use this key concept of the derealization and depsychologization of reality and digital art—and subsequently of the depsychologization of context.

A similar strategy was employed by the Russian Ilya Kabakov in one of his projects in 2000. It was the installation "The Happiest Man" (done in collaboration with wife Emilia Kabakov) for the exhibition "L'autre moitié de l'Europe" (The Second Half of Europe) at the Galerie nationale du Jeu de Paume, Paris. In an exhibition space, he displayed a reconstruction of the kind of kitchen that was common among the proletariat in socialist times, when Russia was known as the Soviet Union. Through the window of this reconstructed kitchen, one could watch delirious film sequences from the golden Soviet time—films that were produced to provide visions of a splendid communist future, with smiling faces and people eager to work and to combat. It did not matter that the reality of life itself was an absolute "horror vacuum," that the kitchen was shared by multiple families with insufficient quantities of potatoes for the soup; more important was this phantasmic supplement of life that existed in parallel to the inconsistent and miserable reality. And it was precisely this moment that was shared and presented in the exhibition space: Kabakov juxtaposed the simple Soviet kitchen with its phantasmic counterpart embodied in films and visual ideology.

The derealization and depsychologization of reality and of digital art is something that can be seen—in Weibel's terms—as a shift from author- and object-centered work to observer- and machine-operations-centered work. The issue at stake is not the machine, but the logic of the machine that is transposed in the works, context, and meaning of the digital art domain. Here, we can find a change in the historical definition of context. A new moment that seems crucial here is an artificiality of perception and positioning that is connected to the fictionalization of history on the Internet, and within WWW projects and digital arts. Context was usually perceived as a "natural" site and preserved in a locality with surroundings and continuity; however, through Internet projects and digital artworks that integrate the public as a fundamental element of the work, we can experience and recognize an artificial social construction of the site of art. Context is an extension of art, but an artificial one.

According to Weibel (1993), the modernist project was rooted in the idea of space, in the transfer from one social space to another. For Weibel, this constitutes a first stage. The second stage is the state in which most (post)avant-garde art finds itself today: external operations themselves become the internal structures of the work. And the third stage is the one that most radically determines the comprehension and operation of parameters, such as the city, presentation, and public in culture and art. Weibel calls this stage an observer-/viewer-oriented approach. The audience in art is currently turned from *res nulius*, something that belongs to no one, into *res publica*, a public affair—a circumstance that must be accounted for in every analysis of modern art.

In contrast to the first two stages, which, as Weibel stresses in 1993, demonstrate throughout that it is the social context that constructs the meaning of a work, it is the

observer-/viewer-oriented approach that no longer merely shows but simply incorporates or integrates the social context into the construct of the work itself. Weibel places the postmodern decontrolling of space opposite the so-called Modernist fetish of totality and supervision of artistic output. Context is not a natural fact but a tissue of constant artificiality and construction.

The *life_sharing* project mentioned earlier is an example of an observer-/viewer-oriented approach that no longer shows but simply incorporates or integrates the social context into the construct of the work itself. Life as an immanently artificial and produced entity is the context.

The next step in developing context relations are strategies of absolute fictionalization. Laboratories with no fixed place and structure that produce energy and research: self-sufficient modules that store and research technological data transmitted via satellite, radio waves, among others. Homemade technology using radio transmitters, satellite decoders, and so on to research the production and distribution of information, meaning, errors, and actions. These structures do not construct lasting topographical buildings but digital, dematerialized movements and environments. Most important here is the reinstatement and redefinition of the category of the public/agents/actors. Possible examples of this process are the works of the artist group Knowbotic Research (Germany) and the performances and media/digital art projects completed by the group Dumb Type (Japan) in the 1990s. These projects—for example, "I0_Dencies – questioning urbanity"[2] by Knowbotic Research (KR+cF), presented at Canon's ARTLAB in Tokyo, Japan, in 1997—constitute a restoration of physical contacts and orientations in the environment and stand in direct opposition to any effect of realism in the city; instead, they develop strategies of absolute fictionalization. We move from physically to mentally structured space and then, as on a Möbius strip, find ourselves in the traumatically real, sociopolitical urban space. For the "I0_DENCIES – questioning urbanity" project, Tokyo's Shimbashi area was selected as a model site for reading the specific urban dynamics of part of a city. Knowbotic Research developed a connective online environment that could be experienced and manipulated by participants in segments. The project established a complex, unsurveyable system between individual and urban activities, between dataspace and real space, between urban reality and urban concepts.

Why is the rereading of categories such as public/agents/actors in relation to digital art so important? Because an important change can be identified in the realm of art and mass media, as well as digitally produced art. The mass media art production, the so-called consumer art production, has become a production for the market. It is an industrial production of art connected with digital media technology. The artists are part of this machinery, working as part of a stratified art-market-specialized industry.

This is why a lot of artistic projects residing on the Internet or using digital media and modes of production are presenting themselves as a brand, as art market brand consumer products that are incorporating all the features of the digital art industry. The same can

be said for a theory of digital art productions. Theory also is an industry, produced by established academics and filed, produced, and distributed as such. It can become an industry of established interpretation, codified understanding—sometimes without social responsibility and favoring a list of the most marketable names in theory and philosophy, cultural studies and pseudo science. The kingdom is well structured, and here and there, some new and different writers are allowed to enter it—just to add to the flavor in a kingdom of industrialized indifference. The digital art projects that are playing with ideas of agents and communities as art market products are not necessarily productive and subversive. Although they present their works as corporate organizations (mirroring capitalist structures and playing with actions on the art market), a variety of groups is also incorporating the brand, the world maps of influence, the maps of sharing capital and influence, diagrams that show which big multinational companies are investing in them, and so on. The list of this wide group of supposedly subversive media artists is too big to list them all. But, although they cynically and dramatically use corporate images, corporate names, and visual signs of genuine art market brands, they are already part of the system of the digital art industry.

An example of a different approach, although marginal and obsessive, is a project by theater director Dragan Živadinov (Ljubljana, Slovenia), who, on 15 December 1999—with his Laboratory Research Theater Noordung Cosmokinetic Cabinet Theatre—performed a parabolic art project named "Noordung Biomechanics" in the Russian cosmonaut training aircraft IL - 76MDK in the sky above Moscow (at 6660-m height). The aircraft was operated by the Yuri Gagarin Cosmonaut Training Facility, which is based in Star City, just outside Moscow. The project Noordung Biomechanics by Živadinov is dedicated to Herman Potočnik, Slovenian pioneer of astronautics and rocket engineer. Herman Potočnik was born in 1892 and died in 1929, he used the pseudonym of Hermann Noordung. Becoming an engineer, specialist in rocket mechanics, in 1925 (studying in Vienna) he entirely devoted himself to the problems of rocket science and space technology. Noordung Cosmokinetic Cabinet Theatre performed its "Noordung Biomechanics" at zero gravity, researching the revolutionary changes that take place in the human body in a situation of weightless conditions. [Fig. 2.2.2] Živadinov's "Noordung Biomechanics" analyses contemporary theater and performance phenomena through—in relation to or against—the plethora of new technological and electronic means. The investigation is developed through an intersection of theater, body, mobility, subjectivity, and mechanics in relation to more general social phenomena and their realities and with a focus on contemporary theories surrounding physiological changes of the human skeleton at zero gravity. Živadinov examines the kinetic conceptualizations of new technologies and elaborates on issues of simulation, simulacrum and the cyborg/cybernetics/cybernauts. The contemporary time-and-space paradigm takes on a central role in his biomechanics theatre and so does the problem of the "subject" as an actor and performer in the electronic era. With Živadinov, the actor has become a terminal, final location of numerous networks, placed within a global structure of data webs and in the current world of cybernetic space.

Figure 2.2.2. Dragon Zivadinov, Cosmokinetic Cabinet Noordung Theatre: "Noordung Biomechanics," City Star, Moscow (1999). Image courtesy Dragan Zivadinov.

In his seminal book *Terminal Identity: The Virtual Subject in Postmodern Science Fiction*, Scott Bukatman (1993) defined terminal culture or cyberspace as the era in which the digital has substituted the tactile. He further argues (using Jean Baudrillard's terms) that physical action in terminal situations—and what else is the zero-gravity situation?—is a strategy of communication, combining tactile and tactical simulation (Baudrillard 1983). According to Bukatman, the visual and rhetorical recognition of terminal space therefore prepares the subject for a more direct, bodily engagement. Moreover, cyberspace is grounded in or concentrates on the cybernaut. Timothy Leary reminds us that "the word cybernetic person or cybernaut returns us to the original meaning of 'pilot' and puts the self-reliant person back in the loop" (Leary 1992). The construction of a new cyberspatial subject thus relies upon a narration of perception developed by kinesis (Bukatman 1993), piloting, mobile distancing, traveling, gravitating. This is exactly the kind of recapitulation of the development of subject/actor that is generated by Živadinov's process of physiognomic reconstitution at zero gravity. Similarly to Živadinov, writers such as Jean Baudrillard or William Gibson (1984) also rely on metaphors and actions of human perception based on mobility to constitute electronic space as a paradigm or a matrix that is susceptible to an act of comprehension.

