Network Art: Practices and Positions

Edited by
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For my parents.

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Illustrations list

Contributors profile

0100101110101101.ORG are a couple of restless European con-artists. They have been chased from Rome to Canada by the Holy See for their fake website (www.vaticano.org); pursued (and caught) by Symantec Corporation for being the authors of the computer virus *Biennale.py* and they have challenged and defeated Nike Corporation in a legal battle for a fake advertising campaign. Their controversial works have been exhibited around the world including the New Museum of Contemporary Art, New York; the Lentos Museum of Modern Art, Linz and the ICC, Tokyo.

Mark Amerika is a professor in the Department of Art and Art History at the University of Colorado, Boulder, where he directs the TECHNE practice-based research initiative in digital art. His website is (www.markamerika.com).

Dr. Tilman Baumgärtel lives in Berlin and Manila. He is an assistant professor at the College of Mass Communication at the University of the Philippines. As an art and media critic and curator, he contributes to German and international reviews, newspapers and magazines.

Natalie Bookchin is based in Los Angeles and teaches at CalArts. From 1998 to 2000 she was a member of the collective ®Tmark, and was a 2001–2002 Guggenheim Fellow. Her work is exhibited at institutions including PS1, Mass MOCA, the Museum of Contemporary Art in Barcelona; KunstWerke, Berlin; the Generali Foundation, Vienna, the Walker Art Center, the Whitney Museum of American Art, and the Shedhalle in Zurich.

Josephine Bosma lives and works in Amsterdam and is a freelance writer and critic who focuses on art in network cultures. She also lectures on net art, software art and radio art and has written numerous essays for catalogues, including the Oslo exhibition *Written in Stone, a net.art archeology* and the *MediaArtNet Reader* edited by Rudolf Frieling and Dieter Daniels in collaboration with the ZKM.

Kris Cohen is a PhD student at the University of Chicago (Art History). In 2005 he completed a two-year study of online photography. At Chicago, he is researching how the conjunction of art and technology forces a public conversation about publics.

Sarah Cook is an independent curator based at the University of Sunderland, where she is the co-editor of the *Curatorial Resource for Upstart Media Bliss* (www.newmedia.sunderland.ac.uk/crumb). She has worked in a curatorial capacity at the Walker

Art Center in Minneapolis, the Banff Centre for the Arts and with Locus+. Her research is focused on museum institutions and new media art.

Tom Corby and Gavin Baily (Corby and Baily) are artists who specialize in media technologies. Their work has won a number of international awards and prizes including at: *The Post-Cagian Interactive*, The Machida City Museum of Arts 2001, Tokyo, *Ars Electronica* in 2001, and *Cynet Art*, Dresden in 1999. Tom Corby teaches at the University of Westminster and Gavin Baily is a freelance developer.

Charlie Gere is Reader in New Media Research in the Institute of Cultural Research at Lancaster University, chair of Computers and the History of Art (CHArt), and author of *Digital Culture* (2002) and *Art, Time and Technology* (2006).

Lisa Jevbratt is a Swedish born artist and an assistant professor in the Media Arts and Technology Program and the Art Department at University of California, Santa Barbara. Jevbratt's projects have been exhibited internationally in venues ranging from Transmediale, Berlin, to the Whitney Biennial, New York.

Jon Thomson and Alison Craighead (Thomson and Craighead) are artists based in London working with video, sound and electronic networked space to create gallery and site-specific artworks and installations. They have exhibited widely both nationally and internationally, having earned an excellent reputation as leading UK practitioners who use communications systems and technology in Art. Alison is a senior researcher at University of Westminster, while Jon lectures at The Slade School of Fine Art, University College London.

Lucy Kimbell works as an artist and interaction designer. From 2003–2005 she was an Arts and Humanities Research Council research fellow at the Ruskin School of Drawing and Fine Art, Oxford University, and tutor at the Royal College of Art.

Maciej Wisniewski is an artist and programmer based in New York whose work focuses on the creative, social and political implications of the Internet, networks, and technology. His work has featured in numerous exhibitions including at Postmasters Gallery, New York; the Whitney Museum of American Art; ZKM Zentrum für Kunst und Medientechnologie Karlsruhe.

The Yes Men agree their way into the fortified compounds of commerce, ask questions, and then smuggle out the stories of their hi-jinks to provide a public glimpse at the behind-the-scenes world of business. In other words, the Yes Men are team players ... but they play for the opposing team. The World Trade Organization has said it 'deplores' the Yes Men and George W. Bush has called them 'garbage-men'! Their work has been exhibited worldwide at numerous festivals and is regularly featured in broadcast contexts.

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Chapter 1

Introduction

Tom Corby

The purpose of this book is to explore how the Internet has been used as a creative space for art making. In its pages, leading artists and critics describe how artists have extended the Internet's social and digital architectures, in order to formulate proposals for operating in the highly connected world in which we live.

Originally conceived as a technology that would support collaboration and the sharing of academic and military information, the Internet has hugely amplified the scope and frequency of social contact and thus provided a fertile platform for mass participation and the development of new cultural forms.[1] The Internet's penetration of social, economic and cultural structures (in the West at least) has been so deep, that it is almost unimaginable to conceive of a world without it. All pervasive, it has altered our relationship to information, reorganized institutional relations and reformatted our understanding of the boundaries between private and public activity.

Network Art: Practices and Positions explores a particular set of artistic responses to this situation covering a time from the emergence of the World Wide Web in the early 1990s to the present day. Very early in this period artists became aware that networks could support multiple domains of activity by which it was possible for individuals and groups to propose and organize alternatives to dominant histories, ideas and practices. Within the hardware and software structures of the Internet they confronted new ways of working and communicating, and attempted to develop alternative exhibition and dissemination strategies to mainstream art world models. In the same spirit, *Network Art: Practices and Positions* does not attempt a centralizing history of these and related approaches but instead curates a set of practices that weaves one possible description of artistic procedures amongst the myriad forms developed by artists since that time.

The book is underpinned by two interconnected arguments.

Firstly, a conscious decision was made to organize *Network Art: Practices and Positions* so that it would provide a platform for artists to describe their practice 'in their own words', placed alongside a smaller section of chapters contributed by historians, curators and theorists.

The book reasons that unpacking the processes, understandings and methods of art practitioners together with more traditional scholarly approaches can develop a richer theoretical base for media art. It argues that artists should not just be the objects of histories, but that they should directly shape them, because their experience of the material conditions of production represents a unique body of knowledge whose insights can add significantly to existing philosophical, critical and historical debate.

The book also proposes that a critical approach is immanent to the types of work described here. It shows that network art is characterized by positions, which can, and do, induce theory and bodies of knowledge in a more pressing way than occurs in other media, due to the central importance of networked information exchange within a globally connected world. The articulation, elaboration and exposure of these positions is the main drive for the existence of this book.

Network Art: toward a definition

While writing the original proposal for this book much debate occurred concerning definitions about what constituted 'network art', The problem involved setting boundary conditions that divided it from other related creative forms, whilst leaving enough space for the character of a possible network art to emerge from the voices of the artists themselves. Generally discourses around creative practice concerning networks and information technologies focus on the technology itself. Historically these have concentrated on what has come to be known as 'net art' a form of art practice that is broadly characterized by a medium-specific approach, whereby Internet technologies are a necessary and present requirement for the realization, content and dissemination of the work. For Tilman Baumgartel:

> Net art addresses its own medium; it deals with the specific conditions the Internet offers. It explores the possibilities that arise from its taking place within this electronic network and is therefore "Net specific." Net art plays with the protocols of the Internet, with its technical peculiarities. It puts known or undiscovered errors within the system to its own use. It deals creatively with software and with the rules software follows in order to work. It only has any meaning at all within its medium, the Internet.[2]

Much of the work in this book could easily be described as net art, and throughout the reader will notice that the terms 'net art', 'network art', and 'Internet art', are used interchangeably. However, as derived from the practices of the contributors to this book, network art is conceived as being less doctrinal. As described here, network art is inclusive of practices that are formally complex but also works in which technology is not a necessary and present condition for the realization and dissemination of the work – such as books and performance. That is not to say that network art is inclusive of all forms of creativity that have a passing relationship to the Net or deal with the consequences of informational processing. This definition does not include approaches that uncritically exploit networked technologies as a marketing opportunity for older forms of art – but rather is inclusive of practices that thoughtfully respond to the emergence of and widespread social, cultural and economic impact and take up of networked information technologies. More specifically as Julian Stallabrass has previously pointed out, it is an art form concerned with data.[3] Explored both in a formal sense, as an organizational and underpinning material, but also as a social and political concern in which artists raise issues of access, distribution and usage of information sets. Network art as defined here recognizes that approaches to these issues take many forms that are often technologically situated but which may also be disseminated through other channels.

Navigation

The book is split into two parts: a section entitled 'Contexts' that explores curatorial approaches, historical precedents, and theoretical domains and a larger second area given over to artists' commentaries, 'Practices', that narrate, reflect upon and describe the motivations, processes and procedures that underpin the making of network art. In order to aid navigation, the following headings are presented as a series of six positions, which draw attention to key themes, and cut across and link the contributions between the two areas:

- Position one: Histories.
- Position two: Institutional negotiations.
- Position three: Utopian proposals.
- Position four: Network resistance.
- Position five: Relational processes.
- Position six: Critical software.

The contributions in this book discuss how networks enable – both in a technological sense, and as a conceptual process – a relating, or bringing together of the cultural, technological and social, that forces new perspectives and point to new ways of being and acting in a highly technologically mediated world. While sometimes taking contradictory stances, contributions are united by a consistency of approach that values an artistic method in which technology is stripped of its utilitarian requirement and becomes a pliant vehicle for creative invention that is by turns critically motivated, poetic, playful and formally complex.

The choice of a book as a platform to curate these approaches may at first sight seem incongruous. However it allows for the fixing of ephemeral approaches with a degree of precision and most importantly provides a stable platform for the preservation of ideas that rely on technologies that are notoriously unstable and prone to obsolescence. Finally, *Network Art: Practices and Positions* aims to contribute further debate both within and outside immediate media art contexts and draw attention to the diversity, richness, and conceptual and material rigor of practice in this area.

Position one: Histories

Rather than see network art as a phenomenon cut off from antecedents and linked specifically to the invention of the Internet, chapters by Charlie Gere and Josephine Bosma develop a series of positions that situate the subject within a historical cultural and technological continuum.

Beginning in the nineteenth century Gere's chapter describes how art responded directly to the dramatic social and technological shifts produced by the introduction of more efficient forms of transport and communication. Artists in the early part of the twentieth century were to respond to these changes by taking speed and machines of all types as their subject matter. Signature elements of later artistic practices and subsequently network art were to surface this time including, but not exclusively, the employment of instruction sets to generate form, the use of polemic and the utilization of public contexts to situate art. Similarly the later huge technological and theoretical

developments in computing, information and feedback arising from the Second World War were to provide the cultural and scientific backdrop for much post-war avant-garde art practice, which was beginning to acknowledge the increasing importance of remote and networked telecommunications. For Gere, the artistic experiments with multimedia, audience participation and processes of communication that took place in the 1950s were to provide the methodological platform for much subsequent digital arts practice. In the following decade a fledgling Internet was to be developed. This Cold War project, ARPANET as it was then called, went online in 1969 but remained largely a military and academic network until it was decommissioned in 1989, and incorporated into the US National Science Foundation's own network NSFNET. Supported by technological advances in functionality, hardware and software, civilian usage of the networks grew exponentially during the 1980s culminating with commonplace usage following the invention of the World Wide Web (WWW) in the early 1990s. Artistic use of the Internet using Bulletin Board Systems (BBS) and other similar technologies were not to occur until the 1980s, however telecommunication artists from the 1960s onwards had already provided a conceptual blueprint for later network art by using fax machines and satellite transmissions to produce globally distributed artworks. The following decades for Gere, saw the establishment of subject matters – often explored using the more readily available video, radio, photography and fax technologies rather than the computer – which were later to resurface as key themes for later Internet artists. These include an interest in the democratizing potentials of communication and broadcast media, systems of all types (scientific, economic and social), the use of art practice to critique and lay bare corporate practice, and a contesting of stereotypical images of race and gender.

Josephine Bosma traces a different historical context for network Art. In 'Art as Experience: Meet the Active Audience' she describes how the interpretation and production space for the arts has been enlarged via its contact with developing technologies. Network art, she argues, is but the latest example of a process, that beginning with the development of the printing press, realigned and reorganized relations between cultural producers, audiences and professional interpreters and shifted art production and appreciation more forcefully into the social sphere. Bosma describes how the twentieth century saw an increasing interpenetration of the fine arts and popular culture, alongside numerous attempts by artists in the form of conceptual and expanded art, to develop contexts for the reception and distribution of their work away from elite institutional frameworks. Further to this, the latter part of the century allowed unprecedented opportunities for the audience to take part in media content production in its own right. For Bosma, the widespread availability of image and video cameras, sound recording devices, personal computers and the Internet, leads to a situation whereby audiences and artists became increasingly difficult to distinguish from each other as art production and appreciation occurs increasingly in domestic contexts and outside of professional art domains. Bosma argues that in new media art in particular, a situation develops whereby production, exhibition and dissemination spaces are collapsed into the single hybridized space of the Internet. Using a series of projects as examples, she discusses how artists using the Net have begun to intervene directly in how audiences perceive the work of art by a self-conscious anticipation of the audience's responses to, and movement through it. In doing so

artists using network technologies invite the audience into a 'dance' with their work through which it is completed. The architectures of the Internet encircle the reception and production of artworks within a single, albeit highly fragmented and distributed domain. Without the active engagement of an audience, who are invited into a process of adding content, navigation, or participation within artist-defined contexts 'nothing happens, and more importantly, without this there is practically no art experience'. Bosma argues that these artist-defined anticipatory frameworks should be described less as specific 'art objects' but rather as 'zones of interpretation' through which the art is experienced as an 'intimate' encounter. This intimacy occurs both through the invitation to participate in the work's completion and also in the manner that the work is apprehended, e.g. outside gallery contexts in the homes and workspaces of the audience. In doing so a shift occurs in the relationships between the artist and audience, characterized by a directness of contact, which also has implications for relationships between artists, critics and curators, in that interpretation occurs as a social or personal exchange unmediated by expert professionals and supporting institutional infrastructures.

Position two: Institutional negotiations

The social exchanges described by Bosma reveal strain that is placed on traditional curatorial practices. Sarah Cook in her essay employs a series of case studies to explore issues raised when attempting to organize exhibitions for forms of art practice that are often specifically developed to operate outside institutional contexts.

Cook describes how the last 30 years has seen the curatorial field evolve to encompass not only permanently displayed objects but also site-specific and event-based artworks. This has forced a shift in exhibition practice away from a legitimization of art through its staging in permanent and semi-permanent museum displays, towards a more fluid siting and exposition of work. Network art, Cook argues, is part of this historical process, but presents very particular challenges due to its technological form, and aesthetic and critical dispositions. Firstly, the work is process- and time-based, it exhibits characteristics of virtuality, simultanaeity and dynamic interconnectedness that relies on audience participation for completion. On a purely practical level it relies on the audience having a basic knowledge and understanding of what the Internet is and how it works. For Cook, this challenges the curator to develop suitable methods to support the social and process-based nature of the work and develop commensurate contexts for audience understanding and participation with it. Secondly, she argues, normative curatorial practice involves controlling the interpretational space around the work through the use of specific triggers to guide audience understanding of it. However, while network artists may be comfortable blurring the informational contexts of the Internet with the work itself, for curators this poses problems when it is re-situated to a gallery context. Entangled in, and part of the informational patterning of the Net, a work's visibility is often hard to discern, making it difficult to 'separate the artwork out from the social processes and contexts through which it is formed'. The impact of this in curatorial terms, Cook argues, destabilizes both institutional procedure and the role and function of the curator:

> The static context of the museum or institution often defines a curator's role as that of context production (creating exhibition structures and supporting scholarship around works of art), yet the dynamic context of curating in the network (or simply curating emergent forms of art practice) equally asks the curator to take on the role of content production (commissioning new work, collaborating or acting as project manager).

For Cook, the fluid, process-based nature of network art, and its cultural disposition toward participation at all levels, induces a far greater degree of collaboration in the curatorial procedure than occurs in mainstream exhibition practice. In order to facilitate this shift, technology for sharing research and maintaining contact with other stakeholders becomes a central component of the planning process. Cook argues that the collaborations that spin out from these dialogues, muddy clear-cut distinctions between artist as producer, curator as commissioning agent and audience as consumer, as the multiple feedback loops enabled by the technology mean the project develops discursively and collaboratively. In turn, this affects the cultural form of the exhibition as it mutates from being a fixed display (of art, of curatorial scholarship) into a more fluid process organized around certain themes and groupings of people. In this context Cook proposes that the role of curator is 'to develop a platform for a network of relationships, flexible enough to support a complex of social relationships which in their own right, are subject to continual shifts'. Ultimately, she argues, these networks need to be recognized as intrinsic elements of a modern curatorial practice, generous enough to allow for multiple voices to invest in the form of a project – an approach that reflects the structure of artworks concerned with developing social and participatory situations.

Position three: Utopian proposals

One of the most compelling aspects of Network art – particularly in its early years in the form of net art – was the manner in which it aspired to reinvigorate a number of earlier avant-garde traditions. The participatory culture of the Net, coupled with digital media's immaterial nature, its ability to be infinitely reproduced without degradation and its accessibility, meant that artists were potentially able to re-route themselves around the commodifying practices of the international art market. In doing so they hoped to fulfil some of the utopian strivings of earlier times by establishing a genuinely participatory and democratic mode of cultural production which collapsed art into life.

In her essay, Natalie Bookchin charts this project and its failure in the aftershock of the dot com crash. However rather than confine it to history she argues that the utopian aspect of net art still has an important role to play in forging new approaches and contexts for contemporary art production. For Bookchin:

> The Net still provides public space and open architecture to realize hypothetical proposals, sketches, and prototypes. Rather than calling for the death of utopias, large or small, and thus supporting the belief in the inevitability of the status quo, it is still possible to imagine and make demands for the future. These insistences – pragmatic, speculative, or utopian – can remind us that current systems are not immutable and they allow us to picture and realize alternatives.

In what amounts to a hybrid of a political manifesto and technical document Bookchin proposes a speculative future art network that borrows already successful social and collective models of value and reputation setting for artists and their work, using online phenomena such as music file-sharing systems and blogging. These kinds of social approaches to organizing, making and assessing art practice reflect a wider disposition toward collective action, cooperation and openness in and through the Net and can be seen as a techno-savvy refashioning of the old dictum 'what goes around comes around'. As pointed out by Josephine Berry elsewhere, openness, and a propensity to share information were intrinsic to the very development of the Internet, as the non-proprietary nature of its underlying protocols or rule sets allowed for its construction as a collective project. Openness, sharing and cooperation in this sense are immanent to the Net's technological structures and its emergent cultures.[4]

This cooperative and open ethos describes both the subject and approach taken by the anonymous artist duo 0100101110101101.ORG (Zero One), as in their chapter they present an assemblage of pre-written texts, comments and feedback about their project *Life Sharing* (2001), donated by other people. The contribution stands as both a model of the gift culture, and the ubiquity of collective activity that occurs on the Net, but in this instance transported into print form. The project involved allowing users via the Internet open and unrestricted access to Zero One's computer for an extended period of time. Visitors could drop in, read their private emails, peruse their archives and download or search for texts or software. The title is an anagram of 'file sharing', a deliberate tactic that relates it to the culture of free information exchange that occurs through peer-to-peer and other digital networks. The project also stands as a form of digital self-portrait of individuals who spend substantial amounts of time conducting their affairs through their computer. As Tilman Baumgärtel writes in his contribution to the chapter '*Life Sharing* is a portrait of the artists as a hard disk' shot through with traces of private lives presented nakedly to the world.

Position four: Network resistance

The censorship-resistant aspects of the Net coupled with the difficulty sometimes faced when trying to ascertain the veracity of online information has provided the Yes Men with a tool to draw out, and make visible, some of the absurdities and malpractice of unrestricted global capitalism. In 'Dow Chemical Just Says "Yes" to Bhopal' they discuss how they are able to infiltrate media, corporate and economic systems through the use of spoof corporate websites that retain the graphical 'look and feel' of the originals. In previous projects the Yes Men have impersonated high-ranking members of the World Trade Organization in order to develop to a logical extreme the absurdities of radical free-market thinking. In their narration of this project they demonstrate how by generating confusion over the status of online information, they were able to dominate the international news media, in order to highlight the plight, and ongoing battle for compensation, of the victims of the 1984 gas leak in Bhopal, India.

Position five: Relational processes

The WWW as originally conceived allowed for potentially any document (text, image, media) to be connected to any other. While these documents are discontinuous, the

underpinning protocol environment within which they are situated allows for the relatively easy re-deployment and linking of unconnected material. In artistic terms the network can be seen as a relational field that allows the linkage of heterogeneous elements – or in Andreas Broeckmann's terms digital 'objet trouve' – in order to formulate new structures and meanings, through the incorporation and transformation of found material.[5]

The relocation, and re-use of found Internet material and technology was a central tactic employed by Thomson and Craighead in the making of *Template Cinema* and *Short Films about Flying*, whose developmental processes are discussed with Kris Cohen in 'The Wrong Categories'. Both works use the non-interactive form of the moving image within which to aggregate live video-feeds appropriated from the Web. In *Short Films about Flying*, for example, airport webcam streams are continually re-mixed in real-time with randomly loaded Net radio sourced from elsewhere and subtitled with stock phrases of text taken from a database. In the chapter the trio discuss how this approach can be seen as an example of 'defamiliarization', i.e. a tactic that seeks to undermine an audience's routine response to conventional approaches, by investing the familiar with strangeness. Defamiliarization in the works, they argue, occurs on two levels. Firstly, the juxtaposition of Web material with moving image, functions to destabilize conventional cinematic form, opening out possibilities for a potential hybridized networked cinematic practice. Secondly, the Web, with its standardized interfaces and search engine technologies is now for many, almost mundane – an everyday fact of life. In re-presenting material found on it, in an unusual cinematic form the work ambushes habitual audience expectations about how the network might look and also how it might operate; in effect presenting a prototype of a different kind of Internet.

In 'If Networked Art is the Answer What is the Question?' Lucy Kimbell develops an expanded concept of network art. For Kimbell the process of aligning, linking and constructing material from disparate sources prevalent in much of the work discussed in this book, describes an operative principle or methodology rather than a material practice realized through specific technologies. Interdisciplinary in form, her work interrogates the construction and interpretation of data through the production of printed material, performance and questionnaires. Her approach formulates what might be described as a wider 'relational' project that uses the idea of a network as 'a way of working things out by trying things out', of prototyping new ways of perceiving cultural and social tendencies. Or, to put it another way, the network in this sense operates as a means to assemble speculative structures that make visible possible connections between seemingly unconnected disciplines, people and objects and, in doing so, generates potential.