Biomechanics refers to a process that combines life-forms with mechanics; biomechanics is about motion and action of forces on bodies. The word "biomechanics" cannot be found in *Webster's New World Dictionary*, but it is strongly present in Russian traditions, from theater to physiology. What for the developed "West" is connected to technology and transformation—in terms of genetic engineering—is known to the Russians as biomechanics. In fact, it is possible to think about biomechanics as the new artistic genetic engineering. The primary domain of biomechanics is physiology—that is, the science dealing with the functions and vital processes of living organisms and mechanical movements. Biomechanics, as first researched by Leonardo da Vinci (1452–1519), is today widely used in military medicine. Vsevolod Emiljevich Mejerholjd (1874–1942), with his ideas of the revolutionary theater that perceive theater as a mobile space with constructivist elements, introduced biomechanical elements as sites of dramatically performed actions.

Using multiple references to the social, political, and physiological, Živadinov differentiates three stages in biomechanics, with respective technological gadgets, political references, and body parts.

For Živadinov it is possible to distinguish three periods of biomechanics:

1. *Historical biomechanics* (until the beginning of World War II)
2. *Telepresence biomechanics* (which started with World War II, and, I will add, is connected to an increased expansion of research in rocket technology and astronautics)
3. *Cosmic biomechanics* (inaugurated by Živadinov's parabolic art project "Noordung Biomechanics")

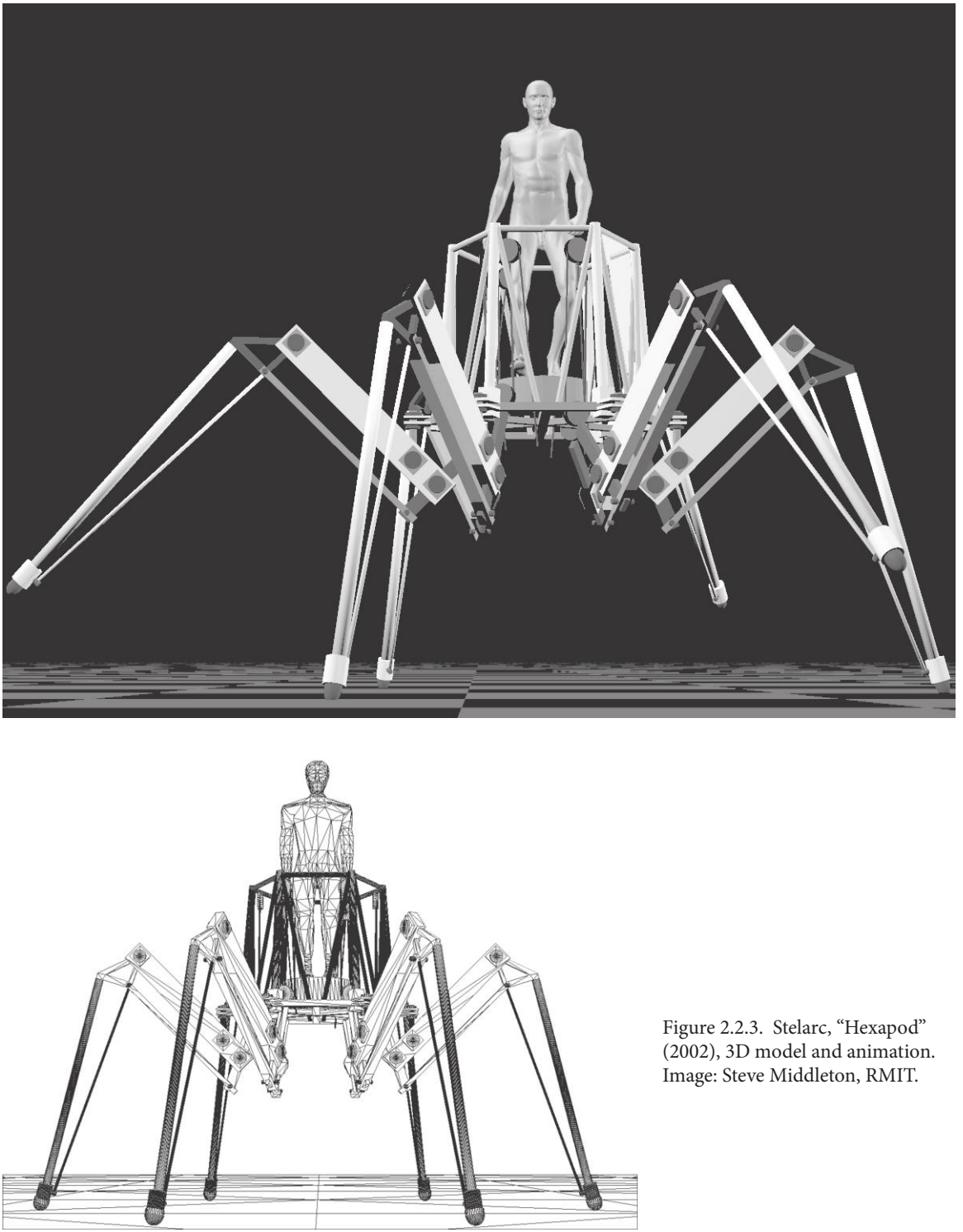

Figure 2.2.3. Stelarc, "Hexapod" (2002), 3D model and animation. Image: Steve Middleton, RMIT.

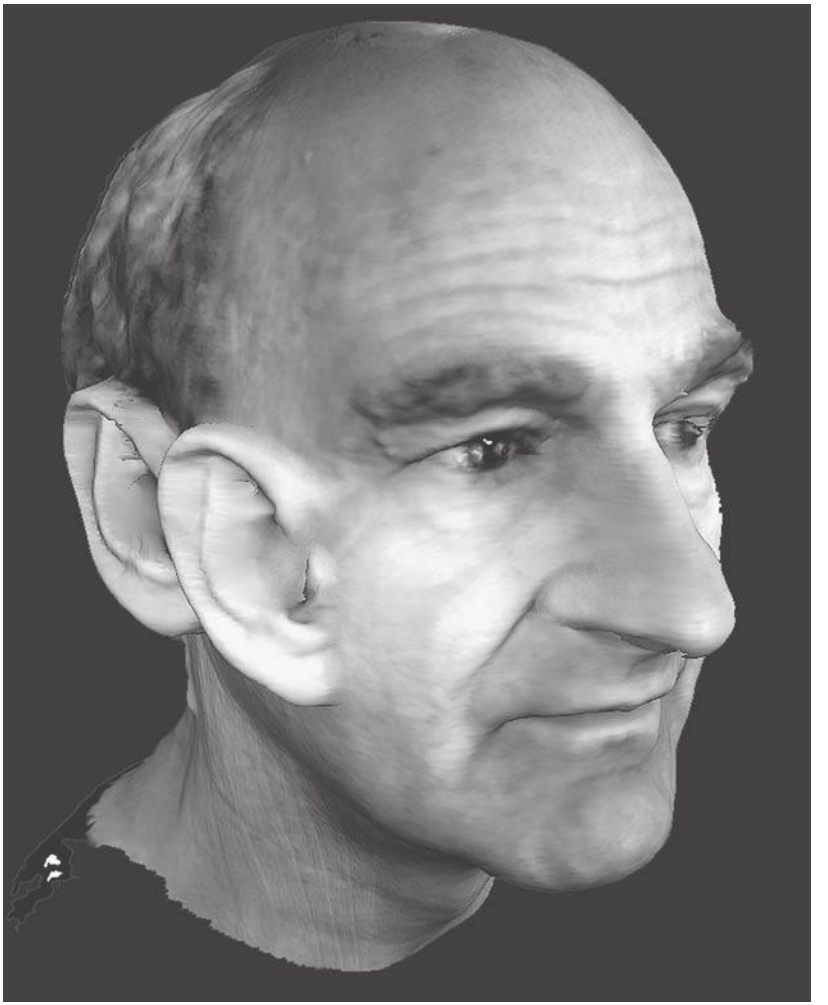

Figure 2.2.4. Stelarc, "Extra Ear" (1997). 3D visualization: Jill Smith and Phil Dench, HEADUS.

Historical biomechanics can be seen as the period of optical technologies; radio is the most important mass medium, and the body of an actor participating in historical biomechanic performances is the body of an acrobat. Radio relates to optical technologies through radio astronomy. Radio astronomy, according to Nick Strobel, has its roots in the 1930s when Karl Jansky accidentally detected radio emission from the center of the Milky Way as part of his research on the interference on transatlantic phone lines. The British advanced radio antenna technology in their development of radar technology to fight German warplanes in World War II. In telepresence biomechanics, television became the central apparatus, and it is not difficult to see the connection to the era of our electronic

technologies and images. The actor changes from an acrobat into an experimental body (possible examples, precisely in the order I put them, are: Cindy Sherman, Dumb Type, Stelarc, Orlan). In the case of Cindy Sherman, the body is a screen, used for all sorts of changes, for the complete masquerading of identity. A Dumb Type actor is not a theater character but a life character: the leading actor of Dumb Type was an AIDS bomb—he himself was the reservoir of the virus; he was the virus and the potential form of illness that is continuously reminding us of the virus potentiality waiting to become a reality. Stelarc is the potential cyborg: in his project "Ping Body,"[3] his muscles are activated over the Internet; in his work "Exoskeleton"[4] and its continuation "Hexapod"[5] [Fig. 2.2.3] he extended his physical body through a walking robot; and his "Extra Ear"[6] [Fig. 2.2.4] proposes a soft prosthesis, constructed out of soft tissue and flexible cartilage rather than hard materials and technologies (Gržinić 2002). Orlan, on the other hand, is a prefinal form of a cyborg, a modern Frankenstein who considers cosmetology much more seriously than cosmology.

The computer, which Živadinov labels "intelligent television," is the path to the third stage. Cosmic biomechanics implies the politics of the digital machine, a path from the talking-head linearity of TV to the 3D form of living at zero space gravity. Noordung Biomechanics Theatre is all about science of motion and action of forces on bodies. The project addresses different bodies in parallel worlds. Physical bodies, sexual bodies, social bodies, digital bodies, and political bodies. Each territory produces a border body. in cosmic biomechanics, the change is from muscle to skeleton. The Russian astronaut Sergei Krikalev, who spent more than a year in cosmos in a zero gravity ambience, clearly demonstrated this: he experienced, according to Živadinov, changes in his bones and skeleton structure. In cosmic biomechanics, the actors are cosmonauts. And as Živadinov argues, at zero gravity biomechanics is not any more a question of psychodynamics but of space vectors. Živadinov therefore talks about Krikalev's vector.

Space—Body

One of the basic theses about digital, artificial worlds is that they allow for the reexamination of some old issues surrounding human and social existence—crucial issues such as who is permitted to redefine the confines of the space as well as the strategies of actions with and within digital media and technologies. It is important to again emphasize the constructed character of the discourse surrounding the Internet, as the space paradigm of the server seems to be never grounded in space, but it is always ex- or nonspace. A nonspace can be understood as here and now, not as a form of utopic space but, above all, as a conceptual matrix that forces digital activists to locate it, to give it the character of a vector. Digital spaces are vectors. Anything that transmits a disease-producing organism is called a vector. Vectors are carriers. Mass, speed, and acceleration

are typical vector dimensions that can be characterized by their orientation, path, and sum. The digital space gains the absolute sum of intensity. The intensity is a process of a (re)location of the server and its art and politics.

The essential point to grasp here is that all of these paradigms or concepts of space in the sphere of the visual are related to a broader context of conceptions of time and space, and the subject positioned within them. For example, the industrial and technological revolution at the turn of the nineteenth century, and the associated industrialization and urbanization of the towns and environment, turned the paradigm of visuospatial experience on its head. In his book about various productions of space, Henry Lefebvre (1991), characterizes the period around 1910 as a watershed in the constitution of the paradigm of space. It was around that time that the space of classical perspective and geometry, which developed from the Renaissance onward in the tradition of Greek Euclidean logic, began to disintegrate. A certain shared space of knowledge and political power, grounded both in the everyday discourse and in abstract thought, was shattered as a result of ever-increasing industrialization. This disappearance of embodied spatiality, of the very concept of space, had far-reaching consequences for the field of representation. Classical models of vision were destroyed together with stable spaces of representation that had previously been formed by various techniques of perspective composition—techniques for deceiving the eye and imitating nature.

It was this change in the production of space and the spatial model—which means an ever greater meditation of space and, at the same time, the loss of direct experience of space, of its sensory apprehension by means of one's own body—that permitted the various technical advances in observing the subject in space or the viewer in the visual sphere. The explosive proliferation of optical, illusionist toys, exhibitions, and settings (the panoramas and dioramas of the eighteenth and nineteenth centuries) was also a kind of surrogate for the reduced role of direct sensation experienced by the individual in contact with space. Some theorists and researchers of different paradigms of space and the subject—for example, Jonathan Crary—argue that this reconfiguration and adaptation of space, which followed in the wake of new forms of industrialization, brought many positive changes for the viewer. Alongside various forms of observation in space, there also developed very special forms of human perception—thanks to kaleidoscopes and magic lanterns—that effaced the duality of body and mind, science and technology.

What happens, for example, to the paradigm of space in the field of moving pictures? Does the projection of moving pictures onto various kinds of screens mean that we are now speaking about "screen arts"? What has happened to the space of the screen in one century? In the case of film, "space" as a montage of attractions is beamed onto a remote white canvas; the screen of electronic images, or the TV receiver, has allowed the space of illusion to enter our living rooms and in the case of virtual reality, it literally glues itself to our eyes. The monitors of the data helmets we must put on to enter the virtual

world have brought space right onto our eyes. These altered paradigms of space are not evident in the human body, but are the form of the body's special inscription in space. This inscription of space (as an artistic gesture) is also a form of compensation for the loss of the direct sensory experience of space.

With the aid of new technologies, viewers may even enter their own bodies. Technology allows them to turn bodies into a site of various spectacles and views by means of prosthetic extensions. In the past, microscopes and telescopes extended human perception away from the body, toward the infinite and infinitesimal; in the 1990s, one's own body has become the object of research: the skin and the face are territories of the most intersubjective space, or the base of the prosthesis.

One implication is that cyberspace, according to Margaret Morse (1994), has the potential to be the most powerful and effective means of surveillance and social control, not merely of the user in cyberspace but of the external material world (yet to be invented). The classical virtual reality situation, Morse (1994: 83) claims, involves the field of view in the virtual world as constantly being reconstituted in real time by a computer from a digital store through devices that track the position of somebody's head and hand. That is, in a virtual world, the space itself is interactive. The virtual environment can appear to be something alive that we cannot acknowledge as subject or persona in the traditional sense. Nevertheless, it constantly demonstrates that it sees us without revealing itself (Kittler 1987).

Then how can we finally define the actual/virtual position of the subject in this virtual context? I have made references to several writers who highlight a specific situation that can be designated as the deprivation of self-identity in virtual reality. This is crucial for understanding the changing position of the self and identity in virtual reality. Integrated into the field of intersubjectivity, she (he) builds her (himself) a new identity. What is at stake in virtual reality is the temporal loss of the subject's symbolic identity. She (he) is forced to assume that she (he) is not what she (he) thought herself (himself) to be, but somebody—something—else.

The virtual environment occurs cinematically, as a kind of reversal of face-to-faceintersubjectivity, relating the subject to her (his) shadowy double, which emerges from behind her (him) as a kind of sublime protuberance (Žižek 1993: 107–108). What we are seeing in virtual reality is the concentration of the field and counter field within the same frame.

What we are faced with here in the relation of the subject with her (his) imaginary body is a paradoxical kind of communication. Not a "direct" communication of the subject with the fellow creature in front of her (him), but a communication with the excrescence behind her (him), mediated by a third gaze—the gaze of the digital/computer machine, as if the counter field were to be mirrored back into the field itself.[7] This confers hypnotic dimensions upon the scene: the subject is enthralled by the gaze that sees what is in herself (himself) more than herself (himself).

What am I in virtual reality? My body is mediated by my imaginary body, which is materialized into a phantom image. One is intertwined with the other, each one reading the other, simulating the living cohabitation of my body and the imaginary. To put it another way, where is the cogito? Where is the place of my self-consciousness, when everything that I actually am is an artifact—not only my body, my eyes, but even my most intimate memories and fantasies? And, as pointed out earlier, when even the context is not any more a natural site but an artificial extension or a point of absolute fictionalization? I can point at everything that I positively am, every enunciated content and say: what is me, is not I; I am only the void that remains, the empty distance that approaches all content. Or, it is only when I assume my replicant status—at the level of the enunciated content—that, at the level of enunciation, I become a truly human subject (Žižek 1993: 41).

"I am a replicant" is the statement of the subject at its purest. If we return to virtual reality, the capture of the imaginary body does not offer the direct communication of the subject with her (his) fellow creature in front of her (him), but rather, communication with the excrescence behind her (him).

In short, the implicit thesis of being in virtual reality is that of being a replicant.

Replicants are pure subjects precisely insofar as they testify to the possibility of positive, substantial content, inclusive of the most intimate fantasies—not as "their own" but as already implanted. If we try to answer the questions, what is it that the third gaze sees? Is it the gaze of the digital machine? What is in the subject more than herself (himself)?, our answer must be nothing, a hole, a void. The very notion of self-consciousness implies the subject's self-decentering, which is far more radical than the opposition between subject and object (Žižek 1997: 134–136).

The Decentered Subject

I would like to make an additional clarification that will allow to draw a line of separation between the theory of the "decentered subject" in the virtual environment or cyberspace as opposed to deconstructionist, decentered approaches that may seem similar at first sight. When deconstructionist cyberspace theorists present cyberspace, they usually focus on how cyberspace "decenters" the subject. The two most well-known approaches are those presented in Sherry Turkle's *Life on the Screen: Identity in the Age of the Internet* (1995) and Allucquére Rosanne Stone's *The War of Desire and Technology* (1995).