An impetus to link, to assemble and to mutate, is much in evidence in the work of Mark Amerika. In 'Digital Pop Poetics' he describes how artists operating within the contemporary contexts of networked culture are less involved with the generation of original artifacts, as engaged in continuous 'real-time acts of cultural and material re-mixing'. 'Nomadic narrative', 'life style practice', 'hyperimprovisation' and 'asynchronous real-time', are concepts developed by Amerika to describe a series of positions that formulate the digital artist as an agile *bricoleur*, who has the ability to respond to, assimilate and ultimately re-deploy the contemporary products of the mass media against itself. Amerika argues that the 'Plug-In Artist of today' evades the pessimism

and alienation associated with postmodern thought as 'the online art performance exudes a politically-charged aesthetic aura'. For Amerika, the online artist is involved in a progressive project by pro-actively engaging in shaping the mainstream media environment and its homogenized forms, through a process of parasitic insinuation.

Position six: Critical software

The software environment that allows access to the Internet appears through its ubiquity and homogenized forms, so mundane as to preclude serious attention from the casual user. However, one of the key developments in network art practice has been the formulation of a critique of software as a culturally inscribed interface.

In 'System Poetics and Software Refuseniks' Corby and Baily suggest that, rather than be considered neutral, software 'carries the markers of ideological bias' in its planning, design and production. It has, they propose, a regulatory function that organizes perception according to determinate and often increasingly commercially orientated imperatives. In response, they argue that artists must involve themselves with the production of different kinds of non-instrumental software capable of being 'inclusive of the poetic, political and emotional domains'. In their chapter they describe the development of alternative forms of Internet browser amongst other projects that – as they put it – refuse to 'render the data landscapes of the network as a business or marketing opportunity'.

Work of this nature demands the development of cross-disciplinary skill sets not normally associated with traditional fine art education. In his chapter 'Softer Side of Art' Maciej Wisniewski argues that developing a technical understanding of networked communication is as important a task for the contemporary artist as reading Baudrillard or Foucault. In doing so Wisniewski proposes, the artist is faced by a unique set of questions because software is not really a medium as traditionally understood. The division between tools and content that normally occurs in radio, television, print and painting media becomes blurred as software is content, and produces content at the same time. Or, as Lisa Jevbratt's puts it in the following chapter, it is as if 'the image produced by a potato stamp were also a potato'.

In 'Inquiries in Infomics' Jevbratt develops this argument in her discussion of a series of images of the Network. In her work *1:1* the Internet, in its entirety, is mapped using the individual collections of numbers known as IP addresses that underpin the .com or .org addresses, which we normally type into a browser to access a Web page and represented as a series of five visualizations. As its title suggests the work presents the Web as a map that erodes the distance between what is represented and the interface used to picture it, i.e. in a post-modern turn, the image is the environment that it refers to on a 1:1 scale. Building out from her discussion of specific projects, Jevbratt argues for a change in perception of computer code – away from being seen as a symbolic language that renders an image of the real towards an understanding of it as a formative and potentially controlling aspect of reality itself. Making a link back to earlier sculptural and environmental practice she proposes that, rather than conceive of the artist as a writer (of software), they should more correctly be thought of as land-artists. In this sense software/code is more akin to soil, not the sedimentation created by geological processes, but rather made up of language, communication protocols and written agreements. By mapping and displacing this material

a revealing process occurs that enables a questioning of the political and economical assumptions that went in to its construction.

In 'The Ludic Hack: Artistic Explorations of Computer Games', Tilman Baumgärtel describes how the impetus to challenge, critique and dispute technology 'on its own terrain' that occurred in network art, has evolved to encompass a well-established, if albeit marginalized social phenomena in the form of gaming. With reference to a series of artworks, Baumgärtel demonstrates that artists who employ the computer game as motif do so through a position of critical and material engagement that situate the game as a serious cultural phenomenon, albeit one which they are prepared to manipulate and modify. This approach enables a narrative and visual shattering by which computer games (and cultures) are capable of being used as vehicles to develop commentaries on wider social and cultural tendencies. In addition to these critical and material explorations Baumgärtel argues that the appropriation of the computer game by artists reintroduces elements of popular culture into an increasingly academicized art scene, and in doing so has a rejuvenating function.

Notes

1. For a good description of the historical development of the Internet see; K. Hafner and M. Lyon, *Where Wizards Stay Up Late: The Origins of the Internet*, New York: Simon and Schuster, 1996.
2. T. Baumgaertel, *net.art 2.0. – Neue Materialien zur Netzkunst/New Materials towards Net Art*, Nürnberg: Institut für moderne Kunst, p. 24, 2002.
3. J. Stallabrass, *Internet Art: The Online Clash of Culture and Commerce*, London: Tate Publishing, p. 26, 2003.
4. J. Berry, 'Bare Code: Net Art and the Free Software Movement,' *ArtNodes*, The Universitat Oberta de Catalunya, 2003, <http://www.uoc.edu/artnodes/eng/art/jberry0503/ jberry0503.html> (accessed 12 March 2005).
5. A. Broeckmann, 'Net.Art, Machines, and Parasites,' Nettime, 1997. Online posting. Available email: nettime@bbs.thing.net (8 March 1997).

Chapter 2

The history of network art

Charlie Gere

One of the most interesting characteristics of network art is that its means of circulation are also those of its storage, display, conservation and reproduction. This, along with the speed of the technologies involved, means that the rhythm at which it is produced and commented upon is unprecedented. Net art is thus both a product and symptom of the 'unlimited upheaval under way in archival technology',[1] which for Jacques Derrida, generates 'an unprecedented rhythm, in quasi-instantaneous fashion', in all strata of society.[2] For Derrida the 'changed technological regime of telecommunications',[3] resulting from technologies such as email and the World Wide Web, reminds us that:

> archival technology no longer determines, will never have determined, merely the moment of the conservational recording, but rather the very institution of the archivable event [...] this archival technique has commanded that which in the past even instituted and constituted whatever there was as anticipation of the future.[4]

This has implications for any attempt to write a history of network art. In its short existence, little more than ten years at the time of writing, it has been through a successive series of developments and changes at a greatly accelerated pace, including on several occasions, declarations of its own demise. Rather than try to chart this decade of frenetic activity – which would result in little more than a survey – it seems more useful to construct a kind of genealogy of precedents by connecting it with a broader historical context concerned with the expansion of capitalism and its drive towards greater efficiency in the late nineteenth century. According to J. Hillis Miller this 'second industrial revolution' signified:

> the shift in the West, beginning in the mid-nineteenth century but accelerating ever since, from an economy centered on the production and distribution of commodities to an economy increasingly dominated by the creation, storage, retrieval, and distribution of information. Even money is now primarily information, exchanged and distributed all over the world at the speed of light by telecommunications networks.[5]

It was in the mid-nineteenth century that the American artist Samuel Morse gave up painting and devoted himself to becoming an inventor, and in doing so helped

initiate the massive expansion of telecommunications that helped drive the shift described above. Born in the United States at the end of the eighteenth century, Morse was trained as an artist in London, at the Royal Academy Schools, and, for the first half of his life, was a reasonably successful portrait painter. But his more ambitious artistic projects failed. He had hoped that large canvasses such as *The House of Representatives* and *The Gallery of the Louvre* would generate a new audience for art in the United States and also foster the community-to-come in the form of an educated sphere of American citizens. Unfortunately the American public failed to show interest in this kind of work and eventually he abandoned painting completely.

The idea of the electric telegraph can be traced back to the middle of the eighteenth century but had not been adequately developed. Inspired by a conversation about electromagnetism he had overheard on a trip to France in 1832 Morse's amateur interest in science had led him to realize that electrical current could effectively convey information over wires. Around this time military requirements for efficient forms of telecommunication were converging with a number of discoveries concerning the properties of electromagnetism. In response to these developments, Morse from 1832 onwards, began to develop his own ideas for a telegraph system with the help of two partners, Leonard Gale, a professor of science at New York University, and Alfred Vail. Using homemade materials, by 1837 Morse had built a working device, which had what Paul Staiti, describes as a 'curious Duchamp-like appearance'.[6]

By the following year Morse (or possibly his colleague Vail) had improved the coding system used to send and receive messages by substituting the letters of the English language with dots and dashes. Interest in Morse's invention grew slowly. In 1842 he persuaded Congress to provide $30,000 in support of his plan to string wires across the United States. In 1844 he gave the first public demonstration, sending a message from the chamber of the Supreme Court to the Mount Clair train depot in Baltimore. Appropriately, given Morse's evangelicalism, the message was a quote from the Bible, 'What hath God wrought?'

The invention of the telegraph is not just a major technological development; it is also Samuel Morse's most notable contribution to the history of art. His paintings have been to a large extent forgotten. Yet the technological discovery for which he is most famous was part of a set of dramatic cultural and social shifts, which was manifested as much in art as elsewhere. The speeding up of communication enabled by the telegraph, as well as the increasing autonomy of the sign it helped bring about, reverberated through the subsequent development of modern art. The dilemma he resolved by abandoning art altogether finds expression in the oscillation found in the work of artists, art movements and even in individual works of art, between taking advantage of new means of communication at the cost of abandoning artistic autonomy, and preserving that autonomy or its vestige, by cleaving to slower auratic forms of transmission. More directly, his invention and others that were to come later, such as the telephone, film, television, video and the computer, opened up new possibilities for the production of art and ideas concerning its role. This can be seen early on in the work of the Futurists, and Moholy Nagy's *Telephone* paintings. Later developments such as John Cage's use of radios and other technologies and mail art as practised by the Nouveau Realistes, Fluxus and Ray Johnson, amongst others; and ultimately in the first substantial use of mass media technologies in video art, computer and cybernetic art, and of course, the recent development of net art and other practices intended

for the Web. It is unlikely that Morse would have recognized any of this as art, yet his invention was part of the set of dramatic shifts out of which artistic modernism, the avant-garde and current media practice all emerged.

But the immediate effects of Morse's invention were more practical. By the time Morse had developed his version of the telegraph, the steam engine had become a practical means to transport goods and people over long distances at unprecedented speeds. By the mid-nineteenth century, largely through exploitation by private companies, the telegraph had spread through the United States, following and sometimes preceding the railroads. The electric telegraph and Morse Code were first widely adopted as a solution for the crisis of control brought about by the railways. Both in Britain and the United States the early railways were troubled by large numbers of accidents as well as problems with efficiency, mostly owing to the difficulty of coordinating different trains on the same line. The telegraph offered a means of coordinating and organizing the railways, thus initiating one aspect of what James Beniger calls the 'control revolution', which represents the nineteenth century beginnings of the 'Information Society', commonly supposed to be a more recent phenomenon.[7]

The combination of railway and telegraph was also an important component of the beginnings of modern commodity capitalism. Increased communications both encouraged the growth of markets, and changed the nature of those markets. In the United States in particular, the telegraph, along with the railroad, enabled a radical shift from local markets' conditions of supply and demand to a nation-wide marketplace, in which the price of goods responded to national conditions. James Cary points out that this brings with it an increasing standardization of the commodity and a concomitant move to trade receipts rather than the product itself, constituting: 'part of a general process initiated by the use of money [...] the progressive divorce of the signifier from the signified, a process in which the world of signifiers progressively overwhelms and moves independently of real material objects'.[8]

Telegraphy is one of a number of developments which had important effects on the circulation of signs and information. In 1840 Sir Roland Hill established the system of Penny Postage in Great Britain, which later became the basis of the Universal Postal System. According to Friedrich Kittler 'Once there is a world postal system, signifiers have standardised prices that mock all meaning. Once there are telegrams and postcards, style is no longer the man, but an economy of signs'.[9] A decade or so earlier, in 1827, the first successful attempt to capture the effects of light on chemicals to represent a scene was achieved by Joseph Nicephore Niépce. Named 'photography' by the English scientist Sir John Herschel, this process was further developed by Louis Daguerre in France, and William Henry Fox Talbot in England, who also developed the technique whereby multiple prints could be made from a single negative. Jonathan Crary points out that the photograph was the most significant of the 'new field of serially produced objects' in terms of cultural and social impact, that characterized modernity. As he puts it: 'The photograph becomes a central element not only in a new commodity economy but in the reshaping of an entire territory in which signs and images, each effectively severed from a referent, circulate and proliferate'.[10] It was also around this time that Charles Babbage began to build machines to automate the processes of calculation involved in mathematical tables and for more complex processes, which are now recognized as precursors of the modern computer.

These developments coincide almost exactly with the first mechanized manufacture of paint in tubes. By storing it in sealable tubes, as opposed to producing it by hand, colour was standardized. This foregrounded the sign aspect of the pigment, both literally in that additives such as wax and oil tended to efface the differences between pigments, and more conceptually because it turned colour into a series of discrete, universal signs, 'cadmium red' or 'magenta' and so on. The most immediate result of this was the distinctive paint handling of the Impressionists and Post-impressionists. Colour becomes a universal and interchangeable economy of signs. This is the point made by Marcel Duchamp when he declares that 'Since the tubes of paint used by the artists are manufactured and ready-made products we must conclude that all paintings in the world are "readymades aided" and also works of assemblage'.[11]

In the 1880s, the moment when the various artistic activities that would later become known as Post-impressionism began to emerge, as well as concomitant and parallel work by Mallarmé and other literary symbolists; what Derrida calls the 'increasingly powerful historical expansion of a general writing' was beginning to become evident.[12] This could be seen in the phenomena described above, in the Universal Postal System, photography, telegraphy, the standardization of the means of artistic production, as well as other developments such as telephony and the various optical experiments that would lead to the invention of cinema. These phenomena were concerned, each in their own way, not just with writing in an expanded sense, but with communicating messages at a distance, with the effect for Derrida of reducing 'the system of speech, consciousness, meaning, presence, truth', which had dominated Western thinking about communication to 'only an effect', which 'should be analysed as such'.[13] Though van Gogh did not invoke or represent these 'expanded systems of communication and new media' (other than in his portraits of the postman in Arles, M. Roulin and his family), his later style of drawing and painting, in discrete brushmarks of saturated colour, suggests a kind of pseudo-writing or even telegraphese. Griselda Pollock's description of the peripatetic painter in her essay *Van Gogh and Holland: Nationalism and Modernism* could be applied to many artists and writers of the period. According to Pollock, van Gogh was:

> both a symptom and effect of the expanded systems of communication and new media, international systems of distribution facilitated by new rail networks and steam boats, telegraph communication, international exhibitions celebrating colonial power and commerce.[14]

For the Russian avant-garde artist Kasimir Malevich, van Gogh was the precursor of what he called 'Futurist Dynamism'.[15] According to Malevich, van Gogh 'began to express dynamics with great force by means of the splitting and scattering of things thrown by energic power onto the path of universal unity of movement towards conquest of the infinite'. Malevich defines the Futurism which van Gogh anticipates as rejecting 'all the signs of the vegetable world, and of flesh and bone', and of discovering 'forms of expression in a new iron world', and 'a new sign: the symbol of speed, the machine which is preparing to run in a million forms onto the new beaches of the future'.[16]

Thus, for Malevich, van Gogh's work was part of a process by which art engaged with the possibilities of liberation from the earthbound world of material static

objects. In the first half of the nineteenth century, developments such as the steam engine and the railways, the electric telegraph, photography and the Universal Postal System had made possible unprecedented degrees of mobility for people, goods and signs. The period between the 1870s and 1890s had witnessed the extraordinary achievements of the Impressionists and the Post-Impressionists, which took place in a world transformed by the industrial, technical and social developments that had taken place earlier in the century. Yet they remained bound to the earth and to the body. Even with the most radically innovative of such work, for example by Cézanne or Van Gogh, there remains the strong sense of the artist's presence in an environment in which he is located and to which he is responding. The next generation of the avant-garde in the early twentieth century responded in different ways to the liberation and dislocations of a culture undergoing even more profound scientific, cultural and technological transformations.

At the turn of the twentieth century this mobility was increased and indeed overhauled by the possibility of far greater freedom of movement. The internal combustion engine powered transport from the rail track, while wireless liberated telecommunications from the fixed lines of the telegraph, radically dematerializing communication and making possible both radio and later television. The Wright Brothers' achievement made possible the liberation of humankind from the earth itself, albeit temporarily. This sense of progression found expression in the arts. The Italian Futurists famously celebrated the new freedom and excitement offered by the internal combustion engine, by flight and by the new culture of speed such developments offered. The Cubists deconstructed the static viewpoint of Albertian perspective to offer multiple viewpoints of the same object on the same canvas, a technique which Gertrude Stein compared to the view from a plane.[17] The Surrealists and Dada exploited the possibilities of new media forms such as film, combined, in the case of the former, with the insights provided by psychoanalysis, which had emerged simultaneously with the invention of cinema. Artists also started to show interest in new means of telecommunications, then being developed. As Linda Henderson has shown in *Duchamp in Context*, her study of the technological and scientific bases of the artist's work, his *Large Glass* was full of references to wireless telegraphy, telepathy and radio control.[18] Indeed Marconi's invention of wireless held a particular fascination for avant-garde artists, particularly those connected with movements such as Futurism. In 1912 Marinetti proclaimed the Futurists' invention of a 'wireless imagination' in his 'Technical Manifesto of Futurist Literature'. Guillaume Apollinaire and Blaise Cendrars both wrote poems and stories invoking wireless telegraphy and the Eiffel Tower, as a symbol of its power to communicate over long distances.[19] Ezra Pound was also fascinated by electric telecommunications and famously described poets as 'the antennae of the race',[20] later to be updated by Marshall McLuhan, who described artists as culture's 'early warning system'.[21] The Czech artist Frantisek Kupka wrote extensive treatises on the notion of art as a form of telegraphy or telepathy.[22] During the First World War the first art works actually to use telecommunications networks appeared. Some of the Futurists serving in the army sent back letters praising war, intended as art works. In 1916 Duchamp also sent four postcards to his then neighbour, containing syntactically plausible but meaningless writing. These may be the first example of what would be known later as mail art. Shortly after the war the Hungarian artist and designer Laszlo Moholy Nagy reputedly produced the first

work of art to exploit the telephone system in its production. According to his own account:

> In 1922 I ordered by telephone from a sign factory five paintings in porcelain enamel. I had the factory's color chart before me and I sketched my paintings on graph paper. At the other end of the telephone, the factory supervisor had the same kind of paper, divided into squares. He took down the dictated shapes in the correct position. It was like playing chess by correspondence.[23]

In the mid 1930s the German Marxist philosopher and critic Walter Benjamin wrote several versions of an essay known in English as 'The Work of Art in the Age of Mechanical Reproduction'. Benjamin was interested in the effects of mechanical reproduction on works of art which, he suggested, detaches them from the domain of tradition and enables them to be reactivated for different purposes.[24] For Benjamin this meant art could stop being based in ritual and tradition and instead be politically situated, thus enabling a deritualized art to combat the fascist aestheticization of politics through the politicization of aesthetics.[25] Benjamin's more antagonistic vision of technology's potential political role reflected his status as a German Jew, for whom the threat of Fascism and Nazism was real and immediate. Three years later, at the age of 48, he died at the Franco-Spanish border, while fleeing Nazi-occupied France, having anticipated many of the ways in which artists would later think about and exploit the expanded possibilities of networks of communication. But it was not until after the Second World War that Benjamin's vision began to be fully realized. The Second World War was the catalyst for accelerated technological development on a number of fronts. It led directly to the development of atomic weaponry, radar, massive advances in telecommunications, and the first electronic digital binary computers, as well as scientific and technical discourses such as Cybernetics, Information Theory and Systems Theory. It is therefore not surprising that, post-war, the possibilities of telecommunications networks began to be exploited by artists. In the 1950s and early 1960s in the United States, John Cage developed work that engaged with notions of interaction, multimedia and with the possibilities of electronics, such as his famous silent work, *4' 33'*. His work was one of the main inspirations not just for other composers working with electronic means but also for artists interested in process, interaction and performance, such as Alan Kaprow and those involved with the Fluxus Group.

Owing to the international nature of the movement, those involved in Fluxus used the postal system a great deal to exchange material and ideas. The movement included members from the United States, Europe and Japan, and deliberately eschewed identification with particular nations. They also demonstrated a fascination with telecommunications and postal systems and employed them for making art in its own right. Fluxus poet Robert Filliou invented the term 'Eternal Network' to refer to the long-term inseparableness of art and life which became synonymous with Fluxus's use of the post as a vehicle for art. Filliou, along with other Fluxus artists such as Ben Vautier, Ken Friedman, Robert Watts, Nam June Paik and Dick Higgins, increasingly used postcards and other correspondence material to this end from the late 1950s onwards. This work was paralleled by similar projects undertaken by the artistic group, the Nouveau Réalistes in France, which had many affinities with Fluxus and

indeed shared some members. Among those involved with Nouveau Realisme were Yves Klein, Daniel Spoerri, Piero Manzoni, Niki de Saint-Phalle, Christo, Arman and Jean Tinguely. Perhaps the most complete exponent of 'mail art', as it became known, was Ray Johnson, a pop artist and associate of many of those who were involved in Fluxus. Johnson and his New York Correspondance [sic] School more or less defined the genre of mail, postal or correspondence art, with his sending and receiving of letters and faxes as artworks.

At the same time, in the late 1950s and 1960s, theorists such as Marshall McLuhan and Richard Buckminster Fuller began to examine the social transformations wrought by the new technologies of information and communication. McLuhan famously declared that electronic telecommunications would turn the world into a 'global village'.[26] The expanded possibilities of computing as a means of telecommunication began to be explored in projects such as the first elements of the Internet (or ARPANET, as it was first known, after its funder, the Advanced Research Project Agency or ARPA). Douglas Engelbart's Knowledge Augmentation Project was also funded by ARPA, leading to the first user interface and computer mouse, and ultimately to Ted Nelson's concept of the computer as a medium for non-linear, associative texts or hypertext. At the same time the artistic potentials of the new technologies were beginning to be explored. In the early 1960s artists such as Nicolas Schöffer in France and Roy Ascott in Britain began to be interested in techno-scientific ideas such as Cybernetics, and mid-decade the first computer art shows were mounted in Germany and the United States. These were followed by exhibitions and events such as *9 Evenings* at the Armory in New York, staged by Billy Klüver and Robert Rauschenberg's Experiments in Art and Technology (EAT) group, which had been specifically founded to foster collaborations between artists and engineers.

In the years that followed a number of major exhibitions involving new technologies were held, including *The Machine as Seen at the End of the Mechanical Age* at MOMA in 1968, which accompanied a show of work commissioned by EAT, *Some More Beginnings* at the Brooklyn Museum. In the same year the legendary exhibition *Cybernetic Serendipity*, curated by Jasia Reichardt, was held at the ICA in London. A year later *Event One* took place in London organized by the Computer Arts Society (the British equivalent of EAT). In 1970 critic and theorist Jack Burnham organized *Software: Information Technology, its meaning for art* at the Jewish Museum in New York. Like Cybernetic Serendipity this show mixed the work of scientists, computer theorists and artists with little regard for any disciplinary demarcations. Also in 1970, Kynaston McShine curated *Information* at MOMA, which dealt with the issues and possibilities of new technologies, but only featured the work of artists. Following this, in 1971 the results of Maurice Tuchman's five-year *Art and Technology* programme were also shown at the Los Angeles County Museum. Perhaps the most important show in terms of network art at this time was *Art by Telephone*, held at the Museum of Contemporary Art in Chicago, which would have been held in 1969, if it had not been abandoned for technical reasons. Following Moholy-Nagy's alleged strategy for producing the 'em paintings', artists would participate by giving instructions for the construction or installation of their artworks by phone and by no other means.