When Stone and Turkle explain how the subject is decentered in cyberspace, they refer to two basic decentering modalities. For Stone, the subject in cyberspace is decentered through an externalizing subjectivity process, realized through the multiuser domains (MUDs) and their object-oriented versions (MOOs). This can also currently be seen as a living condition within the vast digital world of "Second Life," a 3D virtual world

that inundates people with entertainment, experiences, and opportunity. However, it is a new situation developing here, as the residents of "Second Life" buy, sell, and trade their identities, fantasies, and desires, and engage in virtual and consumer transaction (commerce occurs with the in-world currency, the Linden dollars, which can be exchanged into U.S. dollars at several thriving online Linden dollars exchanges with other residents). This represents a new dimension of intensification for the capitalization of the Internet, as well as a process in which residents in Second Life might be encouraged to spend more and withdraw from social action and public intervention in the real world. When I play anonymously in a MUD, I can present myself as a promiscuous person and engage in activities that, were I to indulge in them in real life, would bring about the disintegration of my "real" personal identity. For Turkle, the decentering of the subject in cyberspace is similar to the dysfunction known as multiple personality disorder (MPD), as Turkle emphasizes multiple selves, coexisting in multiple windows. Multiple personality disorder defines so-called multiple personalities (who proliferated in dramatic numbers in the 1970s and 1980s) and describes individuals who show signs of failing to process and integrate different viewpoints of identity, memory, and consciousness. In these cases, it is typical that a number of very different personalities inhabit one person's body. This illness was termed dissociative identity disorder in 1994.

Cyberspace phenomena such as MUD/MOO endorse the dissemination of the unique "Self" into a multiplicity of competing agents, a plurality of self-images without a global coordinating center. Playing in virtual spaces enables one to discover new aspects of oneself through a wealth of shifting identities—masks without a real person behind them—and thus to experience the ideological mechanism of the production of Self, the imminent violence, and arbitrariness of this production/obstruction. The screen persona I create for myself can be "more myself" than my "real life" person insofar as it renders visible aspects of myself I would never dare to show in real life.

MUD describes the situation of the decentered personality in cyberspace when we have several personalities derived from one body. I can act out my real-life difficulties in virtual reality (MUD). Through cyberspace or virtual environments, I become aware of the inconsistencies and multiplicities of the components of my subjective identities (MPD syndrome) and work through them.

The decentered subject that I try to conceptualize in cyberspace or in the virtual environment is neither the MUD/MOO one nor the MPD one. Furthermore, this decentered subject is not the one that can manifest itself between these two deconstructionist options. This decentered subject is the Lacanian one. Again, when deconstructionist cyberspace theorists try to present cyberspace as providing a "real life," "empirical" realization of deconstructionist theories, they usually focus on the ways in which cyberspace decenters the subject. However, the "multiple selves" externalized on the screen are "what I want to be," the way I would like to see myself, the figurations of my ideal ego; as such, they are like the layers of an onion: there is nothing in their

center, and the subject is this "nothing" itself. It is therefore crucial to introduce here the distinction between Self ("person") and subject: the Lacanian decentered subject is not simply a multiplicity of good old Selves, that is, partial centers; the divided subject does not mean there are simply more Egos/Selves in the same individual, as in a MUD. The decentering is the decentering of the $ (the void of the subject; the barred subject) with regard to its content (Self, the bundle of imaginary and/or symbolic identifications). The splitting is the splitting between $ and the phantasmic "persona" as the "stuff of the I." The subject is thus split even if it possesses only one "unified" Self because this split is the very split between $ and Self. In more topological terms: the subject's division is not the division between one Self and another—between two contents—but the division between something and nothing, between the feature of identification and the void. Decentering thus in the first place designates the ambiguity, the oscillation between symbolic and imaginary identification: the indecisiveness as to where my true center lies—in my "real" self or in my external mask—with the possible implication that my symbolic mask can be "more true" than what it conceals: the "true face" behind it. At a more radical level, it points toward the fact that the very process of sliding from one to another identification, or among multiple selves, presupposes the gap between identification as such and the void of $, which identifies itself—which serves as the empty medium of identification. In other words, the very process of shifting among multiple identifications presupposes a kind of empty stripe that renders possible the leap from one to another identity, and this empty stripe is the subject itself (Žižek 1997).[8] In terms of the discussion about how cyberspace and the digital affect specific subjects, it is therefore important, in this time of oblique transparency, to dismantle the very process not of production but of postproduction: of the editing, pasting, copying, and clearing of these relations into the social mode of production. Therefore, I can argue that not only the real but also the virtual space are simultaneously shaking up/exerting pressure on the paradigm of identity, albeit from different perspectives, precisely by transferring deceptive and hypocritical old identities, such as those of socially positive and fully realized individuals, among others, into the virtual world, regardless of whether individuals live in postsocialist and/or "post"capitalist worlds today. Instead of producing a new identity, something more radical has to be proposed: the total loss of identity.

Space—Time

To understand the significance of the shift in the space–time paradigm that I describe in the first part of the essay, I propose a mapping out of a (historical) discursive timeline—that is, to interpret the results of changes in the time–space paradigm and its experiences and sensations as produced by the various technologies of the moving and digital image, for example, photography, the film apparatus, and virtual reality.

To do so, I made use of two paradigms, or time models, developed in two books published in the 1980s: *Cinema 1: The Movement-Image* (Deleuze 1986) and *Cinema 2: The Time-Image* (Deleuze 1989). These books examine mutations in the history of cinematic signification. D. N. Rodowick, in his compelling book *Gilles Deleuze's Time Machine*, explains that for Gilles Deleuze, "the semiotic history of film is coincident with a century-long transformation wherein we have come to represent and understand ourselves socially through spatial and temporal articulations founded in cinema, if now realized more clearly in the electronic and digital media" (Rodowick 1997: xiii). In short, Deleuze linked the notion of the movement image to classical cinema, for example, to the films of Eisenstein, Keaton, among others; Deleuze's movement image draws upon the American silent cinema, the Soviet school of montage, and the French Impressionist cinema, whereas the time image originates in the modern European and New American cinema, for example, the films of director Alain Resnais.

The movement image and time image—and this is my thesis regarding changes in time and space paradigms and contexts—present the spatial rendering of time, that is, time rendered through space. This is a Modernist perception and allows us to establish the connection to Lefevbre's production of space and to Weibel's argument that the Modernist project was rooted in the idea of space, in the transfer from one social space to another. But when it comes to the virtual and digital image—and this is my second thesis—we are faced with a reversal: space is rendered through time. Temporalization of space, or the production of time, is the specificity of the postperiod in which we are living. To illustrate the time–space features of this possible third model or paradigm—of the virtual image that I would like to propose here—I will make use of its time–space characteristics as described by Edmond Couchot (1994: 16–17).

> In fact, virtual space and time obey laws different from those of the reality we perceive with our senses. Data space is an exclusively symbolic space: neither largely substrate in material, nor in energy, even though the computer circuitry (hardware) itself is a part of our physical reality; it is made up of information. It has no dimensions per se, no set permanent place or topos. Hence its fundamentally utopic character. Yet it can also merge with real space as interfaced. Likewise, corresponding to this utopic space is a simulated virtual time, itself with its own extraordinary properties. That is, [it seems] an autonomous time without past, present or future, wholly beyond any deterministic or non-deterministic becoming, or again, of any living sense of becoming. A time that partakes not of chronos, but is an uchronic [or better, achronic] time, hence its ability to also merge--hybridize--with the time where dwells the manipulator or observer. . . [U]chronic time comes into its own in the immediacy of image-calculations and simulation-model parameter modifications

> without any delay in the unfolding of the visualized phenomenon. Changes in parameter value take effect the very moment the equations are being calculated, intervening in "real-time," as the technicians say . . .

In the digital realm, the interval disappears; real time is not direct time but a time without intervals, where space has the value zero. Moreover, the nonplace, which may be defined as a cyberspace interval, produces a meaning in which the distribution of information is a result of a synthesized process of calculation. This is neither the movement image's differentiation and integration of meaning nor the time image's relinking of irrational divisions, but a simulational process. Instead of the organic form of composition that belongs to the movement image, and the serial form of composition that belongs to the time image, the virtual image produces a synthetic one. I would like to propose the following models of time images, according to the following temporal, spatial, and compositional characteristics, respectively:

the movement image—indirect time interval—exteriority of space—organic form

the time image—direct time interval—anteriority of space—serial form

the virtual image—real-time interval—nonspace—synthetic form

It is important to emphasize the already-constructed character of the discourse of space, as the space paradigm is, so to speak, never grounded in space but is always ex- or nonspace. A nonspace can be understood here and now, not as a form of utopic space, but above all, as a conceptual matrix, a paradigm of such a space. That means that accessing space through the Internet is also a way to forget, to erase certain spaces, as each space depends on time. It is only a question of time to get the space nearer to us. In his important book *Derrida & the Political*, Richard Beardsworth (1996: 146) points out: "Any country, any locality, determines its understanding of time, place, and community in relation to this process of 'global' spectralization."

The production of time—what I called this new mode of production—that is substituting the older, modernistic production of space is a process that involves the temporalization of time, a process that changes according to the alterations in the technical process that forms it. Temporalization of time implies a completely artificial construction of time, which assumes that through temporalization we can literally historicize time and present the economical, political, and social conditions of changes in the paradigm of time; time being slowed down or sped up by capital through new media technologies. Moreover, it is possible to detect a process of constant tension between the nature of the technical tools that allows the mediation of time and the human experience of time. This tension, as Beardsworth is accurately implying, can be most immediately seen in the digitization

of memory support systems, digitization of art, and the changed situation of the archives (digitized in the form of the Internet). The production of time is a production that provokes the assumption that our experience of time is being rapidly foreshortened, creating, among other things, the tension between the international nature of the electronic and digital gaze and the corporal realities that make up much of human life. Less immediately, but more profoundly, it is also clear that future technical intervention on the genetic "ingredients" of the human will accelerate processes of evolution at such a speed (if this remains the right term) that present conceptions of history, inheritance, memory, and the body will need to be dramatically reorganized if the "selection" of what is "human," and what is not, is not to become the monopoly of an organization between the technosciences and capital (Beardsworth 1996: 147–148).

The figure of the homo digitalis is the figure of a man subjugated to a new biopolitics, between politics and new media technology governed by capital. Today, the art of government of the sovereign is exercised through the exploitation of the disappearance (of the locality) of space and through the temporalization, or better, privatization of time. It is becoming more and more obvious that, in the age of global neoliberal capitalism, little time is left for radical interventions in the real social space.

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Endnotes

1. Cf. http://www.thing.net/~rdom/ecd/ecd.html. Accessed 6 January 2010.

2. Cf. http://www.nettime.org/Lists-Archives/nettime-nl-9709/msg00000.html. Accessed 6 January 2010.

3. "Ping Body"'s first performance took place 10 April 1996 at Artspace, Sydney. "The Ping Body performances produce a powerful inversion of the usual interface of the body to the Net. Instead of collective bodies determining the operation of the Internet, collective Internet activity moves the body. The Internet becomes not merely a mode of information transmission, but also a transducer, effecting physical action." See http://www.stelarc.va.com.au/pingbody/index.html. Accessed 6 January 2010.

4. "Exoskeleton"'s first performance was at Kampnagel, Hamburg, Germany, November 1998.A six-legged, pneumatically powered walking machine has been constructed for the body. The body actuates the walking machine by moving its arms. See http://www.stelarc.va.com.au/exoskeleton/. Accessed 6 January 2010.

5. "Hexapod" looks like an insect and walks like a dog with dynamic locomotion. The robot's locomotion and direction are controlled by shifting Stelarc's body weight and turning his torso. See http://www.stelarc.va.com.au/hexapod/hexapod1.htm. Accessed 6 January 2010.

6. "Extra Ear" (or "An Ear on an Arm") was initiated during Stelarc's residency at the Art Department of Curtain University of Technology, Perth in 1997. Extra Ear is a soft prosthesis, constructed not out of hard materials and technologies, but out of soft tissue and flexible cartilage. This would not be simply a wearable prosthesis, but one constructed on the body using its skin and cartilage as a permanent addition. See http://www.stelarc.va.com.au/extra_ear/index.htm. Accessed 6 January 2010.

7. "I must, to begin with, insist on the following: in the scopic field, the gaze is outside, I am looked at, that is to say, I am a picture" (Lacan 1994: 106).

8. When the body is mediatized (caught in the network of electronic media), the subject is potentially reduced to the pure barred subject $, because even his personal experience can be stolen, manipulated, and regulated by the mechanical Other.

Biotechnical Art and the Ethico-Aesthetic Paradigm

Anna Munster

In early 2000 Peter Meyer, director of the Trapholt museum of art in Kolding, Denmark, was fined the relatively small sum of 2,000 kroner (about $US350) for hosting the installation *Helena* by artist Marco Evaristti. After receiving complaints from the Danish branch of Friends of Animals, police issued a fine to Meyer on the basis that the installation practiced cruelty toward animals. Evaristti's work displayed ten household blenders containing water and a live goldfish in each, all attached to electrical power points. An ordinary on/off switch on the blenders was accessible to visitors who wished to turn them on and was apparently used twice. Within easy reach of audience hands, the installation, in Evaristti's view, posed an ethical question to each viewer. Evaristti suggested this question rose above the turbulent sensations stirred by his work, as it conferred responsibility back onto audience members: "It asks the question 'Do you want to kill?' in order to show that we are masters at all times to decide between life and death" (BBC News 2000).

After both fine and warning were issued, the installation continued with the blenders unplugged. In what predictably unfolded from this aesthetic and legal entanglement, Meyer refused to pay the fine and had his day in court three years later, arguing a defense on the grounds of principles of artistic freedom: "An artist has the right to create works which defy our concept of what is right and what is wrong" (BBC News 2003). Elevating the welfare of the goldfish over the question of artistic freedom, a Danish court nevertheless revoked the fine against Meyer, ruling that the fish were not treated cruelly as they had not endured prolonged suffering. Yet the judge consolidated the ethico-juridical framework from which this ultimately humanist principle of freedom derives, by declaring that the fish were killed "humanely" (BBC Online 2003). Killed, that is, in a manner befitting those beings possessing the disposition to act civilly toward others; a disposition that only, as the adjectival derivation suggests, humans can possess. An addendum to this story of humans, animals, art, ethics, law, and freedom

is that Evaristti's installation had toured Brazil, Chile, and Argentina during 1999 and had received no complaints or action on the part of police or citizens in these countries at all.

Evaristti's installation has become an art-world event, not least because it took place in the Scandinavian context. Denmark, Sweden, and Norway have some of the most developed legislation around animal rights and welfare in the world, and the history of animal rights movements and activism in these countries is relatively established.[1] At the same time, democratic principles underlying the legislation and structure of the contemporary liberal, humanist state, such as free speech and freedom from censorship, are also deeply entrenched aspects of the Scandinavian social and political landscapes. When an artwork pits the rights of living matter against freedom of choice in so vivid a manner, some greater decision-making framework must be brought to bear on the matter and effectively weigh the respective rights and freedoms of both parties. There is nothing like a humanist, legal, and ethical system for making such decisions; although seemingly impartial to the excesses of artistic endeavour, the judgment nevertheless reins the fish into an ontological schema that accords with our notions of what constitutes responsible *human* action and behavior. Similarly, the entire basis of the animal rights movement is built upon a predetermined notion of rights, which historically takes the human as the original bearer of any rights whatsoever.[2] To an extent then, any use of the animal within art—itself an artificial, *human*-made activity—must rise or fall on this stumbling block of the ontology of the human. At best, the framework for the ethical and legal use of the animal in art allows it to subsist humanely, under the ever-watchful eye of animal welfare groups. Neither Evaristti's installation nor the subsequent revocation of the fine against Meyer are ultimately shocking, if considered within the broader context of a humanist, ethical framework for deliberating upon the action and activities of art, its audiences, and institutions. In both the work and the judgment, human motivation and perception of events are privileged.

Ionat Zurr and Oron Catts, two artists practicing in the field of what has become known as "bioart," have argued that the ethical problem raised by manipulating life, in both aesthetic and scientific contexts, derives from this ongoing privileging of the human life-form above all others (Zurr & Catts 2003). This privilege manifests in two ways. First, humans perceive themselves to be separate from other forms of life and hence possess the "right" to manipulate living systems for human utilitarian and cultural outcomes. Second, there is a broader and engrained cultural perception that only contemporary technological and artistic experiments constitute serious ethical dilemmas surrounding the manipulation of life. As a number of current artists working in the bioart arena have commented, human culture and history are coterminous with processes of selective breeding, the subtle and abrupt alteration of ecosystems, farming, and agriculture (see, e.g., Gessert 2001; Kac 2000). Any attempt to seize upon the present moment as indicative of the human technological will holding sway over "natural" growth

and biological evolution seriously misses the entangled coevolution of humans and their others. Further, Zurr and Catts argue that bioart at the very least raises the ethics of the manipulation of life, and that it must be seen as part of a broader project that interrogates both a social acceptance and horror of scientific and medical technological incursions into living systems (Zurr & Catts 2003).