By the early 1970s the mainstream art world had lost interest in art involving new technologies, put off perhaps, by their connection with the military–industrial complex, particularly in light of the debacle of the Vietnam War. Conceptualism, which

came to dominate the art scene at the time, could be seen in part at least, as a critique of the instrumental use of language concomitant with the development and use of new technologies. That said, the Japanese conceptual artist On Kawara continued to engage with the artistic possibilities of telecommunications networks, through his series of telegrams, bearing the message 'I am still alive', and his postcards, each stamped with the date and the time he got up that day.

However, some artists continued to more directly investigate the possibilities of new technologies, including Douglas Davis, Roy Ascott, his ex-student and colleague Steven Willats, and the Australian performance artist Stelarc. Davis' work is of particular interest in relation to network art, consisting as it does of performances and events involving technologies, such as satellite communications and slow-scan television. Davis started work in this vein in 1970 and continues to do so today. He was also one of a number of artists who engaged with the possibilities of television as a medium. The earliest example of such work is probably the inclusion of televisions in installations by Fluxus artists Wolf Vostell and Nam June Paik in the mid-1960s. Paik would later be one of the first to exploit the early portable video equipment produced by Sony in the latter part of the decade, and was thus one of the earliest video artists. In 1969 the Howard Wise Gallery in New York put on a show entitled *TV as a Creative Medium*. In the early 1970s collectives such as Raindance Corporation, founded by artists Frank Gillette, Paul Ryan and journalist Michael Shamberg, and publications such as Guerrilla Television and Radical Software put forward progressive agendas for liberating and democratizing television. In the late 1970s Sherrie Rabinowitz and Kit Galloway were funded by NASA to produce the *Satellite Arts Project* (1977), in which satellite technology and television were used to bring remote participants together to dance. Later their *Electronic Café* (1984) brought together artists in various areas of Los Angeles in a 'telecollaboration'.

At the same time, many of the ways in which artists in the 1960s had been using and thinking about such technologies began to be realized practically. The economic crises of the 1970s led to a restructuring of capitalism and global finance, which was aided by the increasing ubiquity of networked computing. This, in turn, heralded the beginnings of what became known as the post-industrial economy in which information became the dominant mode of production (in the developed countries at least), as predicted by pundits such as Alvin Toffler and Daniel Bell. The techno-utopianism of the 1960s art world re-emerged in the 1970s in relation to developments such as the personal computer and the Internet, through which technologies developed during the Cold War by the military–industrial complex were appropriated and re-purposed by the neo-liberal end of the counter-culture. The late 1970s saw not just those developments but also the beginnings of computer special effects, video games and the beginnings of user-friendly systems, as well as cultural responses such as cyberpunk fiction, techno music and deconstructive graphic design.

The rise of the post-industrial society was responded to in the cultural sphere by the emergence of postmodernism, which can be seen as partly a critical response to the ubiquity and power of information technologies and communications networks. In France, at the end of the 1970s, two academics, Simon Nora and Alain Minc, wrote a report for President Giscard d'Estaing which declared the 'computerisation of society' and the advent of 'telematics', meaning the coming together of computers and telecommunications.[27] Among other things, this led to the installation of Minitel,

the networked public computer information system. According to Jean-François Lyotard, in his report for the Government of Quebec on the state of knowledge in the Western world (published in English as *The Postmodern Condition*), postmodernism was a result of transformation of knowledge into information necessitated by the 'proliferation of information-processing machines' and their effect on the 'circulation of learning'.[28]

Later, in 1985, Lyotard curated a massive exhibition at the Beaubourg, *Les Immateriaux*, which aimed to show the cultural effects of new technologies and communication and information. Given that he included little in the way of art involving new technologies, perhaps the most interesting element of the exhibition in the context of network art was the 'Writing Tests' area in the *Labyrinth of Language* section. This gave the visitor access to a number of dialogues or conversations between 30 writers and thinkers, on 50 topics relevant to the exhibition. These dialogues were conducted over a period of two months via networked computers on the Minitel system, and were, in effect, a proto-bulletin board system. Visitors were able to read the ensuing discussions on terminals in the exhibition, as well as read them in transcripts printed as part of the catalogue material. Among the topics discussed were 'Artificial', 'Code', 'Interface', 'Nature', 'Time', 'Language' and 'Voice'. The more well-known among those involved in the discussion included Christine Buci-Glucksmann, Daniel Buren, Michel Butor, Jacques Derrida, Bruno Latour, Philippe Lacoue-Labarthe and Isabelle Stengers.

The inclusion of Derrida in the participants is interesting in that he had by then been instrumental in generalizing the notion of telecommunication to account for the possibility of communication altogether. According to Derrida, all forms of discourse are telecommunication, in that they are predicated on the possibility of the radical absence of both the producer and the receiver of any communication. Thus communication is always already 'writing', even if it does not involve material marks. As such it always involves the possibility of being understood in an entirely different way to the intentions of the producer, and of being grafted onto other contexts.[29]

In the late 1970s the possibilities offered by telematics inspired a number of artists to put together projects involving computers and telecommunications networks. In 1979 Bill Bartlett organized *Interplay*, a computer communications project, involving near-instantaneous response, for the Computer Culture conference in Toronto in 1979. This led to the founding in 1980 of ARTBOX, an electronic mailbox program for artists to organize communications projects. In 1982 ARTBOX was renamed ARTEX, under which name it hosted a number of important telematic projects. Among the most well-known of these was Roy Ascott's *La Plissure du Texte*, proposed for *ELECTRA 1983*, and Frank Popper's survey of the use of electricity in art, held at the Musée d'Art Moderne de la Ville de Paris in 1983. For *La Plissure du Texte*, which was on-line for 12 days, 24 hours a day, Ascott invited artists and groups from 11 cities to help create an evolving, participatory fairy tale.

Another important venue for such work was a short-lived series of festivals, which took place in the imaginary city *Wiencouver*, i.e. between Vienna (Wien) and Vancouver. According to one of its founders, Hank Bull, *Wiencouver* was conceived and initiated when he flew from Vancouver to Vienna to attend *Audio Scene 79*, in order to set up networks of correspondence between the two cities. The following year *Wiencouver II* involved a mail art exchange exhibition, in which contributions

were shown simultaneously in venues in each city. A special global artists' telecom conference was also organized by Bill Bartlett, which involved communicating with a dozen other cities through slowscan video, and collaging an enormous text by computer.

Wiencouver III, 1982, was one of the venues for *The World in 24 Hours*, one of the most important telematic art events of the period. It was conceived of and directed by Robert Adrian X, and also based at the *Ars Electronica*. The latter festival had first been held in Linz, Austria, in 1979, and was developed especially to explore the cultural effect of computers and electronic technologies. *The World in 24 Hours* connected artists in 16 cities on three continents from noon on September 27th to noon the next day. The available media were slow-scan television, telefacsimile, sound transmission and computer. Using these means artists were invited to exchange works, improvizations and information. *Wiencouver IV* in 1983 hosted *Telephone Music* (*TelefonMusik*), in which sound and music performances by artists communicating by phone in several cities, were amplified.

In 1988 Moviola, an agency for the commissioning, promotion, presentation and distribution of electronic media art was founded, under whose aegis *Videopositive*, an annual festival of such art was held. (Moviola later transmogrified into the Foundation for Art and Creative Technology or FACT.) In the same year the first *International Symposium on the Electronic Arts* (ISEA) was held. A year later the Zentrum für Kunst und Medientechnologie (ZKM) was founded in Karlsruhe, Germany, which remains a major centre for media and technology arts. In 1990 a similar institution was opened in Japan, the NTT InterCommunication Centre, Tokyo, while the San Francisco Museum of Modern Art held its first show of new media art, and the Walker Art Gallery in Minneapolis began to regularly exhibit digital works. It was also round this time that the first use of computers for public display of information occurred at the National Gallery in London. In 1993 Wired Magazine was founded, and the Guggenheim in New York held the exhibition *Virtual Reality: an emerging medium*, followed three years later by *Mediascape*. In 1994 Mute Magazine started commercial production, the first *Lovebytes* festival of electronic art was held in Sheffield and in 1997 the Barbican Gallery hosted the *Serious Games: art, technology and interaction* exhibition, curated by Beryl Graham.

Perhaps the most important event in terms of digital art practice at this time was the development of the first user-friendly web browser in 1994. The World Wide Web had been developed as a result of the pioneering ideas of Tim Berners-Lee, a British scientist at the European Nuclear Research Centre (CERN) in Switzerland. Berners-Lee was interested in using the Internet to allow access to digital documents. To this end he developed a version of the Standard Generalized Markup Language (SGML) used in publishing, which he called Hypertext Markup Language or HTML. This would allow users to make texts and, later on, pictures, available to viewers with appropriate software, and to embed links from one document to another. The emergence of the Web coincided almost exactly with the collapse of the Soviet Union. The subsequent new-found sense of freedom coupled with the possibilities for cross-border exchange, and funding from the European Union and NGOs such as the Soros Foundation, helped foster the beginnings of network art in Eastern Europe, where much of the early work was done. When 'user-friendly' web browsers such as *Mosaic* and *Netscape* came out in the early to mid 1990s, the possibilities of the Web as a medium were seized upon by a number of artists, who started producing work under

the banner of 'net.art'. This meant work that was at least partly made on and for the Web and could only be viewed on-line. The term 'net.art' was supposedly coined by Vuk Cosic in the early 1990s to refer to artistic practices involving the World Wide Web, after he had received an email composed of ASCII gibberish, in which the only readable element was the words 'net' and 'art' separated by a full stop.

Since then there has been an extraordinary efflorescence of work done under the banners of network art, net.art or net art, from Vuk Cosic, Olia Lialina, Alexei Shulgin, Rachel Baker, Heath Bunting, Paul Sermon, 0100101110101101.org, Natalie Bookchin, Lisa Levbratt, Paul Sermon, Radioqualia, ®™ark, Matt Fuller, Thomson and Craighead, and many others, some of whom are contributors to this book. Much of net art is characterized by its repetition of previous strategies and tropes developed by earlier incarnations of the avant-garde. At one level this might seem to bear out Andreas Huyssen's observation about the ways in which our sense of time and history has been altered by new information communications technologies:

> Both personal and social memory today are affected by an emerging new structure of temporality generated by the quickening pace of material life on the one hand and by acceleration of media images and information on the other. Speed destroys space, and it erases temporal distance. In both cases, the mechanism of physiological perception is altered. The more memory we store on data banks, the more the past is sucked into the orbit of the present, ready to be called up on the screen. A sense of historical continuity or, for that matter, discontinuity, both of which depend on a before and an after, gives way to the simultaneity of all times and spaces readily accessible in the present.[30]

But this repetition, far from being a reason to condemn network art, is precisely what gives it its strength, much as did similar acts of repetition by the neo-avant-garde of the 1960s of gestures and strategies first enacted by the so-called historical avant-garde of the 1920s and 1930s. In his book *The Return of the Real*, Hal Foster describes the latter in terms of *nachtraglichkeit*, the Freudian term for deferred effect, by which an experience only assumes a traumatic dimension upon repetition and the delayed assumption of a sexual meaning. For Foster:

> Historical and neo-avant-gardes are constituted in a similar way, as a continual process of protension and retension, a complex relay of anticipated futures and reconstructed pasts – in short, in a deferred action that throws over any simple scheme of before and after, cause and effect, origin and repetition.[31]

He continues:

> On this analogy the avant-garde work is never historically effective or fully significant in its initial moments. It cannot be because it is traumatic – a hole in the symbolic order of its time that is not prepared for it, that cannot receive it, at least immediately, at least without structural change.[32]

Thus despite its continued repression, failures and supercessions, the avant-garde continues to return, but, as Foster puts it, 'it returns from the future'. It opens out the

future to the contingent and the incalculable and thus the promise of the to come. The avant-garde is the archive of the future.[33]

The same might be said about net art. Commenting on artist Vuk Cosic's comments on the similarities between net art and archaeology, Julian Stallabrass suggests that net art, in its recovery of previous art forms, produces 'a complex interaction of unrealised past potential and Utopian futures in a synthesis that is close to the ideal of Walter Benjamin'.[34]

Archaeology is of course cognate with 'archive' and both are concerned with the preservation of the material remains of the past. Only in preserving the past can our relationship with the future remain open. Net art delineates the conditions of archiving in our current regime of telecommunications. Derrida reminds us the question of the archive is:

> a question of the future, the promise of the future itself, the question of a response, of a promise and a responsibility for tomorrow. The archive: if we want to know what that meant, we will only know in times to come. Perhaps.[35]

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Chapter 3

Art as experience: meet the active audience

Josephine Bosma

Splitting hairs

The way we look at art is defined by what we look for. It is defined by what we want it to be or think it to be. It is not necessary to understand a work of art, its background, maker, and art historical context in depth to appreciate it. But when working with art professionally, presenting it, representing it, funding it, or archiving it with public funds, one does have to understand what one is dealing with. There seems to be a problem of classification in art today. The need for clarity and professional skill can become an obstacle when dealing with highly interdisciplinary art works, and the number of these kinds of works is growing. Much contemporary art is created using 'new media'. Most of this art is therefore simply called 'new media art' or something similar. The problem with this is that it increasingly locks varied types of art into one category and technological approach. At the same time it creates an exclusion of works that are part of new media art's (material and immaterial) discourses but are not recognized as such. It is important to adopt a more flexible attitude towards technology and technological categories in art, because blindly following tracks laid out by technical instruments in cultural processes can, in the words of historian Siegfried Zielinski, 'lead to standardization and unification', creating a situation whereby, 'progressive is regressive'.[1]

I am going to be a bit of a nuisance now and ask you some seemingly trivial and clichéd questions. What came first: the charcoal or the drawing? Most people would probably answer this question with 'the charcoal'. This answer is based on very basic physical evidence. The visual presence of the charcoal precedes the visual presence of the drawing. Yet did the cavewoman who made the drawing not conceive of the *idea* to make this drawing before she actually made it? Does this not mean the drawing really came first? Some questions simply cannot be answered, or rather; they have more then one possible answer, depending on who does the answering. What matters is to know that most of us would answer 'the charcoal came first' when this is not certain. It is also impossible to say with certainty that the drawing is mostly a product of the mind of the individual artist. One could just as well suggest that the drawing is really dependent on the environment it sprung from and that it might have been part of a bigger cultural expression. Could the cave drawing be the remains of an early piece of media performance art?

When it comes to art in the past few centuries there is less to speculate about. We know most of its context and history, at least of art in Western cultures. During recent

decades, however, we have been faced with a situation that has evolved at the same time as the expansion of the art context beyond institutional and western elitist cultures. The problem arose within a set of clearly related linear art historical developments as an intellectual and artistic evolution of individual artists and artist movements. Within these specific political and social contexts, the material certainties of the physical art object were questioned and ultimately replaced by immaterial situations, processes and ideas created or initiated by the artist. This analysis however failed to acknowledge the role of the audience in the creation of this historical process. The audience is in the end the artist's toughest critic, and even competitor, in the social and cultural environments in which art is made. Historically the audience has been divided into layers of knowledgeable and less knowledgeable spectators. In this text I would like to make a plea for recognition of the profound and influential relations between artists and audiences, which have only become more important in the era of networked cultures.

Within the classification schemes of Western art much significance is given to a separation of mediums in which artworks are ordered according to their material manifestation. The meaning and the context of the work are generally seen as second in line of importance. In the last decade, developments in new media have enlarged the art context and domains of art's reception and production. Art is increasingly developing beyond the reach of traditional institutional contexts and art criticism. Not only does it reach outside of obvious art spaces, but it can also operate in the home. New media practices in addition, tend to create a representation and production space simultaneously. Does this mean that the development of new media technology preceded or provoked a radical change in art? Are we suddenly facing totally new issues and practices? Or have we missed some important historical moments that might help us create an art theory that embraces all art practices, from which we can then look at specific local cultures with a fresh mind? How did we get to this point? After all, surely the audience did not turn into cultural producers and art collaborators overnight.

A distant intimacy

The role of both artist and the audience is changing. We have entered a new situation (and 'new' is no value judgement), in which our perception and experience of the world is increasingly mediated, for better or worse, through the fast evolution of media environments. We find ourselves surrounded by echoes of technology in our public and private lives. On a material level we seem to be engaged in endless struggles to keep our exchanges with computers, telephones and palmtops, but also with wireless networks and the older electronic media television and radio, in balance with our needs (or what we think are our needs). Less visible, but no less intrusive, are the immaterial echoes of our social encounters. As our interactions with other people change, our relationship to information and knowledge is changing as well. We are forced to deal with a new materiality, that of copyrighted information, an abstraction we do not experience as object. The convergence of personal and mass media through new media technologies has caused changes in legislative politics and in the intimate sphere of personal relationships. We see evolving a completely new landscape of shared spaces of culture. Part of this burgeoning cultural space is the new public domain, deeply

connected to the digital commons and given the ironic title *Public Domain 2.0* in a collaborative text written by Eric Kluitenberg and the Indian mailing list Sarai.[2] In these shared spaces, both the public and the corporate overlap with the personal sphere of the individual generating battles over representation, ownership rights and access to information. The corrosive effects of the new legislative environments make it a necessity to protect the possibility for personal media development and activity within the public domain; a situation that has forced critics and cultural producers, from various backgrounds, to create alternative approaches to standard copyright protocols. The refinement of the definition of what constitutes *Public Domain 2.0*, and the education of the audience about open content licenses, are two examples of initiatives which try to ensure the public (including artists) retain the possibility to manoeuvre within different cultural, scientific and technical discourses. Re-defining the public domain is a never-ending enterprise, or in the words of Eric Kluitenberg, 'The public domain is something that is in constant transformation, never fixed, and as a result needs to be reinvented continuously. Truly public spaces, more often than not, just simply emerge spontaneously, and are not consciously designed'.[3] One might question whether there is anything we can call the public domain at all. Geert Lovink suggests this when he writes, 'we may find out that the digital commons is a negative utopia. As an event or experience rather then a fixed space, the digital common existed in the future (or is about to happen in the past)'.[4] When asked to explain this he states 'One could also call it a temporary autonomous zone that can only be recognized as such when the zone, as a real existing utopia, already has vanished'[sic][5] Despite the confusion we can distinguish the main features of this new public space – the elusive *Public Domain 2.0* Kluitenberg describes. Most importantly access to, and knowledge of, social and technological media are of vital importance for individual activities in a mediated environment to flourish.

In her book *Netzkulturen* the curator and critic Inke Arns writes, 'In an expanding networked world the stimulation of a critical media competence is unavoidable. Only through this can people use the net and new communication technologies for their own interests and goals'.[6] Public spaces in electronic media cannot emerge spontaneously, when the specific technologies are inaccessible and/or unfamiliar. Yet it is necessary to create room for their development in order to support representation of cultures and discourses that are not represented through proprietary media channels. Art institutions and governments both have a responsibility in this matter, but art institutions especially need to be more aware of how the changed cultural environment asks for new structures of openness. Copyright issues are the main problem here. In the introduction to *The Guide to Open Content Licenses* published by the Piet Zwart Institute in Rotterdam it says, 'Copyright stories assault us everyday in our newspapers, our emails, and in the next few years [they] will play a very important role in determining the way we think about creativity; either in terms of property or in terms of collaboration'.[7] The guide itself is published under the Creative Commons license, and on its reverse it says, 'Price: A Gift'. This publication gives a list of all the open content licenses, from the Free Art License to the Ethymonics Free Music License and briefly explains their history and context. It is designed to teach the public how to enable a lively and productive discourse around cultural artifacts. As we will see later the definition of 'artist' has broadened, as the 'public' increasingly involves itself in media content production.

Even if the activities and experiences of individual audience members are caught between the intimate sphere of personal exchanges and public, semi-corporate media discourses, the development of 'personal media' has led the audience to take part in media content production in its own right. 'Personal media' are consumer media that everybody can use; such as image and video cameras, sound recording devices and personal computers. British artist Graham Harwood describes such tools, as 'meaningful media'. The term is significant within the context of this discussion as it suggests an empowering of individual voice and identity within the whole of the electronic media arena. Harwood describes it as:

> Everyone with access to clean drinking water is also making meaningful media for themselves. Snapshot photography, tape recordings, photocopied letters ... all the things that people manufacture that have got access to clean drinking water. The next thing after clean drinking water and reasonable food is: make meaningful culture for yourself. So you start to save the pictures of your grandparents, you start to grab the pictures of your parents; you start to build your archive of meaningfulness that you make for yourself.[8]

So whereas the creation of 'meaningful media' does depend on levels of wealth, on being free of the worst kind of material poverty, it is something that everybody engages in once they don't have to worry about their basic survival anymore. 'Meaningful media', as Harwood describes it, is therefore the first term in electronic media discourse that takes the connection between media and wealth into account. It also is the first term to actively involve all media products of individual audience members indiscriminately in the 'Grand Discourses' (sic) of media art theory.

We now live in a media era in which mass media and 'meaningful media' have started to complement and change each other. It is in this environment created both by traditional media players and personal media, that artists produce work. The work is therefore engaged with initiating processes of communication outside of a recognizable art contextual frame.

A speculative theory of immaterial spaces of engagement

I want to take you on a journey through history in order to enable us to look at new media art as something that is neither highly materialistic nor immaterial. Art that is made inside the context of new media cultures is inseparable from a very broad cultural context; i.e. all media and audiences are important vectors within it. What we are dealing with is not so much a change of disciplines, but a change in attitude towards art, generated by both technology and the emancipation and education of the audience.

We are witnessing a further development in the domain of the arts, forced by the historical impact of a range of mechanical reproduction technologies. This change cannot solely be traced back to the invention of photography or the Jacquard Loom machines (just to name two popular starting points of new media history),[9] but to the invention of print. The invention of print produced the end of an intimate relationship (i.e. one on one) between the writer and reader. Print created the author, a writer whose words are reproduced many times, which forces her to confront different meanings for

her work, generated by the new spaces of interpretation opened up by the technology. Print moves the author away from the book itself, because of its mechanical production process, but also quite literally because the text's location became more unpredictable due to wider distribution. Compared to the old handiwork the seemingly infinite reproduction and dissemination of texts caused a breech between the authority of the writer and the perception of the reader, the effect of which was to replace a select group of readers with an audience. The intimacy between writer and reader was replaced by an intimacy between writer and audience that was at the same time distant. The new space of interpretation caused a sliding scale of different levels of intimacy and distance to develop, on which the individual reader could place herself, depending on her reading environment.

The reading environment of the individual reader depended entirely on her place in society, her class. A servant reading the books of her employer must have felt a very different kind of reading experience to that of her mistress. The manner in which the book potentially opened up a previously unknown world of knowledge, into which she might enter, would have been a heady experience, as would the privilege of being allowed access to such a valuable asset.