Evaristti's installation does not fit comfortably within the field of biotechnical art, if by this we mean an art form dealing with relations between biology and information and deploying techniques such as transgenesis, tissue culture, genetic modification, and cloning. And yet the assemblage of blender and goldfish positions biological life along the razor sharp edge of machine death, by individually containing each goldfish, yet serially arranging all ten across the repeated array of the household consumer item. This constrains the cohabitation of biology and technology within a particular machine aesthetic. To an extent this constraint works in *Helena*, drawing the viewer/participant into a compound with its intimated violence, whirling human activity around on the blender's blade, carrying the participant on its movement in which she switches, on the whim of a finger poised over a button, from clarity to pulp, life to death. The piece has more to say, then, about the relationship between humans and the products of their own artifice—technologies—than it does about human relations with animals, and the latter's unyielding differences. Much recent analysis and practice of bioart has stalled around the feting and fetishization of life itself when what is at stake in the work are questions of artifice. Although unintentionally, Evaristti's piece points to a broader techno-cultural context in which the ethics of such a work inevitably unfold and are determined. As such, the goldfish in the blender and its chain of actions, reactions, and interactions reveal a cultural fantasy about control vested in the figure of the "free human" and sustained and enhanced by this figure's access to technology. This fantasy underpins both the utilitarian, biotechnical manipulation of life practiced in the corporate biotechnical sphere and the role assumed by some bioartists as "manipulator" of living systems. I will suggest that an alternative ethical framework for producing and evaluating bioart needs to first, consider the current cultural and political contexts in which technologies occur and are received; second, chart the interrelationship of biology and artifice, the organic and the machine, the living and the constructed as the definitive moment for the emergence of the creative instance. In other words, aesthetic creation or production always involves the technical transformation of some aspect of life, broadly speaking; the ethical issue that arises then concerns responsibility for what has been created. This responsibility always encroaches upon the broader contexts of the social and political implications and outcomes of the thing to be created. Bioart, foregrounding and instantiating the processes of production and creation in such visceral yet fragile forms, is in a position to rattle outdated ethical frameworks, question the cultural contexts for the reception of newer art forms, and advance new ethico-aesthetic paradigms. But bioart needs to work at its own ethical frameworks to offer a new set of creative possibilities within the

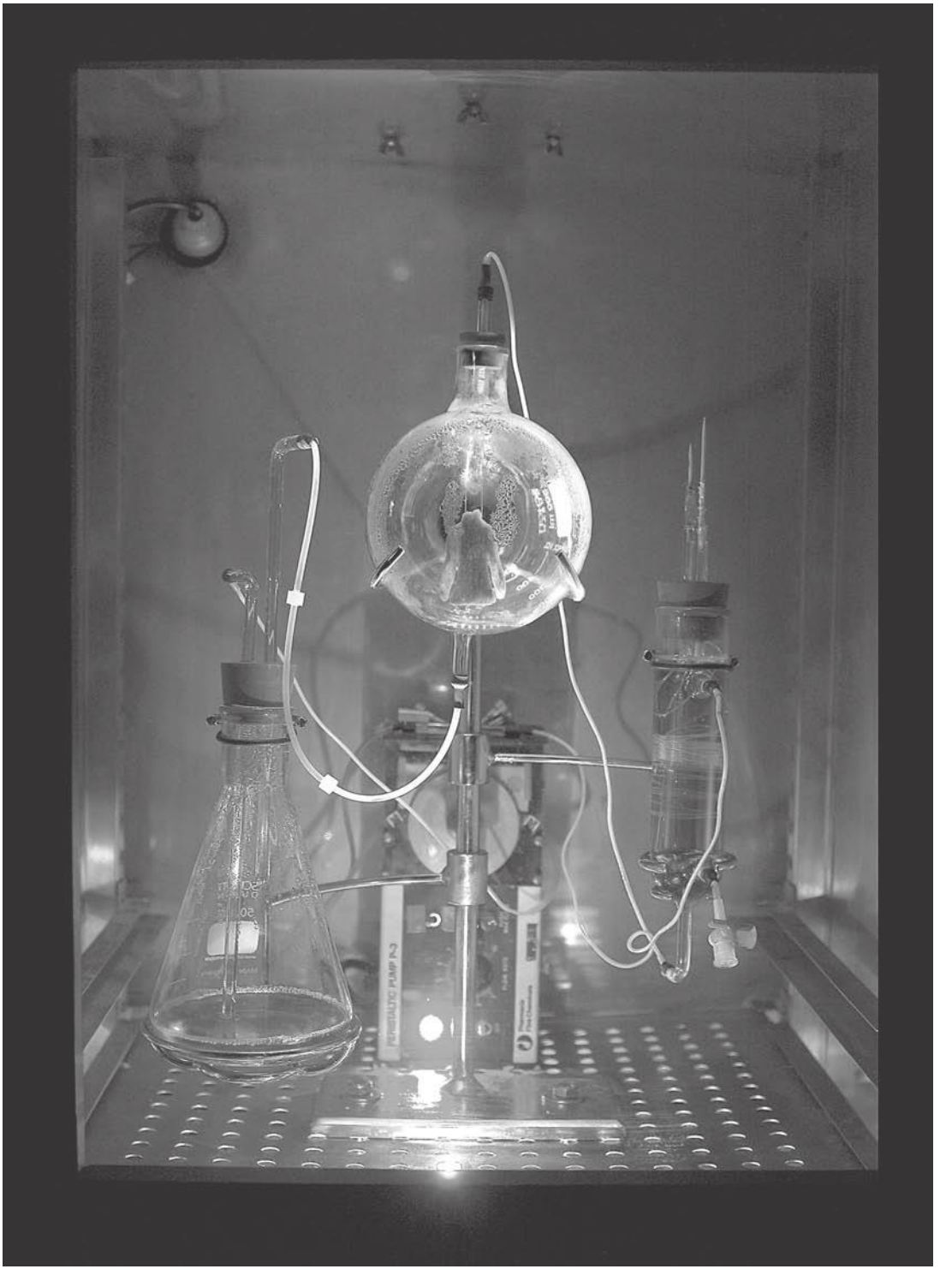

Figure 3.1.1: “Tissue Culture and Art” project, victimless leather, detail installation, 2004 and ongoing.

contemporary social and cultural landscape. Artists using living matter in their work cannot rest upon principles, such as artistic freedom, that belong to notion of both the artist and the social that may in fact have had their day.

The Evaristti–Meyer event encompasses tense and repetitive relations between aesthetics and ethics, processes and products of creation, and the organic world and technologies. The installation is an awful artwork but not because it is shocking nor because it fails aesthetically. Its sensory violence is literally repulsive, and I find it difficult to escape the way this haunts me, acting upon my body as a neurovisceral recurrence. In thinking about it, I return again and again, not to the goldfish or to the audience bearing the weight of ethical responsibility, but to a fixation with the blade of the blender. The blender's blade is an aesthetic sign, which, philosopher Daniel Smith argues in a Deleuzian analysis of the forces at work in aesthetic production and reception, becomes the bearer of a problem: the problem of how sensory agitation directly affects the nervous system (Smith 1996: 32). Smith, following French philosopher Gilles Deleuze's elaboration of sensation, suggests that this indeed is the critical aesthetic function of art. Although it may be more obvious to bring Deleuze and co-author Félix Guattari's analysis of art's haunting by the animal to the blender–goldfish event, I am struck instead here with art's haunting by the machine.[3] Machine and animal, artifice and nature conjointly inhabit art's moment of production according to them. Art production is not so much a direct expression of feeling. Rather, expression should itself be considered as the passage in which the sensory travels and is transformed by artifice. Art is expression as a mode of construction (Deleuze & Guattari 1994: 184). Broadly speaking, technique is therefore at the heart of art, although neither technique nor art belong to human artifice alone. In Deleuze and Guattari's analysis, the bird is singled out as exemplary producer of artifice in its use of song to mark out territory as its own (Deleuze & Guattari 1994: 185–187). Art that involves the use of living matter, whether biotechnical or simply domesticated like the goldfish, raises not simply ethical questions about welfare and treatment but the entire relationship of human culture and artifice to animal artifice and nature.

In ethically evaluating the involvement of the organic world in human artifice, we need to consider how an artwork deals with these relations of both difference and continuity between nature and culture. Does it, for example, reinforce a conception of technique as a separation or break between the animal and the human? If technology is privileged, as is often the case, as an activity or kind of knowledge peculiar to humans, then what might access to or control over technology for humans imply about an ecology of human and nonhuman relations in certain aesthetic productions? A work such as *Helena* performs a habituation of the participant to a predetermined relationship between biology and technology. It seductively draws the participant into an organization of the organic and the technological in which life is delimited by and then proceeds or fails as the result of "voluntary" human action executed as a mechanical response. This mechanical view of human action positions it as an operation that functions via "on/off" modes. Furthermore,

it deploys a system that distinguishes between states of action, operating under the umbrella of human *freedom of choice* over these states. Evaristti's use of a plugged-in blender in the original installation contributes to a certain fantasy of technical power and determination over life, in which responsibility is ultimately delegated to the human "user" of the technology. The participant in the installation is to be saved from the disastrous consequences of their mechanistic grasp on the world through the assurance of access to choice, albeit the limited choice of a binary on/off logic. Although the installation does not use digital technology *per se,* it nevertheless needs to be understood within the context of contemporary technologies, and of the more specific context of user participation and interaction in contemporary digital art practices. Taking these contexts into account, the installation reconfirms cultural assumptions about the nature of current technologies and of human–machine interaction in relation to these, especially how *inter*activity between human users and machines might be played out. Technology, it affirms, is something humans use to control "life" and this control is exercised through choice, a choice in which the limited parameters are circuitously supported by logic of digital binarism.

Typically, digital code has been conceived as the operation of a binary distinction between two states: zero and one, transposed into the language of user interaction to "on/off" states of a technological apparatus or device. In positing the difference between the "analogy principle" and "the digital principle," the post–World War II work of mathematician John von Neumann recommended the use of the binary system as the basis for digital notation (Von Neumann 1963). Von Neumann had also remarked that the digital principle could simply be understood as the representation of numbers through aggregates of digits, in effect enabling summed combinations to stand in for larger quantities. Although Von Neumann indicated that binary notation was conventional rather than essential, nevertheless the development of a system that proceeded through discrete on/off switching mechanisms has become synonymous with the logic of the digital. The force of binarism within a contemporary new media context has primarily operated to capture action as a function of the subject or interactant designated as a "user/consumer" making a choice between states, a point cogently made by theorists and artists Douglas Kahn, Andrew Murphie, and Simon Penny among others (see Khan 1996; Murphie 2003; Penny 2003).