Even with the obstacles of class differences and different levels of wealth, in time the new interpretation space of print gave members of this audience the possibility for self-expression and even interaction with the author or story.

If historically the impact of print on the reception of art is less obvious than that of photography, print is still significant. It takes education to be able to read – a process that commonly teaches reading and writing at the same time. Even Walter Benjamin recognized the activities of the new or amateur writers and connected their position to that of the new audiences of art and film. He noted a change in attitude that had evolved amongst readers, if only briefly, whose texts started to inseminate the realms of the professional writer through letters to the editor sections in magazines and newspapers: 'The reader is always willing to become a writer'.[10] The audience therefore was not as passive as it might seem; reading ultimately educates the writer within the reader.

Print created a distance between producers of culture and members of the audience that we can still feel today. As a result of the large-scale distribution, and circulation of texts a broader field of interpretation emerged, spread over different classes, communities and cultures. It was enlarged and energized by pamphlets, newspapers, magazines and even personal letters and diaries. This new space of interpretation became visible in the shape of cults, fashions or movements around writers and books. The engagement of the audience – which Benjamin saw mostly as a result of the impact of film – was not completely unprecedented; for example, fans of Goethe's *Sorrows of Young Werther* took to imitating the main character's melancholy, mania and self-destruction. The audience not only started to freely interpret a text, it started to participate in its story by creatively enacting it in a manner previously only associated with the communal experience of religious texts. This engagement precipitated a gradual emancipation of the audience from professional criticism and contexts. It revealed itself first in various forms of visible expression and investment (also described as consumerism), and manifested in the creation of dress codes, the active participation in both printed and live discussions on art and culture, and the purchase of decorative reproductions of art for the home, or friends and relatives.

Popular culture as interpretation space and fully fledged cultural producer

The term popular culture is seldom defined positively. However it is unwise to work from such negative definitions if one believes that art history has traditionally been a tool of exclusion which eliminated certain groups from the cultural debate, such as women, marginalized ethnic groups, or the poor. I define popular culture as 'the creative expression of the people', because this definition contains no quality judgement (unless one naively calls creativity a positive characteristic by default).

The judgement of art quality has moved away from the semi-objective realm of professional art criticism (the domain of the authentic, approved art object with its linear discourses) to that of the present day – decentralized, ultra-local spaces of engagement, which often support intimate experiences. The entanglement of popular culture, technology and the culture industry has been problematic for critics of art and culture from the mid-nineteenth century. The masses were said to have a deluded, unrealistic experience of freedom inside an economically defined cultural complex. Yet popular culture could never have developed in the rich production space it is today without the development of the consumer. The industry has inadvertently given the consumer the tools to educate herself, by developing increasingly smaller and cheaper media tools. The culture industry (in Adorno's definition)[11] is continuing to grow in its attempt to be the dominant factor in cultural consumption and creation for the sake of profit and its own survival. In order to maintain profits, however, it has to resort to more varied and stronger means of controlling the audience, e.g. in the excessive use, development and implementation of copyright laws. Despite the efforts of these vested interests, this does not signify the end of interpretation as there is still a potential for freedom (of action, of interpretation) in a situation where an oppressor has to go to extremes (of power and possibility) to get his way. Oppression provokes rebellion and also an involuntary breaking of rules. Friction always allows for movement to occur.

As discussed above, the new interpretation and participation spaces opened by popular culture and print technologies have occurred over an extended period. However, popular interpretation in the visual arts has developed more slowly and it is possible to identify three reasons for this. Firstly the development of mass reproduction technologies for the visual arts was to occur much later. Another technical influence was the difference in the reproductive quality and distribution of writing and the visual arts. Last but not least, the slower development of a popular interpretation space for the visual arts is deeply connected to economic and political histories, which in turn are related to technological developments. This means that the popular interpretation space of the visual arts was, and is, very much dependent on the wealth and social position of individual members of the audience. For a significant popular interpretation space to develop a large group of people need to be able to access whatever medium serves as carrier and context for the art work or its copy. Remember that the arts are developing in relation to this popular interpretation space, and it is therefore necessary to maintain and cherish it. Historically the mass audience has limited access to any kind of academic art education. In order for it to gain entry to the interpretation spaces of art outside of traditional physical exhibition arenas, it was, and is, dependent on affordable books, magazines, newspapers, cameras, radio receivers, television and computing media in all its forms – including networks.

New technologies serve as a cultural vector, and seem capable of enabling earlier cultural and political desires for freedom. The influence of what is still called the fine arts has reached into popular culture and social life since at least the end of the nineteenth century. What is more important is that more recently, particularly in the twentieth century, it has become entwined with popular culture to the extent that it cannot be separated from it, despite influential attempts by critics, such as Clement Greenberg[12] or Adorno. Instead the audience's association, on various levels, with the arts in popular culture was always an active, lively environment, and in the twentieth century this environment developed from being almost purely an interpretation space into high-end production space as well. The twentieth century started with art salons for the cultural elite and ended with intimate interactivity and autodidactic artists emerging on the Internet.

A short summary

The exchanges between artist and audience, as a broad historical development can be described as follows:

- reproduction created distance from the original which in turn caused a freedom of interpretation to emerge;
- freedom of interpretation created a reaction from the side of artists, in which an attempt was made to complexify interpretation. Expressionism and abstraction (and later conceptualism and interactivity) were born;
- in turn the audience was challenged by this process (and eventual reproductions and documentation produced around a work) to develop a further expansion of interpretation;
- this happened in a growing industrial market which finally was complemented by personal and mass media;
- consumer technology, combined with relatively accessible networks, meant that audience and artists became difficult to distinguish from each other;
- the emancipation of the audience to the level of collaborator and participant within the arts finally reduced the distance between artist and audience to pre-print relations.

This wavering, circular movement led to a highly active and productive interpretation space at the end of the twentieth century, a space that developed within the whole of the media and the local cultures connected to them. The Internet in its entirety (wired and wireless) has, to this date, been most influential in the development and emancipation of the audience.

Popular culture, once seen as the domain of 'bimbos and fans'[13] has developed in such a way that it is producing its own autodidactic artists and contexts consisting of artist initiatives, journalism and publications. Art has irreversibly become part of daily life; the avant-garde can rest in peace. In the last few decades in particular, a part of what we must now call the former audience has gained access to higher levels of cultural production. This occurs both through the Internet and easier accessibility to the various media presentation and production platforms now commonplace on home computers that have replaced the specialist domains of experts.

On the Internet grassroots artist movements and art initiatives have developed, often with a more profound understanding of media art and its ever-changing environment than older, established art institutions. Some of these artists and initiatives already collaborate with all kinds of art institutions worldwide.[14] The standard of many of these Internet art projects is relatively high, however the quality is difficult to judge and the work presents problems with conservation. The reason for the latter is that often this work involves part of an action or process of communication, which can be time and location specific, and which does not take the form of a finished self-contained object or structure.

Interactivity and connectivity, participation and lifestyle

A few years ago I wrote about how the experience of music has changed as a result of the combination of the computer and Internet in a text called 'Musaic'.[15] In it I suggested that the role of the composer, artist and author has become obscured inside a machine which gathers reception, manipulation and the sending of data in one place. The audience is now more or less equipped with the same tools as the artist, and is therefore capable of easily copying, re-interpreting or even replacing the artist's work with their own productions. Slowly this practice is gaining ground and musicians have to decide to what level they want to keep control over their work or in what way they wish to present it. Copying and literal quotation from music has been a common practice since the early 1980s and the combination of the computer and the Internet has added a dimension of speed and availability to these approaches. As such, the audience can take the musicians' place, and also that of the (radio) DJ or even the critic; he or she can *become* a musician, DJ or critic. We see a similar development in the arts online, with the important difference that it seems as if there is less of a replacement of the artist, but rather the generation of an almost intimate art experience for the audience.

Contrary to a persistent belief, which says that art on the Internet is hard to understand or engage with (due to its mediated distance and technological 'nature'), Internet art is totally dependent on engagement and can only show itself to its full advantage by virtue of the active participant. This type of media artifact has been called 'pull media', the opposite of 'push media' such as television – a term which illustrates the efforts of the audience in new media environments. Without an audience which adds content, navigates, reacts or accepts an invitation for participation or an invitation to make use of a specific work nothing happens, and more importantly, without this there is practically no art experience. By default, through contact with the Internet's architectures, the audience for art on the Net is brought into a closer relationship to the person and works of the artist, and a step away from the aloofness of the traditional museum.

Nicolas Bourriaud has noted a similar dynamic occurring in off-line artwork in his book *Relational Aesthetics*. Bourriaud (who is unfortunately largely unaware of art in new media) has recognized a historical process across all the arts whereby 'the constitution of convivial relations has been a historical constant since the 1960s'.[16] Instead of just reacting or responding to a changing perception of art, artists have started to interfere in the perception process itself by anticipating the audience's movement. The artist now uses or guides the audience's movements and is steering its

perception and interpretation of the work. The best way to capture the attention of the audience is by showing hospitality, by creating playful and interesting spaces of engagement. So, even though the audience is left as free as possible to engage in this interpretive process, the artwork is still the creation of the artist. It is a considered space of engagement into which the artist invites the audience, not an entirely free domain of action and interpretation in which participants have equal influence on the work's final form and meaning. These environments develop a personal relationship between artist and audience, even if this relationship at times represents only a shadow of the concrete realities of real person-to-person interactions. This is commonly called interactivity, a problematic term which has already been discussed and criticized in numerous ways. Computers allow the possibility to adjust or design to what degree information can be manipulated, or can be controlled at wish, by the author/artist. In the terms of this discussion the extension or the distributed presence of an artwork on the Internet results in a certain kind of openness, arising from the possibility for the audience to view, adapt, change or interpret the work at will via computers and information networks.[17]

Internet experiments with total openness, for example, projects that are based on the 'wiki' format (which allow users to change or add to the contents of its pages),[18] are opposed by the practice of 'capturing' an audience in experiences in which the only interaction consists of the ability to switch a particular process on or off.[19] However we can find many different levels of interactivity between those two extremes.

A very subtle form of interactivity takes place within the work of Austrian artist Lia (Figure 3.1). These pieces appear like abstract animations of organically evolving shapes and lines. Unlike traditional animation, they depend on the audience for their shape and existence. The role of the audience is that of initiator of movement, through the use of the mouse. However the work avoids the normal paradigm of button clicking or navigational interaction by inviting the user to develop a more reflective relationship. In doing so the artist plays with our expectations as to what interactivity should be. The generated structures develop slowly as lines that appear fragile. One wonders if the artist is really demanding our attention at all, or whether her work is waiting for the moment it comes to life by itself, through some form of miraculous digital evolution. In a work, made in 2003 for Jonathan Lisle, the user is involved in a process, which is at the same time the cause and killer of a form which looks like the birth of a beautiful mildew colony. It grows and moves away from the mouse pointer and disappears completely if one clicks the field, only to grow again. While the work is available via the artist's website, she also uses it in live contexts such as clubs and festivals, in which it plays a performance role in its combination of sound and vision. The accessibility of online works of this nature also indirectly changes the role of a live audience at a performance. Audiences are now initiated actively into the world of the artist by the availability of her work online, and become possible collaborators through their ability to access similar tools as those of the artist.[20]

The most obvious form of interaction is the collaborative project. One of the most famous online examples is not often recognized as a work of art, although it was initiated as such. The media art resource *Rhizome*[21] was initiated by the artist Mark Tribe in 1996 as a mailing list, text archive and database, for and about art. Mailing lists are tools for publication, collaboration and discussion. Their archives offer a

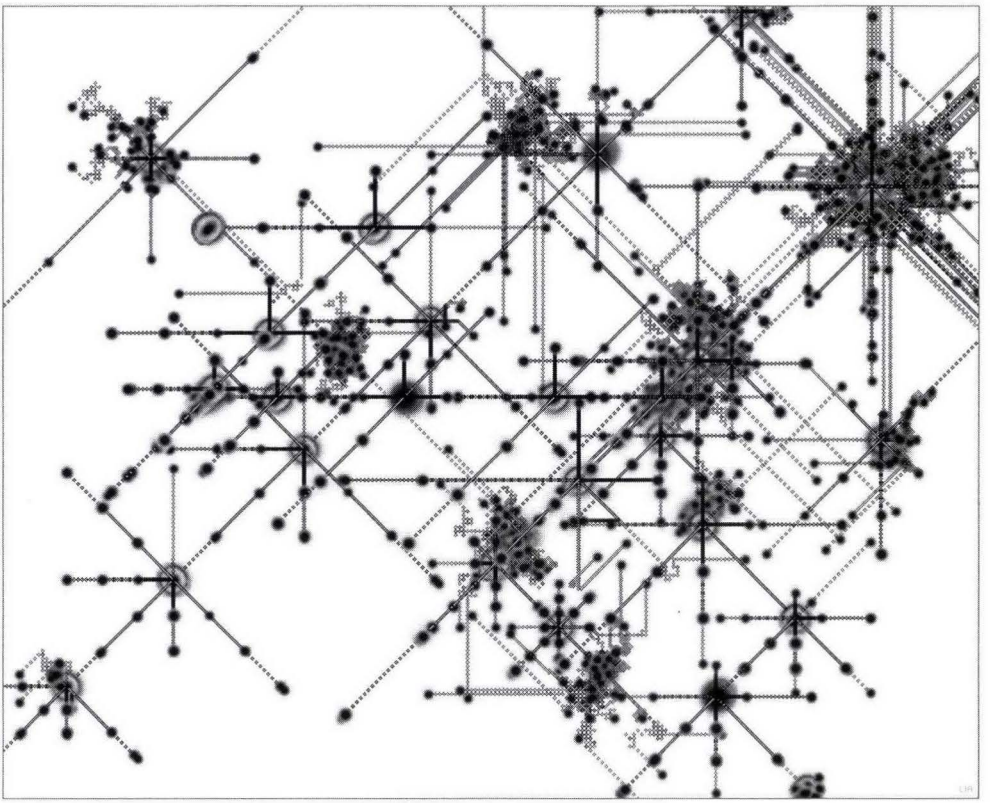

Figure 3.1 For Jonathan Lisle, screenshot, courtesy of Lia.

wealth of texts and an insight in history that is chaotic, but lifelike in the manner that they reflect social process. Indeed Tribe considers *Rhizome* to be a form of social sculpture in the manner first proposed by German artist Joseph Beuys, who conceived of certain forms of art practice as an interdisciplinary and participatory process made up of discursive social materials, i.e. conversation. Similarly democratic in intent, *Rhizome* has thousands of members or subscribers of which a few hundred are active participants. The project has turned into the most influential media art resource online, not so much as an art project itself, but as a source of art, information, criticism and even theory. This is a project, which not only has given its participants a space to create their own addition to the project *Rhizome*, but also to the histories and theories of media art itself. As a result of this *Rhizome* (and other similar Net communities that started as art projects, like *nettime* and *The Thing*) is hardly recognizable as an artwork anymore, and has become something else entirely. In *Rhizome* the audience has dissolved into various levels of participants, into a social order organized around its activity within the work. In effect it has become an institution. Even if *Rhizome* is still more flexible and approachable than most art institutions are, its change into an institution affected the status of the audience-participants. They are now clearly submitted to a hierarchy in which a professional editorial team dominates.

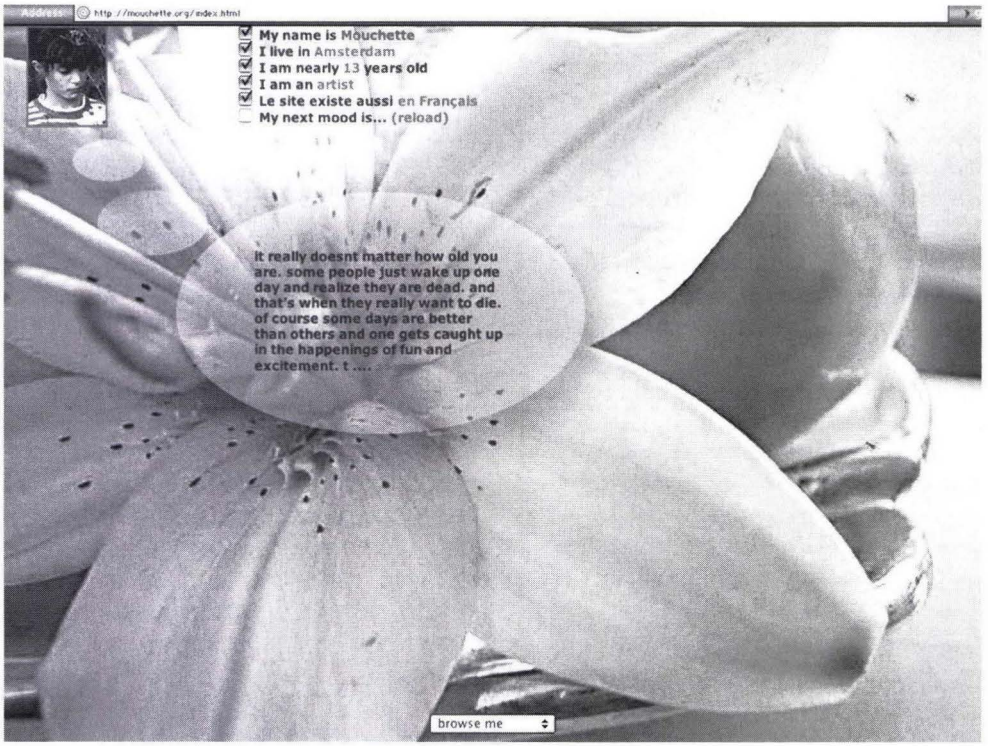

Figure 3.2 The suicide page from Mouchette's website, screenshot, courtesy of Mouchette.

The French artist Mouchette (Figure 3.2) has created her own universe online.[22] She introduces herself as a young girl of 13 years, who wants to commit suicide. Originally based on a movie by French film-maker Robert Bresson, Mouchette's persona has developed slowly since 1996. The artist behind the site chooses to remain anonymous, yet Mouchette is in close contact with her audience through her website and email address. The site is divided into different sections, in some of which the audience can leave messages. One particular section deals with suicide and has become a meeting place for depressed teenagers, who exchange thoughts there. The topic is controversial, and Mouchette has received a number of complaints from worried parents. However it is carefully edited and avoids sensationalism, which makes the project compelling, and moving.

Another project, which connected physical space and cyberspace in a spectacular manner, was *Blinkenlights* (2001–02)[23] by the German hacker organization Chaos Computer Club (CCC). In this project (Figure 3.3) audiences could use software written by the CCC to create small movies consisting of computer pixels. Rather than display these movies on a small computer monitor they were played on the facade of a building in Berlin Alexanderplatz so that its gridded window architecture stood in for the image matrix of the screen. The result was not just available for the local Berlin audience; a webcam showed the results live online, so people could send movies from anywhere in the world and watch the results through the Internet. A wide variety of

Figure 3.3 *Blinkenlights*, courtesy of the Chaos Computer Club, photo, © Für Harald und Erhard.

projects were submitted ranging from personal messages to loved ones, to political satire. Visually spectacular projects that, like *Blinkenlights*, occur in public space, offer not only a publication platform for an already technically knowledgeable audience, but also operate as an educational experience, and inspiration for those not familiar with participatory forms of art, i.e. they have a didactic as well as an aesthetic function.

Each of these projects is different in look and feel, yet each of them asks for a level of engagement that is more than just the simple activation of a process. They stress that participation in art projects is not a dry concept, but an act of personal engagement that requires a willing subject who feels the need to act within or for the work. The interpretation of art is not in the first place a professional task. It is a social or personal exchange with the work of art. This has been described in literary theory as reception aesthetics or reader response[24] and also in music theory.[25]

The art context has splintered through the use of personal media and computer networks. It has not simply decentralized and it has not partly dematerialized. A more direct connection between artist and audience has been established, and also between artist and other artists, critics and curators, which has changed and personalized relations between them. This is particularly the case for the artist–audience relationship. The relations between artists and other artists, critics and curators were of course always a subtle mix of social and professional connections, and current changes in these relations are of a different nature. One might say that the common denominator in this process is that they follow the rules or characteristics of the medium. In an environment in which the network is the most important means of establishing presence, instigating process of social communication is a pre-requisite of practice. Even a website, which at first sight seems a stable structure in space and time compared to email or other overtly active data transfers, reveals this process. Its development shows all manners of things about its owners: their technical abilities, their lack of time and money, their awareness of context, their openness and more. A mediated presence always depends upon processes of communication, and when dealing with 'pull media' communication and engagement are unavoidable.

Technology and art

The technological aspect of art created in or through the sum total of new media has been overexposed in media art circles, but at the same time it was misinterpreted (rather than underestimated) in the traditional art world. Dealing with technology of any kind within art projects, presentations and preservation always asks for a certain amount of effort, and in the case of electronic devices this is no different. At first sight, it might seem as if media art professionals have fetishized the electronic, but the skeptical position of mainstream art professionals towards technologically situated art, which sometimes reaches the point of total rejection, is just as technology oriented. The reality of the technological influence in art lies between these two extremes. The Canadian art critic Jeanne Randolph has developed a criticism of what she calls 'the Technological Ethos'[26] or society's obsession with the appearance of our alleged progress: virtual reality goggles and gloves, personal computers, the latest mobile phones, etc. The Technological Ethos is 'an ideology in which human experience is defined and represented exclusively in terms of goals to be achieved as efficiently as possible'.[27] It informs the way we look at the world and often also our lives. Randolph calls it a dualism which divides everything into easily defined categories in which every problem is treated as if it were a technical issue. Questions about art are unfortunately dealt with this way as well, and if new problems arise from this process of simplification they are often discarded.

I would like to return now to where I started, namely the circular movement, the dance of interpretation, in which artist and audience each take their turn. From the first moment I encountered Internet art, I have been convinced that the much hailed interactivity of new media was not about clicking buttons or riding a bicycle in an installation, but about engaging in a work socially or personally. The Internet is, as curator David Ross once said,[28] an intimate space. In it we find the same tension between closeness and distance we found in early modern art. Maybe this is one of

the reasons why Boris Groys suggested that the Internet did not, as many have claimed, accelerate reproduction to a dazzling high, but in fact brings back the original in art.[29] This sudden implosion of the reproduction environment has in fact scattered the mass experience of art, and returned art interpretation to a more local, even personal level. Having left the shared space of the museum, we are at home or in our office, or maybe even alone at a computer in a museum. We are engaging, participating, creating, manipulating and being manipulated. The realignment of the art context within the personal; in which we are inside the art context, inside the artwork even, is the ultimate experience of art and of art consumption. As Dutch art critic Jeroen Boomgaard put it 'The issue today is sensitization rather then emancipation.'[30]

We appear to be in a 'Perpetuum Mobile' situation, constantly moving between original intent behind an artwork and freedom of interpretation. The tension of the contemporary art discourse lies inside this movement – in relations between art institutions, artist and audience. Mainstream art institutions have been slow to respond to a present day emergence of a non-institutional and only partly professional art debate and practice and only seem comfortable with political and critical art that does not ask for any structural adjustments or changes from the art institutions themselves.