But this is not all access to or interaction with digital technologies, and hence digital culture, could be. It is also not all art can be. Evaristti repeats the whirring rhythm of the blade's rotation and sucks the participant into the installation, with a paradoxical sensation that also repulses her, repeating the pulse of an on/off technical rhythm. To remain only with these sensations severs the aesthetic experience from any propensities toward life conceived otherwise as a creative and productive force. It disconnects the participant from the life of the fish enclosed within the blender and sacrifices both human and fish to the relentlessness of technology. It is worthwhile stepping aside from this technocratic capture and instead calling upon Guattari's work on affect. He claims that affectivity in art and life is more complex than the production of sensation

alone (Guattari 1995: 95). The affectivity of art is experienced in the moment in which, for example, jazz or soul music touches us through a small refrain. But in that refrain, interrelations between what he calls "universes of reference" and what I would suggest might also be thought as ecological networks of nature and culture are put into production. The refrain does not simply carve out a territory but conjures up a myriad of other territories: the reappearance and transformation of jazz through other genres (hip-hop, acid jazz, R&B); its place in marking the rhythms of black culture and history; its diffusion and rearticulation through the African American diaspora. All these territories and *deterritorializations* make artifice in its very affectivity—the way it touches us and touches the broader contexts and relations of life—a generator and transformer of culture(s). These movements and affective flows point to the ways in which art can be productive of life. To remain simply with sensation or "the sensational" in an artwork damns aesthetic flows, cutting off their relations to other life-forms and toward the life of others. It cleaves the relation of the aesthetic sphere to an ethical dimension. If art is affective, it is so relationally and processually, in the movements that enable sensory affects to develop into existential ones. This movement is transversal rather than sequential: from sensation across to the experience and life of others and other things. It conjures modes of life that can be cultivated through creation.

The dissolution of species boundaries is not fundamentally what is at stake in bioart. A retroactive focus upon human ontology will come into play if we attend to the extent to which it generates anxieties about the loss of identity or choice or freedom in posthuman, technologically dominated culture. Similarly, throwing the gauntlet of sovereign responsibility for other life-forms back down at human feet also reconfirms an obsession with human life at the cost of life in general. Both moves sideline bioart's potential for becoming ethical. How then could this emerging field be deployed differently, such that machine and living matter come to cohabit and compose a new carving out of life, a different habitus, contouring sets of transformative, unfolding, inflecting relations? Bioart that deals directly with the imbrication of informatic technologies and living matter *is* currently primed to ethically and aesthetically question modes of life. This is precisely because its products—transgenic bunny rabbits, cloned trees, hybrid polymer and organic tissue sculptures, and the like—are the biological corollary of what philosopher Manuel de Landa has referred to as state spaces (De Landa 2002: 3–4). State spaces, in physics, are used to account for singular yet nonlocal instances of an object in time. These "states" describe and capture the object in its variable dimensions or manifold. They do not capture an object's intrinsic properties but instead the way these properties are, in any temporal instance, changing. They yield the object as the continuing and differentiating states of its processes. The aesthetic or inventive consequences of bioart are that it yields the biotechnical processes of its production in each differing state space of the art object: art as the ongoing differentiation of life yielded through (bio)technical interventions. Bioart is an experiment in life production, an experiment located not

simply in the sphere of biological production but the differential movement from biology to technology, culture and artifice. But just how this process is actualized in specific instances and the ongoing states of the bioart object, how biological life materializes, carves out, and deterritorializes within the broader cultural and social spheres, shifts the aesthetics of bioart into the territory of the ethico-political.

If we look, for example, at Eduardo Kac's "GFP [green fluorescent protein] Bunny," we can comprehend it as a developing crystallization of the ecology of relations across the registers of environment, social relations, and subjectivity (Kac: 2000).[4] It comprises the production of life as a new kind of subject/object: an engineering of species interchange in the rabbit "Alba" created by the artificial transfer of a gene for green fluorescence found in a jellyfish into the DNA of an albino rabbit embryo. This was gestated in the French agricultural research institute INRA and in 2000 Alba was "born." "GFP Bunny" equally comprises the domain of public dialogue generated by the project and the social and environmental integration of the transgenic animal into the world of humans. But Kac's inability to physically bring Alba into his own environment, because that the institute steadfastly refused to release their "product" to him, has lead to inflated public posturing about transgenic processes themselves. In the late capital context in which processes are patented and research privatized, both Kac and the scientists speak to each other from closed positions. The scientists speak out against the performance of the animal as art, stating "[Kac] wanted to put her in a cage but that's not possible. An animal of this type is a lab animal. You can't parade her around like that" [INRA spokeswoman quoted in Reuters News Agency (2000)]. Whereas Kac turns to the manipulation of affect and sentiment, a sensationalist aesthetic strategy, by pleading that all he wants for Alba is to bring her home to his family, where she could exist in a loving environment (Kac 2000). Alba, as it turns out, may be a hybrid biologically, but she does little to actively hybridize the two cultures of science and art. Although she can be seen as a creation of life at a purely biological level, she cuts off the cultural life flow between art and science, at an affective level.

In all fairness to Kac, he has worked hard via his artist statements to create "GFP Bunny" as an ethical project. For him, Alba exists as something more complex than anthropomorphic declarations about what rabbits want. He sees the project as an intersubjective response, along Levinasian lines, to the proximity of the other to human life (Kac 2000). And yet Kac's imagined mode of life with Alba is nothing more than domestic: to bring Alba home, to exhibit their double life together in a gallery simulation of his lounge room. This amounts to a human *being* of the rabbit, revealed in Kac's declaration that our daily coexistence and interaction with members of other species remind us of our uniqueness as humans (Kac 2000).

Although the project turns out overtly to be concerned with care, ethics is only ever secondary to Kac's aesthetics. It figures as responsibility for and toward the other, during and after the fact of the rabbit's creation. But Kac is not concerned with aesthetic

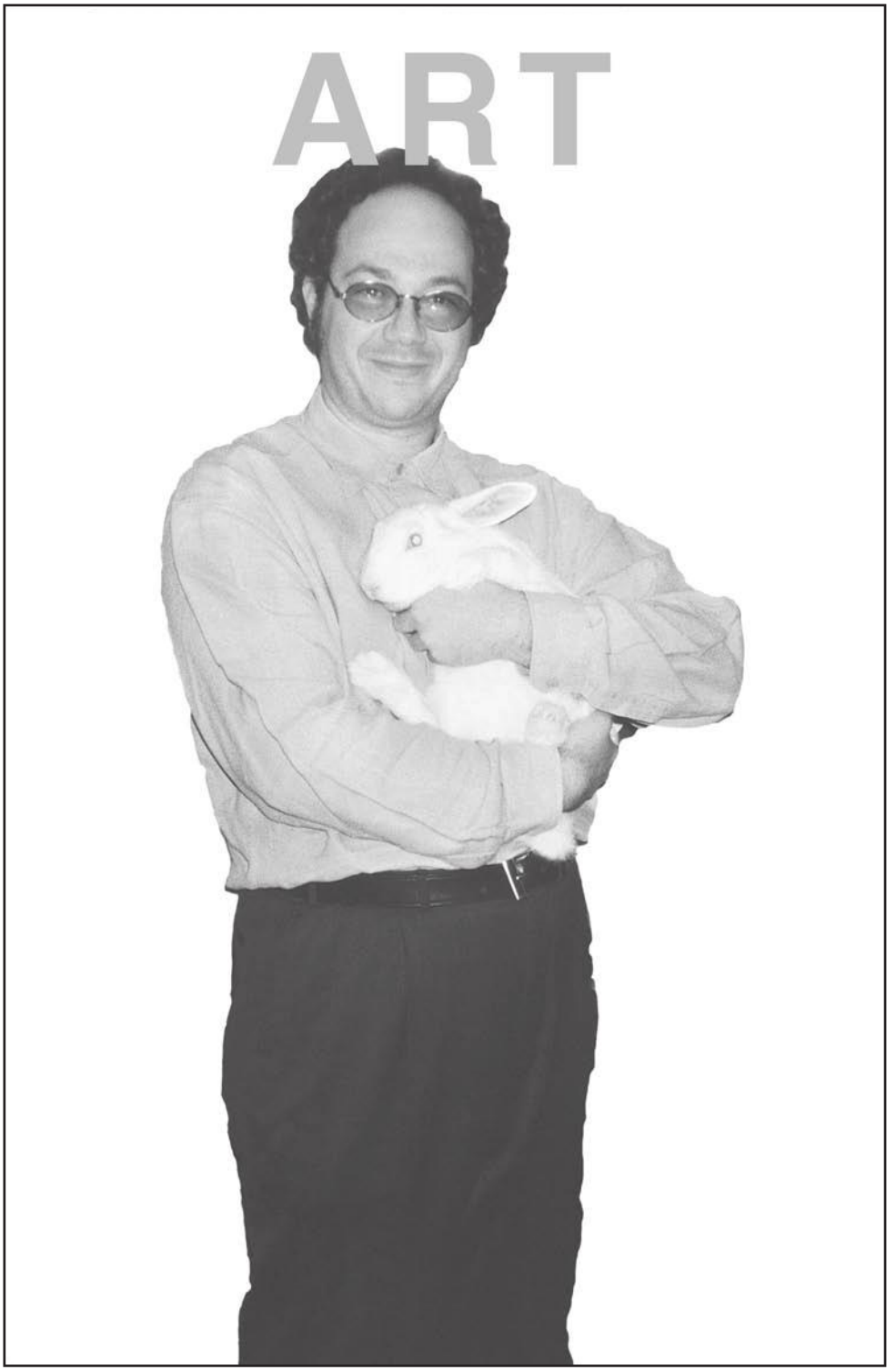

Figure 3.1.2: Eduardo Kac, poster from the series GFP Bunny–Paris Intervention, 2000.

responsibility toward the creation of other cohabitations between biological life-forms or between cultural life-forms such as art and science.