The experiments in twentieth century 'expanded art' tackled specific questions around originality, authorship, the boundary of the artwork, and the role of art itself. We have now entered a phase in which artists distance themselves further from the object in order to develop zones of interpretation. The audience is invited to view the development of an art project or participate in it outside of obvious art contexts; in their homes, workspaces or in public space. The very term environment in this sense appears to be undergoing a shift in definition, as described by Jeroen Boomgaard:

> The expression 'this is art' has been replaced by 'this is a message.' The accurate response to this is not the pessimistic culture-nagging that seems to be in fashion, but a further-reaching reconnoitering of this starting point and the consequences of it for the role of art.[31]

Making the process of the production of an artwork accessible, overlaps with a desire on the part of the audience to enter a world of originality and creativity – even if this desire is often just superficial. The audience wants to join the imagination of the artist, and it wants to sympathize with the artist, his image and the development of the artwork. It does so by entering processes and experiences created for this purpose. The artist often does not know exactly the consequences of this invitation, and is sometimes not even aware of the extent of her hospitality. It is not a problem. These works of art are an invitation to a process that, in the end, everybody experiences differently.

Acknowledgements

Special thanks to Matthew Fuller, Dirk de Wit and Tom Corby for their comments and suggestions.

Notes

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11. T. Adorno and M. Horkheimer, *Dialectics of Enlightenment*, London: Verso, 1979.
12. C. Greenberg, 'Avant-garde and Kitsch,' in *Art and Culture*, Boston, MA: Beacon Press, 1961.
13. See various cultural studies texts, for example; F. Mulhern, *Culture/Metaculture*, London: Routledge, 2000, p. 141.
14. Collaborations often happen on a project by project basis, but contacts can continue well beyond them. For example, grassroots new media art institutions such as *Public Netbase* in Vienna, *Rhizome* in New York, *Ljudmila* in Ljubljana or *Sarai* in Delhi, each of which collaborate with art institutions worldwide.
15. 'Musaic' was published as part of the online exhibition *Crossfade* (2001) a collaboration with ZKM Karlsruhe, the Walker Art Institute in Minneapolis and the San Francisco Moma.
16. N. Bourriaud, *Relational Aesthetics*, France: Les Presses du Reel, 2002, p. 30.
17. When part of an art project is on a computer server (i.e. on the Internet) and another part is in the real world or in other media I refer to an extension of a project from one space into another.
18. As in the sites of *Desk.org* (which is a leftover of the famous media lab *Desk* in Amsterdam) or *wikipedia* (the online, collaboratively built encyclopaedia).
19. As in the animation of Dutch artist Han Hoogerbrugge or a sequence of images which form a kind of short movie, for example, the work of the Korean-American artists, Young-Hae Chang Heavy Industries.
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28. David Ross made this comment in a lecture at the San Jose University that was published in the online magazine Switch; See: D. Ross (1999) 'Lecture transcription,' *Switch*. Online. Available HTTP: <http://switch.sjsu.edu/web/ross.html> (accessed 19 October 2004).
29. B. Groys, 'A short introduction to conjuring with data', *DU Magazine*, 2000 November, issue 711 [no pagination]. In the introduction he writes, 'I contend that the Net does not operate, as is commonly believed, with copies, but rather with originals – exclusively with originals [...] The Net functions by means of a process opposed to that of reproduction. If reproduction makes copies out of originals, that is, the Net makes originals out of copies.'
30. J. Boomgaard, *Nieuw Bericht, Geen Boodschap, Conventies in de hedendaagse kunst*, (translated from the original Dutch), Rotterdam: Witte de With, 2001, p. 64.
31. Boomgaard, *Nieuw Bericht*, p. 64.

Chapter 4

Context-specific curating on the web (CSCW?)[1]

Sarah Cook

Introduction

Seth Siegelaub, curator of some of the most significant conceptual art exhibitions[2] of the 1960s and 1970s, writes:

> Until 1967 the problems of the exhibition of art were quite clear, because at that time the 'art' of art and the 'presentation' of art were coincident. When a painting was hung all the necessary art information was there. But gradually there developed an art which didn't need to be hung. An art wherein the problems of presentation paralleled one of the problems previously involved in the making and exhibition of a painting, i.e. to make someone else aware that an artist had done anything at all.[3]

Sometimes I wonder if this is the job of the new media art curator working 'in the network' or on the Web – to point out that an artist has done anything at all, or if what has been done is in fact art, whether done by an artist or not. As the examples in this monograph show, new media art (or, the subset, network-based art) encompasses a range of practices and demands a range of support structures.

In this essay I will argue two points. The first is that contemporary curatorial practice in the field of new media art is a type of social-network generating activity. The second is that the computer-driven networking tools used in the practice of curating new media art deserve evaluation. I will consider some of the challenges that come with curating network-based art in an effort to get closer to understanding both the processes behind my work in the field and what skill sets (both conceptual and practical) are needed to curate 'in the network'.

I will discuss my approach to curating that involves moving the discourse of network-based art beyond being just 'rumours on the internets'[4] and into something studied in academia, exhibited in institutions, and appreciated by the mainstream. One way to do this is through examining the tools and methods I use as part of my practice – email, blogs, wikis, live video conferencing, filtering and linking.

Curating and the network

While it is safe to say that new media art is constantly evolving (because it is still an emergent art form) it is also true that the practice of curating itself has undergone an

evolution. Curators still have authorial power – within their institutions, or within their disciplines – to name, categorize, legitimate and historicize art production. In many ways the formal structure of the art world and the museum's role in creating a context for art is the same as it's always been. Yet the more artists have rallied against the institutionalization of art practice (and never perhaps more so than in the field of new media art) curators have followed. A shift has taken place over the last 30 years in which the curatorial field has expanded to include not just those who manage a permanent collection of permanently displayed objects but also those whose primary activity is to mount temporary exhibitions, and produce site-specific and event-based work. As a consequence there has also been a steady increase in the profile of curators, as not just conservators of fine art but arbiters of contemporary culture. This has meant that the curatorial obligation to display work within a museum (to reflect on and legitimate art production) has been substantially lessened in favour of more permeable, fluid situations and sites.[5]

Partially, this is a result of changes in thinking about the status of the artwork. These changes emerged in the 1960s with art movements, such as conceptualism, fluxus, performance and video, in which the artwork was rarely presented as a static object.[6] This destabilization has increased with new media and network-based art which exhibits characteristics of virtuality, simultanaeity and dynamic interconnectedness. As Steve Dietz has often remarked, curating new media art is like curating any other form of art, except it is different.[7] Part of the difference has to do with new media art's explicit interactivity (i.e. the reliance on the viewer to participate in the work and complete it), but a greater part comes from its networked computability, and hence its variability. (I have no need to repeat all the media art theory here – the examples in this book serve as ample evidence of shifts in art practice.) This shift in the key characteristics of the work of art has meant that the exhibition, as a cultural form, is today conceived as 'a locus of activity', requiring 'a live arena, devised specifically in order to activate certain issues, or groups of people, toward well-defined ends'.[8]

As a curator who tracks emerging art forms, including new media art, I am interested in this resulting shift towards a more independent, placeless and spaceless curatorial exhibition practice. However, I'm a curator who, at heart, still believes that I can usefully and productively deploy the institution (a place and space) for or on behalf of an artist. For instance, I like to work on scholarly exhibitions that have a researched thesis, more than I like to work on shorter-term events – partly because I like the longer relationships with artists that I perceive is possible with institutional affiliation. So I find myself in a dilemma, choosing between an established way of working that takes place in a static context (the institution) and the dynamic way of working necessary for an emergent form of art practice. I run to catch up to the artist, and then slow down to take their work into the museum.[9]

Through discussions with curators in the field, it is apparent that in bringing new media and networked art into the museum certain theoretical challenges are still to be overcome. Common issues include the need to agree on a shared language or vocabulary of new media art and its categories, and the nature of the art activity itself. For example, Internet-based art throws up a bewildering variety of forms including activism, design and commercial enterprise, which blur disciplines and muddy attempts at classification.

The static context of the museum or institution often defines a curator's role as that of context production (creating exhibition structures and supporting scholarship around works of art), yet the dynamic context of curating in the network (or simply curating emergent forms of art practice) equally asks the curator to take on the role of content production (commissioning new work, collaborating or acting as project manager).[10]

Many practical challenges exist too: the different exhibition and curatorial structures needed for net-based versus not-net-based art (e.g. physical installations); how to allow for the interactive experience of new media art; how to allow for the time-based nature of the experience of viewing and participating in new media art; and the lack of an adequate mainstream art criticism for technology-based works.

Case studies: curating exhibitions of networked art

Dr. Beryl Graham and I have been unpacking the challenges of curating new media art on behalf of CRUMB – the Curatorial Resource for Upstart Media Bliss – for nearly three years.[11] Our work has been largely based on case studies of recent and contemporary exhibitions of new media art. In this sense they are case studies of the present – they are diachronic even if there are characteristics that link them together. The usefulness of these case studies is in part due to the interviews with the curators and artists we have conducted and in our efforts to document the exhibitions in a more even-handed manner than exhibition catalogues might allow.

I believe that a consideration of the exhibition and presentation of network-based art says as much about the work of art as an art historical examination of the work itself might. Anthropologist Marc Augé argues that in searching for representativeness, art historians often turn to indices or traces, and end up with exceptionality.[12] This certainly has its own problems as a method for writing art history, especially an art history of the present, of emerging practices. In short, what isn't exceptional gets left out, no matter how influential it may be later on. Thus, at CRUMB we have tried to avoid this; which is to say, none of the curatorial projects mentioned here are necessarily exceptional. Discussing even the failed attempts at curating network-based art allows room for a renewed consideration of the evolution of the field at the time of its emergence.

I have split the examples into two broad categories: those where I have participated in the commissioning of Internet-based work for presentation online; and those where I have curated or co-curated group shows in actual gallery space, which include new media, networked and Internet-based art. I feel that the difference in the final space of presentation (a gallery – which could be considered part of the network of the art world; or online – part of an actual computerized network) has greatly affected decisions I have made in how the work is framed or shown. Information about all of the projects can be found online, but I'll describe them briefly here:

In the first group – commissioning online work – there are four examples:

- Example 1: For the group exhibition *Use Nor Ornament* (Northern Gallery for Contemporary Art, 2000), which investigated faulty creative practices, I commissioned three works of Net-based art by the artist group MTAA (M. River and T. Whid Art Associates).

- Example 2: On behalf of an office-based art agency (Locus+, 2002) I commissioned Jon Winet and Margaret Crane to make an online site-specific monument to Newcastle – a city undergoing cultural regeneration.
- Example 3: As part of a city-wide film festival about visions of the twenty-first century (*A History of the Future*, 2001), I commissioned net artist Vuk Cosic to make an online ASCII work in response to the film *The Matrix* (*thisistherealmatrix.com*, BALTIC).
- Example 4: As part of a joint residency offered by an office-based media arts and education organization (Isis Arts, 2004), Saul Albert and I established the online *Faculty of Taxonomy* to further propel our research into the aesthetics and politics of database structures.

In the second group – curating or co-curating group exhibitions – there are three examples:

- Example 5: Curated by artist Simon Pope, I initiated and oversaw the final version of the touring group exhibition *Art for Networks* (Reg Vardy Gallery, 2003), the first exhibition of its kind to pair network-based new media art with offline, non-computer-based examples of network practice.
- Example 6: On behalf of artist Ellie Harrison's investigation into the quotidian, I participated in the selection of artists for the upcoming group exhibition *Day-to-Day Data* (Angels Row Gallery, 2004).
- Example 7: Together with Steve Dietz and Anthony Kiendl, I co-curated the international group exhibition *Database Imaginary* for presentation in Canada and the UK (Walter Phillips Gallery, Banff, 2004).

These projects span half a decade and have taken place in a variety of organizational and institutional structures, each with different attitudes towards technology or networked new media. The chief lesson learned from these examples is the need to work as closely as possible with each artist to ensure the right context for their work is created. Often it has been hard to distinguish whether I am in fact part of the team generating the content (the work itself) or the context (the exhibition). This is because the normally separate activities of production and distribution of work – so clearly defined in traditional museums used to exhibiting static, finished, and singly authored works – blur dramatically in a networked environment.

The curatorial process

Each stage of the curatorial process has changed with the introduction of networked technologies. This is not just applicable to curating new media art exhibitions but to curatorship in general. Time-based and site-specific projects (e.g. process-led work, event outputs) demand collaboration – between the curator and the artist in the production of the work (the first stage – where the content is), between the curator, artists and organizational hosts in the presentation of the work (the second stage – the context), and between all parties and the audience in the reception of the work

(the final stage). As Nina Pope and Karen Guthrie have said of their work, these circles of participants (the makers of the work, the presenters of the work and the viewers of the work) are in and of themselves a social network.[13] Thus contemporary curatorial practice can be seen as a form of social network generation. For process-led art, the generation of a social network might be an integral part of the outcome,[14] yet, the success of a curatorial process is often viewed in the evaluation and documentation of the exhibition and the artwork – not in the creation of this network.

> The real richness of [any] initiative is the network of people – how do you sustain that? [...] Networks allow the conditions for all members to join together to create a project within the network [...] The result is no one recognizes the role of the network in creating the project and this makes evaluation difficult.[15]

With the curating of network-based art, the generation of the social network is enabled by technology. Social networks generate technological ones. Or, to be more specific, with collaboration (the impetus for the network) comes a need for tools of collaboration.

The tools of the trade

> Technology's greatest problem is that it is touted as an alternative to social networks rather than a tool to enable them.[16]

Through outlining what I see as the key stages in the curatorial process I also want to keep an eye on how I have used technology. In particular, I want to remain observant of my own curatorial tools of collaboration as well as what the effects of using them are on my practice. Thus, for each stage of the process I have (somewhat arbitrarily) picked some common technologically networked tools I use to facilitate collaboration. There is circularity inherent in such an investigation: which came first – the curatorial collaboration which takes place in the network, or the network itself and its facilitation of curatorial collaboration? Or, as Lisa le Feuvre asks, 'is it possible for technological networks to exist without automatically creating some kind of corresponding social network?'.[17] It should be noted that my comments on these tools are not the result of any sort of scientific evaluation process but are observational comments, based on my own experience.[18]

Stage one: collaboration between curator and artist

The first stage of the curatorial process encompasses the activities of research and selection. In what I would call traditional curatorial practice (i.e. the care and management of collections; the mounting of displays of objects) research tends to be a private and solitary activity, only made public when the exhibition opens. With the curating of contemporary art, research and selection is conducted in dialogue with the artists and depending on the exhibition project often extends to a commissioning process (including a call for proposals). On other occasions it may involve a residency or workshop component. Little has been written about the curator's involvement in the development and production of works of art in this way – as most scholarship focuses on the final outcome – the exhibition. This is even truer in the field of new media.

Networked technologies – their use in both research and the creation of the artwork – change the dialogue between artist and curator in many ways. With the Internet, a greater number of people have wider access to a more diverse field of information.[19] This means that the curatorial process becomes more collaborative, as curators filter through both art projects and their contextual information – or meta-data – in the same browser window. The selection criteria for presentation of work in an online space are different from the criteria for presentation in actual gallery space; the location of the final project conditions the choice of work. Galleries have different *modus operandi* than online spaces, where work in progress or work that has yet to be legitimized by art history can exist much more comfortably.

> Curators need to be hybrid/collaborators to cover the range of skill bases (also across practice and theory). My guess is that the curator of *Art for Networks* knew about net art and conceptual mail/art but not so much about art where the public participates. [... It is] interesting how the selection of artworks sometimes illuminates 'which history': Stephen Willats in *Art for Networks*, Yoko Ono in *Generator*, Ritsuko Taho in *Serious Games*.[20]

Opening up this stage of the curatorial process (research and selection) to collaboration with other curators and with the artists necessitates relinquishing the quiet space of individual value judgements (something curators get a bad name for). Agreeing in advance the selection criteria for a work of art to be included in an exhibition lessens the need to shift the goal posts every time an exciting challenging work appears in one's purview. This is no different with networked art than other art forms except that curatorial consensus is hard to achieve in an ever-changing online environment where work develops and resides in a self-created context or where multiple readings of works of art exist in tandem with the work itself, and often influence and change the work over time. In my experience of working on *Day-to-Day Data* the initial criteria indicated in the call for proposals for a commission, differed from the subsequent criteria for inclusion in the gallery exhibition itself. As most of the projects were created using networked technologies, the artists could modify and adapt their working process and even the work itself for these different potential opportunities.

As new media artists are already online, and have most of their own production tools, when working within networked space the curatorial selection process becomes more about matching artists to opportunities, in particular providing access points for artists to a different type of network such as that represented by the gallery. As Armin Medosch said in relation to the exhibition *Art for Networks*, 'most shows of internet art have failed to translate [the network that exists for the participants] into the gallery; galleries are using a different operating system'.[21]

Merging these two different networks – that of the gallery and that of networked cultural production – necessitates opening up the curatorial process, making the research public at an earlier stage of the project's development. In order to create a network to generate a show, it makes sense to bring the artists together into a workshop or to host a residency in advance of an exhibition (as was attempted for *Day-to-Day Data* and *the Faculty of Taxonomy*). Exhibition invitations are not always to show existing work; often they become an opportunity for an artist to make a new work, or turn an exhibition invitation into a commission (even the Turner Prize functions this way).

For a gallery it can be expensive to get all the artists in your group show together in a single meeting room (this didn't happen with either *Use Nor Ornament* nor *Database Imaginary*, though with the latter we held workshops in both Canada and the UK as we were selecting artists for the exhibition). However, with networked art a more fluid exchange can take place online. Net artist Vuk Cosic provocatively comments:

> There have been shows where you could see artists belonging to these two otherwise separate galaxies of old and new media let's say. I've been to shows with some pretty famous people in some grand-slam galleries, but the format was always such that we never met, or at least if we did meet, it was never the fruit of any curator's intention. It was only an accidental invite that you happened to get to come to some gala dinner inside Stedlijk or standing party inside some embassy and there you might possibly, if you had Vaseline on your elbows, come across some accomplished artists and then you would spend twenty minutes with whoever. That was always a surprise for me because in my world of net.art, the basic condition was that we are in touch and then we would possibly decide not to talk. But here the basic condition is completely the opposite.[22]

Naturally, networking artists together leads to collaboration. Original proposals for works change through discussion and exchange. As people move in and out of the network, the network itself shifts. Hence, the work of networked art changes over time – as different opportunities for collaboration become possible or are withdrawn. Working with artists Jon Winet and Margaret Crane on an Internet-based piece whose outcome was explicitly to be online, we at times re-scaled our ambitions in response to shifts in the possibility to disseminate the work technologically (considering, for instance, actual space outcomes such as computer-driven displays in the city), and in the changing attitudes and interests of the local non-technical contributors. As Jon Winet commented:

> Using a hybrid working process, we embraced new media research, bringing social science methodologies, journalism and documentary techniques, hypertext fiction and image text practice into the mix [...] In our calculus, collaboration produces an arithmetic in which one plus one equals any number except two. Professional boundaries are blurred. Process trumps product. Community works best as a verb. Things get interesting.[23]

The research tool: email and mailing lists

There is not a substantial printed and catalogued output supporting the field of networked and net-based new media art – unlike the magazines and journals devoted to contemporary art, film or music for instance. Most of the contextual material that curators and artists turn to in researching their projects is also itself online. Thus surfing all manner of websites and subscribing to email lists is a more common (and accessible) research tactic than visiting libraries, amassing paper files and doing studio visits with camera in tow. Curators who are subscribed to the same online mailing lists as the artists thus have the opportunity to ask questions directly, engage in the discussions and debates and seek out like-minded collaborators prior to having to submit

the funding application or posting the call for proposals. However, mailing lists are most often moderated, managed and automatically archived, so that posts are available for retrospective browsing on the Web. This public aspect to the online community has put curators off engaging as much as it has enticed them to explore what might be to them an unknown field. At CRUMB we have had requests from curators to start a private, by-invitation-only mailing list for the exchange of information about upcoming projects, particularly sensitive information like budgets and grant narratives, without the clamour of artists' interjections. To date we have not agreed to this given how antithetical it is both to the way in which most curators work (namely, with reluctance towards file-sharing), and the manner in which new media artists work (i.e. freely as in both free speech *and* free ice cream). Thus it seems apparent, that while joining together the social networks of artists and curators is relatively easily facilitated by technological networks, the same cannot be said of curators and galleries, whose networks are entirely social and who are resistant to being a part of a technological network.[24] As Jaimes Nel notes:

> One lesson from software which I am very interested in is the means for networks to communicate amongst themselves. Each network needs an interface that is able to connect to the next, some kind of standardized language, which enables the initiation of contact. In human terms a 'gizmo' to 'break the ice'.[25]

Inevitably, a point comes at which a curator and artist might move their discussion 'off-list' to their own email accounts to further develop a project. It has become apparent to me that email is essential to collaboration but not necessarily for what we think. For instance, email software is often used as document management rather than communication. It is a filing system for ideas and correspondence, and for documents exchanged.[26] The more collaborators involved in a project, the more there becomes a need for the generation of one's own mailing list – often the *Yahoo* group, or the academic list-serv.

For the exhibition *Art for Networks*, artist Daniel Andajucar created a database-driven website intended for all the participants in the show to use as part of their network-driven projects. It could be easily and dynamically updated and included discussion boards, archives of mail exchanged, notices about upcoming events, and links to sites pertaining to the projects. However, no one used it. The curators managing the exhibition struggled to advertise opening day receptions or talks on it, and the artists were too preoccupied with organizing the networks driving their own projects to partake of a new network generated from the curating of the show itself. One lesson learned from this, is that while email and mailing lists can support and often even initiate a social network, a Web-based tool or space which demands the user log in or visit (a technological network) does not support the development of a social network if none existed there before.

The amalgamation tools: wikis and link sharing

In my experience of working on the catalogue for the exhibition *Database Imaginary* I found I was sharing my research not only with my co-curators but also with the 33 artists in the show. As in the example above, we were not necessarily an existing social

network, but we were all engaged in the same task – generating material for the website and catalogue for the exhibition.

Working with such a large group proved logistically taxing on individual filing systems and suggested a need for a special tracking tool. I therefore worked with one of the artists in the exhibition, Saul Albert, to create the Faculty of Taxonomy – a wiki-based structure for socializing my research, in my case my reading pertaining to the subject of the show.

A wiki is a shared editing system for online content. In other words, it is like a website, but any visitor to the page can (without necessarily logging in and without having to know technical software programming) change, update, or edit that page. On the FacTaxWiki I could list my bibliography of readings pertaining to databases and my collaborators could update it with their lists. Here my curatorial process then began to mimic that of an editor.

I also needed to ensure that the websites I had bookmarked on my own computer, in my own browser software, were openly available to my collaborators as well (again without me struggling to recall if I'd emailed the link to them already or not). Enter del.icio.us – an open source, free, link-sharing Web project that allows other Internet users to find and track material you've been accessing.[27] Using 'tags' (descriptive terms) which you assign, the bookmarks are stored in del.icio.us's online database system rather than within your own software folders; this lets you see how other people classify the same things you're interested in, as well as locate material within that same classification which you mightn't find otherwise. The system allowed artists in the exhibition to visit my page (del.icio.us/sarahe) and track the sites which I had tagged with 'databaseimaginary', or visit all the sites bearing the same tag (del.icio.us/tag/databaseimaginary) from anyone else who was affiliated with the project. By taking an RSS (Really Simple Syndication) feed from the del.icio.us site, we could ensure that anything recently tagged there automatically filtered into the wiki, which ensured I had more than one way to stay on top of new content.

There are other proprietary (and paid for) software packages that enable collaboration that are wiki-based but incorporate other features – like scheduling, or more extensive archiving of previous versions of pages (logging of edits). For instance, Steve Dietz and I are now using socialtext.net: in this we can paste in our relevant email correspondence, automatically saved chat logs, as well as upload documents (e.g. drafts of essays). A reassuring feature of the wiki is that like a mailing list, an administrator can decide from the outset whether to make it entirely private or public (i.e. available to anyone on the Web, or just registered users).

Stage two: collaboration between artist, curator and host organization

This second stage of the curatorial process encompasses the allocation of resources for realization of the project, its installation, the initial planning of educational programming and a consideration of how the organization is going to facilitate the emergence of this new work into the network. It is obviously quite difficult to generalize how this three-way collaboration works in different types of organizations; but sticking to the general division between online and off-line approaches, does allow for certain lessons to emerge. As Steve Dietz writes:

> In the art world, there has been a debate about 'net art' versus 'real' or physical art, but in the end, the dichotomy will prove false. Works will be physically present and utilize the network. Significant aspects of a work will be experienced primarily through and on the network. Interactions over distance and time will occur at a particular physical interface.[28]

Working on the exhibition *Use Nor Ornament*, the conditions of the gallery space and the collaboration with my two co-curators led to the decision that the commissioned online artworks should be physically present in the exhibition space, as well as accessible to an audience over the Internet. Designing the 'particular physical interface' was realized through looking at what technological hardware was available and then having the artists (none of whom could travel to England to install their work) consider what physical objects would make sense alongside their Web-projects. The installation of MTAA's piece – a somewhat ironic set of limited edition websites – included a vitrine containing signed and numbered CD cases, and a poster of the terms of the commissioning and purchasing agreement.[29] Through the process of collaborating with the gallery we discovered that their policies and servers (managed by the city's arts and libraries department) were not configured to allow members of the public to browse live websites without a formal log-in procedure. Rather than add this extra layer of administration to the viewer's encounter with the work of art, the artists and I chose to present the works in an offline state (thus further heightening their 'limited edition' status).

Similarly, when I commissioned Vuk Cosic's *thisistherealmatrix* project for the Baltic Centre of Contemporary Art, I anticipated it to be available to viewers online only (especially given that it was part of an extended series of events coincident with a film series – including the film the Matrix on which it was based – and there was an overarching website with film screening times which it would be linked to). However after negotiation with the host institution (which at the time was based in a 'visitor's centre' while its new building and galleries were being renovated) – it was decided that a physical interface point was needed. This three-way conversation between myself, the artist and the organization changed the original commission substantially – the work now had to function both as an online artwork aimed at a dispersed audience and as an installed work situated in an information desk environment and accessible to passing visitors.

To evoke a sense of media archaeology, the computer terminal we installed was the oldest we could find, in keeping with the age and aesthetics of the building – a desacralized church within a construction site. In reference to the plot of the film itself, where land-line telephones connect those inside and those outside the Matrix, instead of a keyboard we installed an old rotary dial telephone which when used, connected directly to the artist.

Both of these examples feel dated now, as there are more examples of curatorial practice to draw on since galleries have increasingly grappled with installing network art projects. When working on *Database Imaginary* we were comfortable with artists whose works were presented online taking the time right up to the exhibition opening to finish their work (tweaking their software). In contrast we had moments of anxiety about those works which demanded a more substantial physical installation as well as the configuration of network access, especially in instances where the artists

couldn't be present themselves. The timeframe of cultural production in a networked/online space is completely different from the timeframe of physical/actual space. Steve Dietz and I developed a tongue-in-cheek ten point checklist for co-curating large group art exhibitions. Point five reads:

> Installing at a distance can be tricky. Have all the artists use instant messaging and cell phones. A good tactic is to put digital photos up online and have artists check them and call in with corrections/modifications to the installation.[30]

Depending on the size of the organization one is collaborating with for the realization of an exhibition project, it is not just the director or curatorial team and the installation/technical team which influences the outcome, but also other departments such as those for marketing or educational programming. Beryl Graham's case study of the exhibition *010101* at the San Francisco Museum of Modern Art showed that increased curatorial collaboration and an emphasis on networked technologies meant a huge change in departmental interaction.[31] For many artists working in online space, used to managing the distribution of information about their projects and audience engagement with it, this can be the most challenging aspect of working with a presenting institution.[32] Artists may be comfortable blurring contextual information (the Internet for example) with the work itself (which resides on it), but in a gallery context there are usually specific triggers guiding an audience member's understanding of the work and which present the work in a very specific and tailored interpretational space. These might include the use of a didactic wall label; seating that invites a lingering in front of a work; or the inclusion of a comments board.

Furthermore, there is a gift economy of sorts at play in networked culture – from open source software development to creative commons publishing. This can often lead to an 'aesthetics of administration' when media artists collaborate with network-shunning institutions. For instance in *Art for Networks*, the artists and curators maintained the upkeep of the network driving their works throughout the tour of the exhibition, but less so the joint exhibition website. With collaborative projects such as this it is hard to distinguish individual artistic effort from curatorial input – to whom does the 'brand' of the show belong?

The meeting tools: instant messaging and video conferencing

The time zones of online, networked collaboration are often different from the temporalities of actual space collaboration. Yet time itself is inescapable – whether we are online or not. The success or failure of an exhibition project might not unreasonably be said to depend on the scheduling of meetings: both in terms of the show itself and for organizing the press or the catalogue.

Collaborative computer-driven meeting tools can be as simple as email and as elaborate as multi-party video conferencing. Complications however can just as easily arise as from trying to get large groups of collaborators around the same table. In working on *Database Imaginary* I found that video conferencing with one of the two co-curators on their own, with greater frequency, was often more efficient than trying to telephone conference with all three of us at pre-set times. This may have been mostly a question of timing. Being able to see if someone is online and then use an

instant messenger service to quickly clear up a problem pushes the project ahead faster and more efficiently than noting it as an issue in an agenda for a weekly catch-up meeting. That said, instant messaging – whether chats, emails or text messages – is not always 'instant' if your network or that your collaborators are unreliable.[33] With email I've observed that it's often not the content of the reply, but the rapidity of it that points out how in tune you are. From my perspective technologies that facilitate collaboration across time are thus the most useful. For example, it is now possible for me to use a wireless network while on the train from London to Newcastle. Before this I would deliberately take an early morning or late night train in order to have maximum time at my desk during business hours.

The production tool: the file server

As an independent curator working in collaboration with institutions both big and small, I have found that I need to find a way to insert myself into their networks – both social and technological – in order to best support the artists. This comes down to a question of resource allocation. On a practical level this means getting permission for my own laptop computer to have access to the local file server used by the institution, or having the institution provide me with one of their computers, but then me swapping documents between my own file folders and theirs. Every institution has its own protocol concerning file sharing; that combined with tangible realities such as an unreliable server or an IT staffer going on holiday without leaving the access passwords can have negative effects on the production of the project, which a freelancer is at a disadvantage to deal with.[34] While curatorial research is often conducted in a private, subjective fashion, once the production stage has begun the timetable demands an opening up of the process, and files need to be made public to other departments in the institution in order for the collaboration to progress.

A more theoretical observation about file sharing and its implication for networked-curatorial practice focuses on the idea of doubling. As Gareth Shapiro puts it:

> [In] the world of web development you need to have software that specifically tracks the copies and automatically amalgamates changes to the 'live' file when you upload your specific version. Without this version control you can actually end up with more than one copy of a file, in different locations, and if someone uploads an older version after you have made some changes, you get into a situation where site development degrades and goes backwards.[35]

I wonder how many times guest curators have read drafts of press releases written by the marketing staff of their host institution and discovered it contains out-of-date information about the exhibition sourced from an earlier version of a research document? It inevitably becomes the responsibility of the curator and artist to make sure their filing system matches the one in use by the institution they are working in collaboration with.

At BALTIC a database system was devised to catalogue and distribute the digital files documenting the activities of the organization – an archive. After a few months it became apparent that it was possible not only to make this available to the general public, but that it could have another function as an entry point available for staff to

share digital documents concerning upcoming projects. Once enabled the archivist has only to move the folder from private to public status after the exhibition in the galleries has closed. Similarly, with *Database Imaginary* the website for the exhibition was made available to the artists only in a beta version so that they could fact-check their entries, prior to making the site publicly available once the exhibition opened.

Stage three: collaboration with the audience

In the final collaborative stage of the curatorial process the artist, the curator, and the organization open up to exchange with the public for the work. Liaising with the press, reaching out to specific audiences and allowing room for their feedback are important parts of this process. This is moderated too in networked new media where for many event-based, one-off or process-led works the audience participates in its creation through their interaction with it, often more so than is the case if they are after-the-fact consumers of it.

Artist Daniel Andajucar has joked that there are three different publics for Internet art: one in the chair at the terminal, one looking over the shoulder of the one in the chair, one standing hands clasped behind the back watching.[36] In all of the curatorial projects I have worked on, I have attempted to engage the viewer standing at the back. Sometimes this demands rethinking what chair or how many you put in front of the screen. Curator Kathy Rae Huffman, speaking of her experience of curating an exhibition of 3D screen and Web-based art, commented that gallery visitors – sitting on low seats at low terminals – talked to each other to figure out how to make the pieces work.[37] The set-up of the exhibition supported a social exchange around the work – which again makes a point about how a technological network serves to help generate a corresponding social network.

This is less the case where the exhibition only exists online and concessions have to be made to draw in an offline audience, especially given that Internet-sited projects rarely have formal opening and closing dates and times as is the norm in gallery exhibitions. With the project *monument* the artists and I agreed with the organization that a physical prompt to get an audience to the site was needed. In order to facilitate this, small trading cards were printed consisting of photo and text works and distributed in bars, cinemas and waiting rooms across town. The collectible cards served a double function – advertising as well as documenting the piece.[38]

The new distribution tool: the blog

Self-publishing online has yet to replace the catalogue as a document of an exhibition. However, online journalism site 'blogs' are becoming an ever more important component of the art scene and another way for organizations to collaborate with their audiences. An early example of a curatorial blog was Barbara London's project *Stir Fry* at MoMA in 1997. As she travelled through Russia, Siberia and China, she and a programmer, created a website in parallel to the journey, on which she posted texts and images about the art she found on the trip.[39]

Like wikis, blogs can be public or private and provide a useful tool for managing links and texts that are shared between curator and artist. With blogs it is possible to observe a shift in attitude that has resulted from making private research public.

When there was a technological division between the place of production of the work and the place of its dissemination (galleries, magazines, etc.) artists wrote their own reviews, lobbied, and generally got used to the time-lag. Now that barrier seems lifted. The more blogs incorporate features such as RSS feeds and automatic link posting, the more that 'filtering' is added to the tasks of the job of the curator.[40]

In the case of Barbara London's early foray, which was an online journal with hyperlinks and didn't incorporate a crucial feature of today's blogs, namely the ability for visitors to leave direct comments on postings, there was a backlash from a number of net artists who felt that this direct reach to an audience made their networking practice on the Web – their filtering and their role as establisher of their own context for their work – redundant.[41] They viewed this type of file sharing as intervening in the direct exchange of artwork.

A note about these stages

While the structure I have outlined here sets up curating as a linear process, in fact, the stages are much more iterative. This is particularly so in the first stage of the collaboration between curator and artist, where there might be a lot of discussion before even getting to the point of deciding on an institutional collaborator. On a flow chart, the process of curating would have a formal 'return to stage 1' numerous times.

The tools identified also do not have to correspond to the stages as they are set out (i.e. obviously email is useful throughout the entire process). It is for this reason that the wiki and blog tools are interchangeable both at the beginning and the end of a project, depending on whether it is in its private research or public dissemination stage – which in the network is increasingly hard to distinguish.

Conclusions

> Steve Dietz was quoted in The Globe and Mail saying that this is a tool-based revolution where unlike a concept-based revolution, the new tools need to be tested and worked out.[42]

Dietz was talking about the tools of art making, but I would argue that this also extends to how tools are used in the creation of exhibitions. In this essay I have reflected on my own curatorial tools of collaboration and considered what the effects of using them are on the practice of curating networked art. Some of the effects are more pronounced than others, yet all focus on the fundamental question raised by Siegelaub in the opening quote – how to signpost that the artist has done anything at all and how to separate the artwork out from the social processes and contexts through which it is formed.

Technological connectivity alone isn't enough. In today's networks there are both high- and low-tech digital streams – radio, text messages, broadband and streaming video – but unless they are talking to each other, and making sense to someone, nothing of significance is produced. Or as Jaimes Nel writes, 'no matter the network (social or technical) there has to be a functioning interface'.[43] All are only signals unless you know someone is listening, at which point a network (of listeners, of participants) emerges. He continues:

> I'm not sure that [it is possible for technological networks to exist without automatically creating some kind of corresponding social network]. A social network which exists and interacts through the use of technology is still a social network. If a tech system is released that has the ability to exist and replicate itself (for example viruses), then a social repercussion of that is overtime for techies, sales for virus software, downtime for everybody. As social networks are in operation to build, maintain and use the tech networks, the social network must be the ground floor on which the tech networks are built. The tech networks we build are intricately involved in our own social structure so I think that the problem of technology resulting in less connection arises when a tech network is viewed as a replacement to rather than an aid to social networks.[44]

Recently curators have begun to speak of 'platforms' for projects, the establishment of which is said both to set the context as well as incorporate a functional aspect for the project. My argument here is essentially for social networks to be recognized as a new or at least invigorated part of a curatorial process that provides a significant component of that platform.[45] The specific relationships engendered through this process are good for the project's realization, but are in many instances temporary and contingent. The job of the curator in this context then, is to develop a platform for a network of relationships, flexible enough to support a complex of social structures, which in their own right, are subject to continual shifts.

Notes

1. CSCW is the commonplace acronym for computer-supported collaborative work.
2. Including *The Xerox Book* (C. Andre, R. Barry, D. Huebler, J. Kosuth, S. LeWitt, R. Morris, L. Weiner) in 1968 and *The January Show* (Barry, Huebler, Kosuth, Weiner) in 1969.
3. S. Siegelaub, 'On exhibitions and the world at large', Interview with Charles Harrison, *Studio International*, September, 1969, pp. 202–203.
4. George W. Bush's slip of tongue in the presidential election debates, October 2004.
5. See R. Weiss, 'Some notes on the agency of exhibitions', *Visual Arts and Culture*, 2000, vol. 2, 2000, p. 124; K. Schubert, *The curator's egg: the evolution of the museum concept from: the French revolution to the present day*, London: Christies, One-Off Press, 2000, p. 135; N. Heinich and M. Pollock, 'From museum curator to exhibition auteur: inventing a singular position', in *Thinking about exhibitions*, R. Greenberg *et al.* (ed.), London: Routledge, 1996.
6. D.N. Rodowick, *Reading the Figural, or Philosophy After the New Media*, London: Routledge, 2001.
7. S. Dietz, 'Collecting Digital Media: Just Like Anything Else Only Different,' in *Collecting Contemporary Art*, B. Altschuler (ed.), Princeton: Princeton University Press, 2005.
8. Weiss, 'Some notes', pp. 124–125.
9. While I endeavor to work with museums sensitive to both my curatorial practice and the needs of new media, such organizations – The Banff Centre, The Reg Vardy Gallery, SMAL – are rare. That being said, the museum still affords certain lasting conditions, which office-based organizations or temporary structures might not, such as dedicated audiences, spaces, and methods of documentation. Or as Steve Dietz writes: 'It's an ecology thing. We need a diverse culture.' See: S. Dietz, 'Curating New Media', in *Words Of wisdom: a curator's vade mecum on contemporary art*, C. Kuoni (ed.). New York: ICI/Independent Curators International, 2001.
10. A great deal has been written about the differences between content and context production, much of which will be collected into the upcoming book *Context Providers: Context and*

Meaning in Digital Art, C. Paul, M. Lovejoy and V. Vesna (eds), MIT Press. Steve Dietz has spoken about the curatorial activity of creating 'platforms' for artists to work with, in his talk held at Berkeley (S. Dietz, 'Signal or noise? The network museum', *Webwalker #20: Art Entertainment Network*, 2000. Walker Art Center. Online. Available HTTP:<http://www.walkerart.org/gallery9/webwalker/ww_032300_main.html> (accessed 4 March 2004).

11. B. Graham and S. Cook (2001), CRUMB: Curatorial Resource for Upstart Media Bliss. Online. Available HTTP:<http://www.crumbweb.org> (accessed 12 March 2004).
12. M. Augé, *Non-Places: Introduction to an anthropology of supermodernity*, J. Howe (trans.), London: Verso, 1995.
13. As when you throw a pebble into a pond, the rings spread outwards. See N. Pope (2001), in 'Curating New Media', S. Cook and B. Graham (eds), *CRUMB*. Online. Available HTTP: <http://www.newmedia.sunderland.ac.uk/crumb> (accessed 5 March 2004).
14. S. Rollig, 'Contemporary art practices and the museum: to be reconciled at all?' in *Beyond the Box: Diverging Curatorial Practices*. M. Townsend (ed.), Banff: Banff Centre Press, 2003, pp. 97–107.
15. L. dal Pozzolo (2002), *Hybrid Discourse*, I-dat, University of Plymouth. Online. Available. HTTP: <http://www.i-dat.org/projects/hybrid/speakers/pozzolo/pozzolo_a.html> (accessed 8 March 2004).
16. J. Nel (2002), 'Talking Networks', *Talking Networks: 'Are You There?'* Online posting, Available e-mail: network@photonet.org.uk, (30 April 2002). Co-organized by The Photographers' Gallery and the MA Spatial Culture at Middlesex University, *Talking Networks: 'Are You There?'* was a series of discussions addressing ideas and debates around networks and their impact upon everyday life. Looking to social, fixed, digital and mobile networks.
17. L. le Feuvre (2002), 'Talking Networks', *Talking Networks: 'Are You There?'* Online posting, Available e-mail: network@photonet.org.uk, (30 April 2002).
18. The Banff Centre's New Media Institute has been leading research into collaborative practice, by evaluating tools of collaboration. Online. Available HTTP:<http://www.banffcentre.ca/bnmi> (accessed 23 May 2005). Karen Parker, one of the project's programmers, has written extensively about computer-supported cooperative work. See J.K. Parker, 'Using the Web to Support and Document New Media Collaboration', in *Museums and the Web 2005: Proceedings*, J. Trant and D. Bearman (eds), Toronto: Archives & Museum Informatics. Online. Available HTTP:<http://www.archimuse.com/mw2005/papers/parker/parker.html> (accessed 8 June 2005).
19. The number of new media artists who have their own blogs and can post news about ongoing practice is increasing. See a recent debate on the Thing mailing list (thingist) in January 2005. Online. Available HTTP: <http://bbs.thing.net> (accessed 12 May 2005).
20. B. Graham, private email correspondence with the author (2003).
21. A. Medosch, *Art for Networks*, unpublished notes from: presentation at conference Art for Networks, Chapter Arts, Cardiff, November 2002.
22. Vuk Cosic quoted in: S. Cook, B. Graham and S. Martin (eds), *Curating new media (Third Baltic International Seminar, May 2001)*. Gateshead: BALTIC, 2002.
23. See Jon Winet in: L. Kimbell (ed.), *New Media Art: Practice and Context in the UK 1994–2004*. London: Arts Council England, 2004.
24. One wonders if this is because it would diminish the curator's or gallery's exclusivity. I am reminded of Nick Crowe's project *Service2000* (2000), where he created faux websites for all the London art galleries that didn't have them. See Crowe's website. Available HTTP: <http://www.nickcrowe.net/online/service2000_7of29/archive/index.html> (accessed 8 May 2005), or Angus Fairhurst's work *Gallery Connections* (1991–1996), an intervention that simultaneously telephoned two different art galleries, and held the receivers together in order to induce conversation between the two gallery attendants.
25. Nel, *Talking Networks: 'Are You There?'*
26. My suspicion is that only the most diligent (or institutional) of curators print out emails and actually file them in research/working folders.

27. This would have been tremendously useful in the collaborative production stages of the project *monument*.
28. Steve Dietz in his introduction to the exhibition *Telematic Connections. Global Embrace: Telematic Connections: Hybrid Realities*, Walker Art Centre (2001), Online. Available HTTP: <http://telematic.walkerart.org> (accessed 1 May 2004).
29. *Unseen*, MTAA's website. Available HTTP:<http://www.mteww.com/websiteunseen/index2.html> (accessed 10 January 2005). The conceptual conceit of the project is that any 'collector' can buy a Web-based work of art, knowing nothing about it other than its title. The work is then made to spec by the artists.
30. From private emails between Steve Dietz and the author.
31. B. Graham, *Curating new media art: SFMOMA and 010101,* CRUMB, 2002. Online. Available HTTP: <http://www.newmedia.sunderland.ac.uk/crumb/phase3/append/sfmoma.htm> (accessed 3 March 2005).
32. A good example is the Tate Gallery's commission of Harwood/Mongrel for the online piece *Uncomfortable Proximity* (2000), Tate Gallery. Online. Available HTTP: <http://www.tate.org.uk> (accessed 6 June 2004).
33. For instance, I once arranged a meeting via text message, and due to a network blip, all the messages arrived the following day after the meeting had actually taken place, and I'd already left the city; so while I was in fact in London, someone in Newcastle was getting a message from me saying, 'I'm on my way over now, see you in a minute.'
34. These are not just trivial observations; I have spoken with a number of independent curators and researchers who find that negotiating the technicalities of remote working on behalf of an institution – for example, having to deal with clunky Web-based mail systems rather than the software packages used for email by employees on site – can be time consuming and drain momentum from a project.
35. G. Shapiro, (2002), 'Talking Networks', *Talking Networks: 'Are You There?'* Online posting. Available e-mail: network@photonet.org.uk (30 April 2002).
36. D. Andajucar, Daniel, *Art for Networks*, unpublished notes from: presentation at the conference Art for Networks, Chapter Arts, Cardiff, November 2002.
37. Kathy Rae Huffman, speaking at the *Curating In Space and Time* seminar, held at the Northern Gallery for Contemporary Art in Sunderland, hosted by CRUMB and the Reg Vardy Gallery, 2004.
38. When it comes to writing a history of networked art, curators should examine the history of performance art, where ephemera video and photographic material from and documenting performances often ended up in the study collection, reserve collection or archive of the collecting art institutions.
39. K. Rae Huffman (1998), 'Pop~report,' *Telepolis*. Online. Available HTTP: <http://www.heise.de/tp/english/pop/event_2/4114/1.html> (accessed 12 July 2004).
40. I've just started to work on a 'reblog' for an upcoming exhibition. This is an extension of a blog, but rather than filter the Web, it scrapes other peoples' blogs, links and RSS feeds to 'grow' a blog around a particular topic, without having to do any writing oneself.
41. A number of net artists declared the field dead in response to curatorial legitimization of it.
42. M. Kabatoff, in a private email correspondence with the author (2000). Steve Dietz was quoting F. Dyson.
43. Nel, '*Talking Networks*'.
44. Nel, '*Talking Networks*'.
45. Iliyana Nedkova has written about the importance of friendships in establishing these platforms. See S. Cook, B. Graham and S. Martin (eds), *Curating new media (Third Baltic International Seminar, May 2001)*, Gateshead: BALTIC, 2002.