The ethico-aesthetic paradigm turns upon this issue of responsibility. Not the responsibility of the artist as creator toward the welfare of the thing created. And not the responsibility of the law to confer upon human artist or interactant the freedom of choice over life or death. These are irresponsible stultifications of the dynamics of responsive processes.

> The new aesthetic paradigm has ethico-political implications because to speak of creation is to speak of the responsibility of the creative instance with regard to the thing created… (Guattari 1995: 107)

Invention is a process that, in the ethical dimension of its manifold, requires attending to the dynamic relation of creating to the manifold of processes unleashed by the thing created. Biotechnical artists, as artists playing directly with ethical issues, must ask, what is the thing created, and will creating it again foster creation at other levels? How does our cohabitation and interaction with it cultivate different manners and possibilities for living? Kac's "GFP Bunny" project unfortunately unfolds as a titanic struggle between the life sciences organized by capital and the art world under the sign of media sensationalism. A stand off, rather than responsiveness, between life and art.

Alternatively, in Natalie Jeremijenko's "One Tree" project, the exchanges between image and world, abstraction and materiality, create a complex ecology that enables a convergence and divergence of information from and toward life. Working with a plant geneticist, Jeremijenko had one hundred trees cloned from the DNA of a single Paradox/walnut tree and cultivated them to saplings. At the same time she released a CD-ROM with software that could generate representations of evolving digital trees on a home computer. These "e-Trees" "grow" using common artificial-life algorithms for simulating self-replicating electronic organisms. But the outcome of Jeremijenko's doubled trees is not a claim to capture the vast processes and systems we call life.[5] Beginning with the artificial or "cloned" production of the natural, the one hundred saplings continue life in the soil of various microclimates in San Francisco. The biology of the trees will materially render, in each tree's growth and decay, the social and environmental differences of each microclimate to which they respond in subsequent years. Here, cloned artifice slowly diverges from the closed universe of model and data and stretches outward to life, materially captured as diversity and contingency. The "e-Trees", on the other hand, contend with a computational world, but not one that is artificially sealed against the outside. They cannot replicate inside the computer without the input of actual readings from a carbon dioxide meter that is distributed along with the CD-ROM and inserted into the back of one's computer. Actual CO_2 levels converted to data inflect the growth rate of the "e-Trees."

Figure 3.1.3, Figure 3.1.4: Clonal Divergence at 22nd St. and Valencia, San Francisco. Trunk diameter of two of the genetically identical Paradox Trees from the OneTree(s) project; planted at the same site 15ft apart on the same day; micropopogated from the same adventitious tissue; and benefiting from the same level of care. Photo credit: Natalie Jeremikenko 2010.

In what ways then, could we ethically evaluate "One Tree" as a creative instance? One tendency of the project that allows it to traverse the aesthetic and the ethical lies with its deployment of nonvisual strategies. This takes it away from any reappropriation by media sensationalism. Exhibiting part of the project as cloned saplings in the "Paradise Now: Picturing the Genetic Revolution" show in 2000, Jeremijenko worked to open the scientific worldview to what lurks at its peripheries. In this installation, there is precisely nothing to see if it is pure genetic information that we hope to visualize. Instead, we are confronted by the differences and similarities of the growing cloned saplings. This demonstration of growth as an ongoing differential interaction between their cloned genetic origins and their varying responses to environment embodies the notion of the state space. This allows an unframing of the standard genetic image as perfect instructional code, as Jeremijenko (2000) states,

> to demonstrate that you cannot *see* or *picture* genes…to demonstrate that in the relatively simple form of the tree (compared to such complex social behaviours as alcoholism or violent tendencies) there is no simple set of transductions that you can trace through.

If the aesthetic image recedes in Jeremijenko's work, then the relations between the differential registers that art can occupy for an audience do not. The entire project grows and spreads outward from this installation: there are ways for the audience to become further involved with "One Tree." One can access generative life models of the biological trees as "e-Trees" on a CD-ROM and monitor their growth; one can also apply for stewardship of the actual saplings and become involved in care for plant life. Moreover, the Paradox clones are not produced to demonstrate that biological matter phenotypically repeats a genetic code. They are serially differentiating state spaces: interconnected expressions of creative instances that ask us to respond to the state of informatic, technical culture with new creative strategies.

What is the role of the artist in such work if responsibility no longer rests with simply opening an arena for public debate and then letting the public "choose" their own responses? What if it is not possible to bow out of the debate in the name of artistic freedom because both artist and freedom are now effects produced after some differential process—biological or cultural—is initiated? Perhaps we can take some pointers from Mark Dion's work *Some Notes Towards a Manifesto for Artists Working With Or About the Living World*.[6] This piece is a statement about the process of making art along the biological–cultural continuum, about work that incorporates and is affiliated with live and preserved organic matter. The statement is of conceptual significance within Dion's practice because it confounds attempts to definitively separate the human and the natural world through either aesthetic of technical mastery. At the same time, it refuses to derive ethical practices from a transcendent moral law that "knows" what is best ahead of the

conditions and processes under which it will ultimately unfold. The statement's effect lies in the complexity it poses for human aesthetic activity in relation to social and natural law. This is beautifully conveyed through the paradoxical and contradictory relations Dion lays out for artists working with living matter. These relations in fact arise because of the disjunction between the ethical dimension posed by working with living matter and the current political and juridical contexts in which this work is situated. This leads to conditions in which the artist, to become ethically responsible, must act in a legally irresponsible manner. Dion affirms artistic intentionality as a responsibility toward the living matter incorporated into an artwork and makes the act of creating and producing art answerable to ethical evaluation. On this model, the ethics of a work such as Evaristti's *Helena* lie with the producer of the work—the artist—and not, as Evaristti suggests, with the viewer.

> 4. Artists working with living organisms must know what they are doing. [They must] take responsibility for the plant or animal's welfare. If an organism dies during an exhibition, the viewer should assume the death to be the intention of the artist. (Serpentine Gallery 2000)

Yet in Dion's "manifesto," the artist is not a figure who should be bound to the conventions of current ethical or legal frameworks. Dion affirms the sometimes nonrational character of human law and insists that there are creative instances, particularly with regard to ecological activity and activism, in which artists should operate outside the law.

> 5. Artists do not break international wildlife protection laws (unless those laws are irrational). (Serpentine Gallery 2000)

The artist, therefore, has a role to play in assessing and negotiating the given legal and political contexts in which she or he operates. It is this negotiation of relations between ethics and politics that will determine whether the artwork simply reinforces relations of control over life or affirms the ongoing production of life produced as a result of the intermingling of relations between environment, sociality and subjectivity. Dion's conjunction of the artist's intentions with the artwork's life, a thing not always so easily brought under control, and the artist's self-conscious operation in a broader context of environmental law and politics catalyzes a dynamic engagement in which she or he must work dynamically across the registers of the nonhuman environment, social relations, and human subjectivity. He opens both biology and art to each other, in an ongoing ethical commitment to experimenting with new kinds of creative processes.

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Endnotes

1. For further information about this history in a European context, see Guither (1998).

2. Although certain principles guaranteeing the right to liberty and equality, for example, are enshrined within the constitutions of various seventeenth- and eighteenth-century nascent democratic states, the rights movement as such does not gather full force until the middle of the nineteenth century. In the writing and advocacy of people such as John Stuart Mill and Mary Wollstonecraft, a fully fledged notion of human rights emerges through such texts as *On Liberty* (Mill 1869) and *Utilitarianism* (Mill 1861) and in *Vindication of the Rights of Woman* (Wollstonecraft 1792). Mill, in particular, establishes a conception in which individual and society mutually guarantee the rights of each other, hence determining the "civilized" or socialized human as the bearer of rights.

3. An analysis of this "haunting of art" by the animal is offered by art theorist Steve Baker with direct reference to Evaristit's installation; see Baker (2001).

4. According to Guattari (2000: 8), these are the three ecological registers. Any eco-logic must move transversally across these registers.

5. A claim quite frequently made by a-life researchers for their computational worlds; see Langton (1999).

6. This statement was published as part of a catalogue for a group exhibition (Serpentine Gallery 2000).