Chapter 5

The ludic hack: artistic explorations of computer games

Tilman Baumgärtel

> I run. I run through a tunnel, while a howling monster with an upside down head chases me. Dogs with sharp fangs attack from one side, claws grab from the other. Gooey 'stuff' drips on me, and below is a deep abyss on whose edge I teeter.

This is what it feels like to play the latest incarnation of the popular 'ego-shooter' *Doom3*, an example of a game that employs a first-person perspective. This is the stuff that computer games are made from; nightmarish images ripped straight from the sub-conscious and which, in their peculiar mixture of violence and absurdity, are reminiscent of surrealist experiments.

Computer games have come a long way since MIT students in the early 1960s came up with *Spacewar*, the first program to turn a computer into a playing field. *Spacewar* consisted of a few white dots on a black background and involved the use of a huge mainframe computer. Today's console games running on the Playstation or Xbox boast a photorealistic likeness and the vivid spaceships, monsters and warriors that populate them, at times seem capable of jumping out of the computer monitor.

And in a sense they do. By staring in Hollywood movies, adorning magazine covers and selling numerous products, they have left the realm of the virtual to enter the 'real world' of consumer culture. According to a recent survey, more American schoolchildren know Super Mario than Mickey Mouse and Nintendo's *Super Mario* games have made more than seven billion dollars. (As a comparison, the George Lucas series *Star Wars* has made 3.5 billion dollars at the box office.)

Yet, computer games are not just an economic phenomenon, they have also created a distinct culture. Unlike the cliché of the isolated teenage geek, nerd or otaku, who wastes his youth in game arcades or at home in front of his computer, gaming is highly social and creative. Players, many of them still in high school, organize huge networked computer tournaments (known as LAN parties) where hundreds, sometimes thousands, compete. They create their own versions of games, sometimes customizing them to the extent that they bear little resemblance to the original. *Counterstrike*, for example, one of the most successful computer games of all time, was based on the science fiction game *Half-Life*. It has little in common with the original game, in terms of plot and visuals, and was made by a group of internationally dispersed students collaborating via the Internet. The final game was also made available via the Internet, where millions downloaded it. Only later did a commercial version become available.

Recently the success and this 'gaming' phenomenon have been noticed by the art world and a number of artists, who formerly worked on the Net (including Jodi, Vuk Cosic and Joan Leandre) have become involved in this emerging area. While I use the term 'game art' throughout this text for purposes of brevity it would be premature to label this phenomenon a new 'ism' as some writers have.[1] Yet it is unquestionable that computer games have become one of the most important issues in the digital arts in recent years, resulting in a number of international exhibitions.[2]

Artists were attracted to the fact that many of these games came with free add-ons allowing for their relatively easy modification. Also, games such as *Doom* or *Quake*, contained an 'engine' – software that is capable of rendering a convincing three-dimensional appearance. Only a few years previously, the creation of three-dimensional, illusionary spaces was the privilege of highly specialized commercial and university computer labs and required expensive Silicon-Graphics Computers. With the emergence of modern game engines it became possible to create and enter these 'virtual realities' for a fraction of the cost using 'off-the-shelf' home PCs.

From the games companies' point of view, these programs served as a method to keep users interested in a game for a longer period. While normally a product may have a limited shelf life, games that allowed modification proved hugely popular because they provided this extra, extended level of interaction or engagement.

Allowing consumers to customize the products is a significant trend in contemporary marketing. Labelled with buzzwords such as 'the creative consumer'[3] or the 'proam' short for 'professional amateur', marketing specialists praise a new kind of end-user that modifies or creates from pre-fabricated components. In a study for the UK research institute Demos, Leadbeater and Miller describe how the game *The Sims* featured its own DIY software to decorate the suburban life-style of the products characters. This type of activity can also be seen in the work of 'mappers' and 'level builders', amateurs who design 'home brew' elements for action games.[4] These digital rudiments – essentially pieces of programming code that describe game entities, are freely swapped via fan web-sites and online forums. With simulation games such as *Warcraft* or *Everquest* this kind of exchange has taken on the status of a working digital economy, in which important items such as swords are auctioned on Ebay for large sums of money.

The practice of changing the properties of a program, as one sees fit, is an essential element of digital culture and can be traced back to the earliest computer subcultures. In particular the MIT hackers of the 1960s were among the first to engage computing, informed by a subversive desire to re-purpose technology with little regard for the original functions of the machines.

Stephen Levy describes the five principles of hacker ethics that developed among this generation of technological tinkerers in his book, *Hackers; Heroes of the computer revolution*. The first (and most important for the purposes of this discussion) reads:

> Access to computers and hardware should be complete and total. It is asserted to be a categorical imperative to remove any barriers between people and the use and understanding of any technology, no matter how large, complex, dangerous, labyrinthine, proprietary or powerful.[5]

This stance lies at the core of all creative use and, more importantly, creative abuse of computer technology which overlaps with another of the hacker's dogmas; 'You

can create art and beauty on computers' – a completely new concept in the 1960s, when computers were considered to be mere number-crunching machines.

Long before artists became interested in computer games, it was the hackers who 'embedded' these concepts into software products. It can be argued, that the American company ID Software, makers of the popular *Wolfenstein* and *Doom* games, were among the first to convert the most famous principle of hacker ethics 'information wants to be free' into a functioning business model. The Texan company, essentially run by hackers, releases the code for its games and sells them over the Internet as 'shareware'. In this business model, which is only possible in a digital economy, the program itself is available free of charge and an extra payment can be made for an extended version that allows access to additional functions and game levels. Similarly, when ID Software discovered that fans had hacked into their products to develop alternative versions of their game *Wolfenstein*, and were distributing them via the Net, they reacted in a way unthinkable to most companies. Instead of sending letters threatening legal action, subsequent versions of the game included a feature that encouraged gamers to create unique 'user-edited versions'. Out of what had previously been a game, a medium to create virtual worlds emerged.

With their next product *Doom*, ID Software bundled powerful software for creating three-dimensional spaces. Experience with computers was needed, but the ability to program was not necessary. For David Kushner, an American journalist who chronicled the development of the company in his book, *Masters of Doom*, this was a radical cultural innovation:

> It was like having a Nirvana CD with tools to let listeners dub their own voices over Kurt Cobain's, or a Rocky video that let viewers excise every cranny of Philadelphia for ancient Rome.[6]

In the following years, outraged articles appeared regularly in the press describing how students had created models of their schools and turned them into venues for 'virtual shooter orgies'. Critics failed to recognize the value that this activity represented in which students learned to work with a program that allowed three-dimensional modeling, a complex skill that, only a few years earlier, had required specialist programming knowledge. The depiction of space, for decades the Holy Grail of academic computer visualization had become socialized and was soon to move from the playroom into the artist's studio.

Within media art circles this practice of customizing, or even completely redesigning, digital code was already a feature of net art. Underpinned by a hacker ethic, artists using the Net shared a similar conviction that technology was there to be challenged and disputed on its own terrain. Around 1995 this ethos was to migrate (along with many former net artists) across to forms of practice that began to explore the computer game as a cultural phenomenon. As such, game art needs to be considered not only in the context of the huge DIY subculture of game enthusiasts, but also that of a wider cultural and hacker movement united by a lack of respect for technological givens.

While game art shares its unruly spirit with net art, it also has obvious parallels with the newer software art. Yet for some reason, the community that is interested in software art has never embraced game art. At the time of writing, at the online repository of software art runme.org, only ten of the 300 hosted software art pieces have

anything to do with computer games. Perhaps there is a clash of cultures at play here, reminiscent of Umberto Eco's description of the conflict between the 'protestant' ethic of command-line operating systems such as MS-DOS and the 'catholic' graphical interfaces like those of the Apple computers. Whatever these cultural differences, both software and game art share a fundamental approach: they both intervene in or 'hack' popular software applications in order to develop artistic positions.[7]

Later, I will give a brief historic account of the first artists who used computer games as a medium, however, now I would like to discuss Jodi, who are examples of artists that best represent the continuity from net art to game art, by being among the first to treat computer games as an object for artistic manipulation.

In 1997 the artist duo took advantage of the possibility for modifying the action shooter *Quake* by taking all the representational elements out of the game and leaving only black-and-white static. Reminiscent of a de-tuned television set, the resultant game looks like an animated Op-Art picture around which you can navigate. In this deconstruction, Jodi drew attention to the fact that, underlying all computer representations, the technological domain of system code lurks. In these game 'remixes', which were eventually published on the Internet as an *Untitled Game*, Jodi questioned every thinkable aspect of the representation of space implemented in the original game. In later versions, cryptically entitled *E1M1AP* or *A-X*, they further simplified these visual elements by replacing them with areas of flat primary colour. In the game, numbers trickle 'Matrix-style' over the screen (in actuality the co-ordinates of the position of the player in the game), as the entirety of the gaming scenario is processed as abstracted flickering.[8]

Therefore, it is not only the critical and subversive stance that situates these works in a historical continuum with earlier net art practices, because similar to the manner in which net art concerned itself with the connected communities of the Internet, game art actively comments on an emergent, networked sub-culture of gaming. For example, Annemarie Schleiner and Joan Leandre's project *Velvet Strike* (2001) was created in response to the belligerent atmosphere in the US, following the 9/11 attacks and is an intervention in gaming culture which consists of a manipulation of the popular, commercial, military game, *Counterstrike*.

The combat that was the hallmark of the original game bore more than a cursory similarity to the war that was being waged in Afghanistan at the time. Similarly, following the attacks against the Pentagon and the World Trade Center, *Counterstrike* modifications soon appeared featuring Middle East scenarios and Osama Bin Laden. *Velvet Strike* reacted to these crude, propagandist modifications with its own pacifist 'sprays' submitted through the Internet from all over the world. 'Sprays' are graphics that – similar to graffiti tags – you can attach to the walls of computer games; for example, the political sprays that were attached to the *Counterstrike* levels ranged from simple, 'Make Love, Not War' messages, to graphics reminiscent of political art *à la* John Heartfield and demonstrated that even the military logic of such games was not invulnerable to subversive reworking.

News about the work soon spread via the countless *Counterstrike* fan websites and other online forums and the authors of *Velvet Strike* soon began to receive emails from the community into which the work was intervening. While many responses contained banalities like 'U suck', others were more reflective. For one correspondent, *Velvet Strike* had negatively impacted on their efforts to come to terms with the aftershock of the 9/11 attacks:

> CS [*Counterstrike*] was my way-out after 9/11. I played a lot of CS after that, in order to take out my anger against those 19 bastards who caused the destruction of the WTC. Please, do not ruin my game.[9]

Modifications like *Velvet Strike* penetrate like parasites into existing commercial artifacts. As a result of this process artists are able to bend these 'products' to their own artistic goals. Annemarie Schleiner writes:

> Like the sampling rap MC, game hacker artists operate as culture hackers who manipulate existing techno-semiotic structures towards different ends or, as described by artist Brett Stalbaum, 'who endeavor to get inside cultural systems and make them do things they were never intended to do.'[10]

The art history of modernism is littered with examples of these appropriations and dislocations. In his 1917 study *Art as Technique* the Russian literary critic and formalist Victor Shklovsky introduced the term *ostranenie* (i.e. 'making strange', or 'defamiliarize'). In turn, this influenced Bertolt Brecht's concept of the *Verfremdungseffekt* (alienation effect), which he extended into the realm of theatre. Examples for use of similar artistic strategies from the period after the Second World War also include the recontextualization of Pop Art or the *détournement* of the Situationists. Such distortion of aesthetically complete pieces can be regarded as one of the most effective and prominent ideas from the development of modern art.

So, as previously discussed, there are certain structural similarities between the net art of the 1990s, the later software art and artistic explorations of computer games. In order to flesh out these relationships, I would like to consider for a moment the brief history of computer game art.

While, in theory, it seems fair to assume a linear trajectory from the 'simple websites' of early net art to the 'complex programming' of these later techno-artistic forms, the historical facts quickly disprove this hypothesis. Ironically, the first documented attempt by an artist to use a computer game appears to have been *ars Doom* by Orhan Kipcak and Reinhard Urban. Released in 1995, historically considered to be the period in which the first major developments in net art occurred, *ars Doom* was shown at Ars Electronica in the same year, and is a crude satire on the art business in the tradition of context art of the early 1990s.[11] One reviewer wrote:

> 'No one helps anyone,' growls the player's alter ego as it stumbles through catacombs [...] armed with either a shotgun, paint brush or another tool. These catacombs are easily identifiable as being a digital model of the Bruckner House [the location of the ars electronica] whose somewhat stiff 1970s charm rather unwillingly couples with the characteristic SS prison aesthetic typical of 'Doom'.[12]

Another report for ORF-Online describes the famous artistic personas that the player can assume:

> After getting on board via the Internet, a user receives a character mask, perhaps that of Georg Baselitz, Nam June Paik or Arnulf Rainer. Then, with their

> tools – Baselitz's thumbs, Paik's remote control or Rainer's paint brush – works of art and artists can be destroyed.[13]

The Ars Electronica catalogue listed the names of the opponents and other 'inner circle artists involved [sic]', that the player might face in order to successfully navigate an artworld career. (The favourite opponent and victim was rumoured to be the exhibition director Peter Weibel.) This form of modification started a particular tradition in which the computer game became a vehicle to comment on art world institutions. In 1999 artists Florian Muser and Imre Osswald[14] remodelled the Hamburger Galerie für Gegenwart, and in another project, Tobias Bernstrup and Palle Torsson modified *Duke Nukem* so that it depicted a number of venues exhibiting their work *Museum Meltdown* (1996–99).[15] In discussing their exhibition in the Arken Museum, Copenhagen, the artists state:

> Since the museum was recently built and had a somewhat superficial architecture, we thought it would be interesting to do something that dealt with the idea of the entire exhibition space. The interior had a lot of fake details, like big metal panels and doors. This fake hi-tech style corresponded well to computer game aesthetics. When we found the game 'Duke Nukem3D', which had a level editor, we decided to transform the actual space into a game environment.[16]

Museum Meltdown is presented as a commentary on the art world, which the artists describe as resembling an intransigent computer system; 'the range of human interactions in [the] game is very limited, the rewriteable program code of the game contains the basic lab for understanding the art world through game theory'.[17]

In contrast to these institutional critiques, the works previously mentioned by Jodi, and those of Margarete Jahrmann and Max Moswitzer, modify games from a formalist perspective. In 1999, as guests of the Budapest Media Art laboratory C3, Jodi made their first modification of *Quake*. And, shortly afterwards, *LinX3D* (1999) by Jahrmann and Moswitzer, used the game *Unreal* to open-up debates concerning interface and the 'materiality' of code. But Jodi, in particular, have concentrated on the formal graphical aspects of computer games in which game modifications produce a sparse imagery that can only be generated in the act of playing, through manipulation of the medium at the level of code. This 'pared down' aesthetic also links back to the historical development of computer games, which initially could display little more than geometric shapes.[18]

The point of departure for this kind of artistic work centred on the possibility of modifying the structures of the games, often leading to a situation whereby the original premise of the game is explicitly contradicted; for example, first person 'shooter' games present their scenarios from the viewpoint of the user – centred towards a focal point and depicting space in a way reminiscent of Renaissance perspective. This sabotage of the perspectival method of spatial illusion became a central concern to many artists employing the game as a medium. Another issue frequently addressed by artists is the manipulation of the game's physics which artists, such as Jodi or RetroYou, changed to the point of being almost completely unusable. With these behavioural and structural interventions such works differ completely from most of the 'fans' modifications which merely focus on cosmetic changes to a game's appearance.

Perhaps the most striking and minimalist version of this form of modification is Jodi's *SOD* (1999), in which only abstract symbols remain from the game *Wolfenstein 3D* upon which it is based. This precursor of *Quake* is reduced to a bleak black and white landscape, a labyrinth reminiscent of a gallery hung with copies of Kasimir Malevich's *Black Square* and populated by black triangles, which only become recognizable as Nazis when they yell 'Achtung!'. In this most visually reduced of Jodi's game modifications, the mechanics of the original gameplay are respected. Its simplicity is the duo's tribute to the programmers at id Software who developed the technical breakthroughs for creating three-dimensional spaces on ordinary PCs.

A newer work by Jodi, *Jet Set Willy* © 1984 (2000–02), is a deformed version of a game for the Sinclair Spectrum, one of the first affordable home computers.[19] The images in the work appear as strange mutations that lie somewhere between the abstract cartoons of Oskar Fischinger and an animated work of concrete poetry made up of random chains of ASCII characters, mined from code segments. Progression through the game causes multi-coloured quadrilaterals to re-order the image of a room built out of thick beams. Later versions of the work develop this aesthetic in another direction by replacing the imagery in the game with textual formations only. While Jodi's *SOD* and *Untitled Game* were based on relatively recent products from the 1990s, *Jet Set Willy* harks back to the history of gaming. The work is written in BASIC, a historic programming language now in danger of becoming extinct. The project is also Jodi's homage to the culture of teenage hobby programmers from the 1980s, who created complete games, single-handedly, on the first home computers – a development that is one of the best examples of the libertarian do-it-yourself ethic of computer subculture and a mainstay of Jodi's work.

While representing radical visual de-formations of the original games, these pieces still respect the mechanics of play in the originals. Yet, despite their lack of signifiers, both pieces are playable. Alternatively, in his work *retroYou r/c*, the Spanish software artist Joan Leandre, took a different approach in which he changed the rules by which space, movement, gravity, etc. are simulated. The original game narrative involves a competition between remote-controlled cars that have to be steered through an American suburb. But this architectural motif is only recognizable in early versions of the work, because in later modifications the more the user tries to exert control, the more unpredictable and willful the game becomes, and the more abstract the environment appears. The artist also developed this approach with *retroYou nostalG*, which subjected a flight simulator to similar treatment.

Similarly, in Tom Betts' *QQQ* (2002), equally confusing images are created that look like they were formed from a broken kaleidoscope. On closer inspection, this patterning describes the shadows of characters, parts of passageways, staircases and halls that form the background and the playing field for *Doom*. Betts has taken apart the individual elements of the game and re-mixed them to produce an ambient constellation of abstract elements. At first sight, one might consider the project to be concerned with the formal properties of computer graphics – unless, that is, one is aware of the origins of the imagery. Betts runs his own Internet server through which fans of the game can play against each other online. However, without the players' knowledge, data traces left behind during game-play are gathered and recycled to form the work, as like unconscious marionette players, these online users trigger the movements of the 'shadow puppets' projected in an exhibition space. When the online

server is not being accessed the exhibition is quiet, however, at night or at weekends, the work can suddenly spring to life, eerily generating form as online gamers start to battle each other. In actuality, *QQQ* is a hidden net art project as its shimmering confusion of colours and shapes is generated and controlled by online data, which is then observed passively by viewers in the gallery space. In this work, therefore, Betts not only modified the interface of the game, but its entire, technical online infrastructure, in order to draw unsuspecting online collaborators into its milieu.

QQQ is among the first works that attempted to give a game a physical presence because it requires installation in a gallery space. Newer artworks have also continued this trend. New York-based artist Paul Johnson not only writes games, but also builds specialist casings to contain them, which he calls 'sculptural computer consoles'. Wall-mounted on plastic shrink-wrapped housings, these custom-built 'sculptures' are networked together so that data can travel between them. In addition, in order to generate unpredictable narratives in real time, each sculpture's games play each other autonomously without audience interaction. For example, in the work *Crossings* (2004) the viewer observes the game from the perspective of its principal characters, a Jeep racing through the countryside and a deer. At various points the game-worlds intersect, sometimes leading to the unfortunate death of the deer.[20]

Eddo Stern's *Fort Paladin: Americas Army* (2003) takes a similarly sculptural approach. Based around the US military's recruitment game *America's Army*, the computers used to run the game are housed in a mediaeval-style castle, a concept that links it both to the culture of custom computer case modifications and to hardware hacking. Played by automata in the form of mechanical fingers typing at a keyboard, the work draws attention to the simplistic stimulus–response mechanisms computer games are based on, and the cybernetic 'command and control' systems used by the military. In doing so, the work serves as a commentary on gaming culture and its uncritical adoption of militaristic themes.[21]

If *QQQ* by Tom Betts seems to be the ultimate in visual sophistication, Lonnie Flickinger's *Pencil-Whipped* (2003) offers a graphical counterpoint. The game represents a peculiar black and white environment whose walls, floors and roof appear to be drawn by a three-year-old child. The game is populated by small dancing, scribbled figures that attempt to distract the player. If the figure gets struck, a 'slap-stick' muffled thud is heard as it falls over. In the work Flickinger creates an idiosyncratic universe rendered in a 'low-fi' aesthetic that calls into question the status quo of 'first-person shooters' which continuously strive to render high degrees of 'cinematic' realism.

While these works modify software, some artists have gone further by re-engineering the very hardware that allows the games to run. For example, New York-based artist Cory Arcangel took the cartridge on which the game *Super Mario* is (or rather, was) stored, to produce *Super-Mario Cloud* (2002). By disconnecting the contacts on the circuit board and inserting a chip carrying his own program, the game is stripped of signifying graphical elements. Gone is the main character, Super Mario and the labyrinth, obstacles, landscapes and opponents, that lend the game its narrative structure. The work's emptiness operates to engage the user's imagination so that they are forced to infer the presence of the familiar missing components because of their obvious absence. This aspect of the game also calls into question the normative patterns of game design, by prioritizing the player's psychological engagement over and above stimulus response models of behaviour.

Arcangel Constantini in his work *Atari Noise* (1999) also manipulates the stylistic conventions of early computer hardware, which he sources from Ebay and flea markets. In *Atari Noise*, the artist modifies an early form of the game platform Atari 2600, a 1970s predecessor of today's popular Playstation or Gamecubes. Constantini calls this modified platform an 'audiovisual noise pattern generator keyboard'. When played it muddles the images of the ancient games to generate pictorial elements of unusual beauty. Due to the unique modification of the original Atari hardware, Constantini has created an image-generating machine that creates visuals that cannot be produced with any other device. The work can also be considered to be a reference to one of the most important historical works of media art, the *Videosynthesizer* (1969–92), by Nam June Paik. While Paik had to collaborate with a technician, Shuya Abe, to develop his machine, *Atari Noise* reflects a media culture in which the required hardware is available as scrap electrical parts. The perpetually new images that the machine generates stress the special properties of these recovered game consoles, whose re-use opens up a totally new area of artistic exploration, that of 'hardware archaeology'.[22]

This apparent re-introduction of disrespect and a spirit of irony into an increasingly stuffy and academic contemporary art scene, is one of the most surprising aspects of the current developments in artistic game modifications (and also software and net art). After all, game artists work with computers, the 'universal machine', which was once considered a mathematical apparatus, not a device for fun and play.

However, computer games were among the first applications for PCs, which turned the computer both into a medium and into an entertainment machine. At the same time, art revived its interest in the subject of games, which has much in common with the computer structurally. In his famous essay, 'Homo Ludens', Dutch historian John Huizinga convincingly demonstrated that the apparently regressive ludic urge is, in reality, the origin of human culture and, therefore, of fine art as well. Huizinga's remarks on the contemporary art of his time may remain superficial, however, many of the elements he describes as being fundamental to games are also valid for art; their apparent meaninglessness and pointlessness, their position outside of the everyday world, their 'being forever childish [sic]'.[23]

This interest is evident in many modernist artists who have integrated elements of games into their work; for example, Alan Kaprow's happenings and the performance art of the 1960s and 1970s often employed rule sets and instructions in a manner analogous to games. Other artists went further by creating their own games, including the pinball work *Little General* by Öyvind Fahlström, or the shooting sculptures of Niki de Saint Phalle. Yet, it is in the works discussed in this essay where art and games first come together in mutually complementing forms. German art critic Gerrit Gohlke writes:

> Computer game artists approximate to technical reality with its own tools and its own territory. What art commonly fails to achieve in its often purely symbolic exploration of science and technology [...] computer game art successfully accomplishes through its integration of scientific and cultural domains as both process and concept.[24]

Artists who work with computer games address a subject that has now become an integral part of pop culture, even if it is still socially marginalized. In addition, art that deals with computer games has quickly moved beyond the often-formal

boundaries within which much Internet and software art is situated. These artistic explorations are frequently done in a fashion that is critical and ironic, disrespectful and deconstructivist. This essay also suggests that these artists do not take technological dispositives for granted, but rather manipulate and abuse, circumvent and modify original games/data in order to generate new visual and behavioural forms that intervene in an emerging cultural and social phenomenon.

Notes

1. For a discussion of this issue, see: G. Gohlke, 'A fledgling genre: Computer game art as a counter-draft to technology-alienated art', in T. Baumgärtel (ed.) *Games – Computerspiele von KünstlerInnen*, Dortmund: Frankfurt a. M., pp. 104–111, 2004.
2. These include *Computerspiele von KünstlerInnen*, that I curated in 2003 at the hARTware medien kunst verein in Dortmund <http://www.hartware-projekte.de/programm/inhalt/games_file/werke.htm> as well as a number of other international exhibitions. Here is a personal selection, some of these have taken place only on the Internet and others in galleries and museums: *Synworld*, T0 Netbase, Vienna <http://synworld.t0.or.at>; *Cracking the maze*, Switch, website <http://switch.sjsu.edu/CrackingtheMaze/>; *Trigger: Game Art*, Gammaspace, Melbourne <http://www.gammaspace.com.au/trigger>; *Reload*, Shift e.V., Berlin, Germany, <http://www.shift-ev.de/exhib/reload/intro.html>; *Loading*, Galleria Civica Civica d'Arte Contemporanea, Montevergini, Italy, <http://www.montevergini.it/loading.html> and finally, *Digital Homo Ludens: 2004 Media City Biennale* in Seoul, Korea, <http://www.mediacityseoul2004.org>. A regularly updated overview of computer game projects can be found at the selectparks website <http://www.selectparks.net>.
3. See: 'The Rise of the Creative Consumer: How and why smart companies are harnessing the creativity of their customers', [no author given] *The Economist* March 10 2005. Online. Available HTTP: <http://www.economist.com/business/displayStory.cfm?story_id=3749354> (accessed 22 June 2005).
4. C. Leadbeater and P. Miller, 'The Pro-Am Revolution: How enthusiasts are changing our economy and our society', London: Demos, 2004.
5. S. Levy, *Hackers: Heroes of the Computer Revolution*, New York: Delta, p. 39, 1984.
6. D. Kushner, *Masters of Doom: How two guys created an empire and transformed pop culture*, New York: Random House, p. 166, 2003.
7. Excerpts from Umberto Eco's essay are available at <http://www.simongrant.org/web/eco.html> (accessed 12 March 2005).
8. JODI's *Untitled Game* can be found online at: <http:// www.untitled-game.org/> (accessed 20 April 2004).
9. For more reactions to Velvet Strike, see: <http://www.opensorcery.net/velvet-strike/about.html> (accessed 1 March 2005).
10. A. Schleiner (1998) 'Cracking the maze – Game Plug-ins and Patches as Hacker Art', Opensorcery.net. Online. Available Http: <www.opensorcery.net/note.html (accessed 4 June 2003).
11. K. Gerbel and Peter Weibel (eds), *Mythos Information: Welcome to the Wired World, @rs electronica 95*, Vienna/New York: Springer-verlag, pp. 254–257, 1995.
12. V. Kuni (1995) 'ARSDOOM creates a new standard', [translated by the author], *Blitz Review 76* archived online. Available HTTP: <http://xarch.tu-graz.ac.at/home/rurban/ars/blitzreview.htm> (accessed 12 February 2005).
13. M. Adelberger (1995) '*ArsDoom*', archived on the *Orf* website. Online. Available HTTP: <http://kultur.orf.at/orfon/kultur/011019–6326/6328txt_story.html> (accessed 12 March 2004).
14. Florian Muser and Imre Osswald's, work can be downloaded from their website: <http://www.re-load.org/artists/noroom/berlin.html> (accessed 12 June 2005).
15. Further information concerning *Museum Meltdown* can be found at the artist's website: <http://www.bernstrup.com/meltdown/main.html> (accessed 12 June 2005).

16. See the *Museum Meltdown* FAQ. Online. Available HTTP: <http://www.bernstrup.com/meltdown/faq.html> (accessed 5 June 2005).
17. See the *Museum Meltdown* FAQ as per the previous note.
18. Indeed to extend this insight the 'building-block look' of the early video games in themselves, recall the historical picture-making techniques of ancient Greek and Roman mosaics or the Moorish 'alicatado' of the Alhambra in Granada.
19. See: T. Baumgärtel (ed.) *install.exe*, Basel: Christoph Merian Verlag, 2002.
20. Further information can be found at Paul Johnson's website: <http://www.pauljohnson.com> (accessed 12 June 2005).
21. See the artist's website: <http://www.eddostern.com> (accessed 10 June 2005).
22. Further information about *Atari Noise* can be found at the artist's website: <http://www.atari-noise.com> (accessed 12 June 2005).
23. J. Huizinga, *Homo Ludens: Vom Ursprung der Kultur im Spiel*, Reinbeck bei Hamburg: Rowohlt Enzyklopädie, pp. 173–188, 1987.
24. Gohlke, 'A fledgling genre', pp. 104–111.

Chapter 6

Grave digging and net art: a proposal for the future

Natalie Bookchin

In the year 2000 net art was declared dead. At the time, most people had little or no idea what net art was, much less that it might be deceased. Only seven years before, the arrival of a free, easy-to-use browser had transported the Internet from semi-obscurity into a mass medium. In its pre-web days, only a few artists had ventured onto the Internet, but now, with the technological obstacles removed, many more were to follow. By 1996, a small, lively group of international artists had formed a loose network and began describing their work as 'net art' – site-specific art made for and on the Internet. As a group, they rapidly gained attention in media art circles and, to some extent, the larger art world. If the lugubrious millennial cries were to be believed, net art would have died tragically young – a mere four years old.

Public announcements decrying the death of a movement, medium, or even entire art genre have a long history. In the nineteenth century, art history emerged as a new field of inquiry bringing with it a new consciousness of arts place within history. Art was beginning to be valued for the novelty of its approach, as well as its expression of individual and societal subjectivity. The new appeared to be triumphing over the old, and ideas, art and specific media began to be seen as having a limited life span.

There are at least three major death warrants issued and repealed over the last two centuries that inform the deliberations over the supposed demise of net art: the death of painting, of the avant-garde and of utopia. In 1839, the French painter Paul Delaroche, upon seeing a newly invented daguerreotype, purportedly cried, 'From today, painting is dead!'[1] The daguerreotype would replace painting's task of recording reality, and thus painting would no longer be of use. This apocryphal, often retold story was just the beginning of repeated assaults painting would suffer throughout the next century and a half. Yet despite, or maybe because of this, painting refused to die and if anything the challenges served to reinvigorate the field.

Similarly, postmodern thought, which dominated contemporary art in the 1980s, was perceived as heralding the end of the great utopian political and avant-garde experiments of the nineteenth and twentieth centuries. In art historical terms, the avant-garde refers to early twentieth century modernist art movements characterized by formal and conceptual innovation and a rejection of traditional values, institutions, and ways of seeing. Utopian in aim, it sought radical social, political, and creative renewal by forging new aesthetic ground and ways of perceiving the world. However, by the end of the twentieth century, the misadventures and monumental tragedies that had been wrought by many of the political and social experiments that paralleled these artistic explorations, had led to widespread disillusionment, suspicion

and skepticism. Punctuated by the fall of the Berlin Wall in 1989 and the subsequent dissolution of the Soviet Union, the death of utopian idealism across the political and cultural spectrum was widely presumed. Postmodernists argued that just as the historic avant-garde had become a part of the very institutions it had once challenged, artists, rather than standing outside society, were insiders, who could not escape eventual assimilation into the mainstream. Yet, while aiming to reveal the avant-garde's inherent failures and inconsistencies, postmodernism itself contained a fundamental contradiction. In its rejection of the historical avant-garde – with its now traditional values, institutions, and ways of seeing – it displayed the same tendencies it was trying to discredit. Through its break with the past, postmodernism appeared to be another avant-garde movement and just as the many death warrants for painting would not end painting, postmodernism didn't finish off the avant-garde, it only helped to invigorate it.

In the midst of the apparent collapse of the great utopian projects, rumours of another were beginning to emerge. In 'cyberspace', individuals would soar through information unencumbered by physical obstructions and governmental controls, and new types of communities would emerge, emancipated from the shackles of ethnicity, gender and class (an idea whose refutation is by now as commonplace as the original promise). In cyberspace, techno-determinism was the mantra: the non-hierarchical, decentralized architecture of the Internet would stencil itself on the world of flesh and metal, resulting in massive decentralization, and bringing forth greater freedom and democracy, as older structures withered away.

In a less ecumenical fashion, net artists were developing their own utopian ideas about the Internet, using Hakim Bey's *The Temporary Autonomous Zone* as one of the handbooks of the movement.[2] Bey envisioned an Internet where inhabitants moved nomadically through pirate-utopias, spontaneously forming short-lived anarchist clusters that mutated and relocated when threatened by outside impositions of control. Similarly, net artists wrote irreverent yet earnest manifestos outlining their independence from the mainstream art world. They made work that used the Internet and the Web as materials and systems to be manipulated for their own ends, making links to each other's websites and circulating their work via email, message boards and mailing lists.

In the 1960s, as net artists were well aware, conceptual artists had sought to challenge the commercial art world by creating what they thought would be unmarketable art. They developed temporary works, often involving process-based installations, performances or instruction sets. Works were meticulously documented, and a paper trail of photography, film, certificates, sketches and notes was created. Although staged outside of galleries and museums, artists still depended on these institutions to circulate and exhibit work as exhibitions were produced using the documentation as surrogates for the missing objects. Often one-of-a-kind, or made in limited editions, these artifacts ultimately became equal in value to original works of art, meaning any potential loss of value instigated by abandoning the art object was recuperated. As the value and meaning of the documentation were not self-evident to the uninitiated, a caste of 'expert' curators and dealers was also required in order to explain the work, further reinforcing the institutional grip on the artists and their work.

Net artists revived some of the concerns of conceptual art, particularly in its efforts to route itself away from traditional art world circuits. However unlike the conceptual artists, they did not have to rely on galleries or museums to exhibit their work, which

was not only produced and distributed on the Internet but viewed there as well. There was no reason to view art on a computer in a gallery when it could be seen from any connected computer, and with that connection, artists now had the ability to reach audiences directly in their homes and workplaces, where their work could be accessed by choice or by chance.

Internet time moves fast and the death sentence on the utopian phase of the Internet came quickly. The crash of the stock market and many high-tech industries at the turn of the millennium signalled its end, as hopes for the Internet were abandoned as quickly as they had once been embraced. As a microcosm of past utopias, early sweeping pronouncements about the future of the Internet were followed by similarly sweeping denouncements, and many now sought to distance themselves as far as they could from its perceived false promises.

It should be no surprise then, that the Internet bust prompted announcements of the death of net art. Unlike its electronic predecessor video art, which had made a successful transition from its own early utopian anti-institutional period into the museums and galleries it had previously eschewed, net art could not be so easily assimilated. Following video art, some net artists began making sculptural installations more suited to a traditional art environment, but in doing so, ideas of site-specificity that helped to shape and define much of the best net art had to be discarded. Like conceptual and early video art, net art had sought to use its immateriality to challenge traditional art institutions, yet it differed in two significant ways. Firstly, net art was always available – accessible anywhere there was a net connection. Secondly, net art was a resource that could not be depleted. The art world's business model relied on the creation of scarcity, which was constructed in conceptual art through the elevation in value of surrogate documents and with video art by replacing endlessly reproducible videotapes with limited editions and gallery installations. On occasion, net art had been collected, but by and large, it remained a conundrum for the art market. Take it off the net, and it no longer existed. Net art, it was said, was too difficult to find in the noise and chaos of the Internet, even harder to collect, and did not carry its weight in a gallery environment. These obstacles, together with the general negative mood following the dot-com crash, contributed to net art becoming a less appealing venture. Shunned by the art world, it became ghettoized as a sub-category in the already rarefied field of new media art. Artists, of course, continued making art on the Internet. Some expanded off the desktop to explore the new wireless webs, while a few others, notably artist curator Jon Ippolito and collaborators, continued working with experimental approaches to the distribution and preservation of net art. However for the most part, the discussion seemed to be over.

This situation was to change dramatically when a teenager named Shawn Fanning released a software application he called *Napster* in 1999. *Napster* was a 'peer-to-peer' application that allowed anyone using the Internet to connect to, search and view, the computer of other *Napster* users, in order to share their music files.

From its earliest days in academic research labs, the Internet had been conceived as a 'peer-to-peer network' meaning users could both access *and* contribute content to it. Following the invention of the World Wide Web and the ready availability of cheap computers, the number of people connecting to the Internet soared. With most of these new users happy to merely receive rather than contribute content, the numbers

of computers both serving *and* receiving files decreased and the network began to look like more traditional, and centralized broadcasting media.

With the release of *Napster* however, widespread peer-to-peer networking returned as millions began to share their music files, and the number of PCs capable of both receiving and publishing content increased exponentially. In particular, musicians without a recording contract began taking advantage of this new distribution system to reach a global audience. Decisions about who was to be heard, traditionally made from the top-down by company executives, were now being made by the music fans – if music was well received, files would be shared, and the band would gain exposure. Shared music collections were based on individual idiosyncrasies and tastes, each a curated selection now open to the public. Supported by the proliferating peer-to-peer networks, file sharing began to function as a word-of-mouth recommendation system, albeit on a scale of millions. However, like the art market, the music industry could contemplate little benefit from accommodating this new model of distribution. It immediately took action against *Napster*, pursuing both technological and legal restrictions, and began filing lawsuits on the basis of copyright infringement of the music files being shared. Significantly, these restrictions threatened the very ethos underpinning the Internet and the ensuing battles over peer-to-peer networking became inextricably linked to fighting for the right to freely share information over the Internet. The music industry succeeded in closing down the original *Napster*, but this only served to increase the momentum it had unleashed. While *Napster* had used a centralized database to list files and users (and as such, was easily located and prosecuted), the next generation of peer-to-peer software was designed without this weakness, making it more difficult to locate and shut down. Users took full advantage of these new capabilities to exchange files of all sorts, not just music, but videos, movies, pictures and texts. Recording industries felt an affront from all sides – from the artists, the fans and the programmers building the software. They fought back, lobbying for laws that extended the life of copyright and suing individuals using peer-to-peer networks for copyright infringement. Yet, despite the litigation, peer-to-peer networks persisted, and file-sharers continued to grow in numbers, seemingly immune to industry's attempts to curtail their activities.

Around this time, the first blogs surfaced. A 'blog' is a form of publicly accessible personal journal that 'bloggers' (blog writers) update on a daily basis. Some bloggers began producing independent journalism, linking and responding to the media, exposing flawed journalism, keeping news stories alive and on occasion breaking news. Blogging provided a forum for those outside the mainstream media to participate in the production of the news. Like the independent musicians, bloggers gained access to large audiences by developing a reputation through an informal merit system fed by the links made from other blogs, which, in turn, increased their ranking in search engines. Just as net artists, and later musicians, had used the Net to respond to, and develop alternatives to institutional hierarchies and centralized business models, journalistic bloggers used the Internet to independently produce and circulate their work, relying on an avant-garde model they might not even have been aware of. Unlike the music industry, the mainstream media by and large welcomed bloggers. For many years, they had been struggling to remain current and relevant to younger, technologically savvy readers in the face of a steady decline in readership. The news media realized that blogging didn't steal away readers so much as bring

attention and interest to their products. In sharp contrast to the reaction of the music industry toward file sharers, they rewarded bloggers with links, media coverage and even blogging awards.

While blogging and peer-to-peer file sharing have become recognized, grassroot mass movements, fine arts equivalent, net art, has failed to have the same impact. As the one cultural arena in which institutional critique has held such prolonged interest and attention, and whose history has been filled with radical ideas about context and distribution, it seems odd that the Internet hasn't taken more of a hold – or perhaps not. There are strong economic incentives in the art world for keeping things as they are, and circumventing the production of exclusivity and scarcity threatens long established institutional and financial mechanisms. The art world has long been wary of peer review, taste being something one acquires through more invisible and seemingly intangible means. An artwork's mass appeal tends to be more of a detriment than an asset to its status – a sign of its lack of sophistication, depth or criticality. Ideas such as timelessness, taste and genius remain firmly in place, despite repeated assaults by artists and theorists. These concepts support decisions that are made behind closed doors by a powerful group of experts and non-experts, whose qualifications may be wealth, class and social standing. Contemporary art, which prides itself on its radical and transgressive nature, remains among the most conservative of cultural fields in its methods for determining quality, and in its formulations of its ideal audience.

I want to use the remaining space to sketch out one of many possible alternatives to the current art world system by proposing a simple, speculative artist-run, peer-to-peer network that looks to the unexpected, and in many cases unintended decentralizing and anti-institutional forces that these networks have set into motion.

I propose that the death warrant on net art, or rather, on its utopian strivings, was premature. Using a system of peer-to-peer review, this speculative network picks up where net artists left off, by providing a bottom-up system for determining artistic merit designed to be transparent, self-regulating and dynamic. The system won't necessarily eliminate hierarchies, favourites, or even the potential for celebrity status; it will however make the decisions guaranteeing these creations visible and locatable. Network software will track and store system activities, so that all decisions are available for review. While the current art world rewards self-serving and competitive artists, this network will reward peer recognition and support, by using a combination of automation and individual input, and by drawing upon established online methods of gauging quality. Like peer-to-peer systems in which users cannot download files without also sharing their own disk space, participants in the network cannot promote themselves – will not be visible in the network – without also singling out and promoting other artists. The artist's visibility will be determined through their association with and recommendations by, other artists in the network.

In order to participate, an artist must be invited, or apply to join an already existing 'circle' of artists containing six other members. 'Circles' are the basic social units that make up the network, they must maintain a basic membership of six artists and link to six other artists' groups. In order to keep the network dynamic, members must remain creatively active and preserve the circle of members and links. If a member is inactive for a set period of time, they are removed, and the circle in which they participated is deactivated until that member is replaced. This activates a cascade through the network, by which all connected circles close, as they no longer contain

the requisite number of links – a process that helps to keep the network in motion and prevent stagnation. New circles may be formed when an artist invites someone to join, but do not become publicly visible until they contain enough members and links to other areas. As a way of determining the circle's reputation and its creative perspective, information about how many artists have applied to join, who is invited, and who is rejected is made public. The network's database is searchable by categories that can be expanded and refined as the need arises. Users may search for artists based on merit and reputation as determined by the network, by media, genre and keyword, or on the basis of qualifications, exhibitions, grants received, and reviews and publications.

Rather than ignoring the art world, the network wilfully intersects with it, offering a second space to locate and promote quality. At best, the proposed system, and its many possible iterations, could lead to a broadening of the market, a subsequent decrease in the creation of scarcity, an increase in art circulating in the system, and a fairer, more even distribution of money and attention among a wider group of artists. It might also inspire more visual artists to consider the potential of peer-to-peer networking, which remains notably under-utilized in the field.

Many early net visionaries made the mistake of thinking that the Internet's decentralized architecture was inherently progressive, and would automatically lead to a distribution of power. While it is true that the Internet provides the means to make the world more democratic, or at least more decentralized, it can also be used to make the world less free through control and surveillance mechanisms. Technological landscapes change fast; there is no way of predicating what the Internet will look like in the near future, and no guarantee that peer-to peer networks will persist. However the Internet still provides public spaces and open architectures to realize hypothetical proposals, sketches and prototypes. Rather than calling for the death of utopias, large or small, and thus supporting the belief in the inevitability of the status quo, it is still possible to imagine and make demands for the future. These insistences – pragmatic, speculative or utopian – can remind us that current systems are not immutable and they allow us to picture and realize alternatives. In these uncertain times, while we have the opportunity, we need such visions, propositions and demands more than ever.

Notes

1. A. Trachtenberg (ed.), *Classic Essays on Photography*. New Haven, Conn.: Leete's Island Books, p. 9, 1980.
2. H. Bey, *The Temporary Autonomous Zone, Ontological Anarchy, Poetic Terrorism*. New York: Autonomedia, 1991.

Chapter 7

Inquires in infomics

Lisa Jevbratt

The act of programming or coding is often in effect an act of writing, of typing characters, sometimes in an ordinary text editor. It is a combining of characters into 'words' and these words into 'sentences'. It is a similar process to that of writing any natural language, with nouns having adjectives describing them and verbs making them act or being acted upon. However, while it is tempting to consider the poetic and literary qualities of coding due to its similarity with writing, programming is not writing. To write code is to create reality. It could be likened with the production of artificial DNA, of oligonucleotides – a process where life is written. Or it could be seen as a more obviously physical act of generating and moving around material, an act that has dimensionality, that is non-linear. It is an activity that has more in common with sculpting or designing and sewing clothes – to start with a material and feel how it folds and falls, cutting out two-dimensional surfaces from it and turning them into three-dimensional shapes by sewing them together in a specific way – than with writing.

The infome

Because of the traditions in which computer languages and code were developed, they are commonly thought of as symbolic abstractions of thoughts and natural languages. Computers are described as the universal machines manipulating these symbols, praised for their ability to simulate any other medium. However, the scene has changed dramatically since the first code-breaking machines and other early versions of computers. Every computer now exists in relation to a network, whether it is connected or not. Every software is potentially a networked software, a building block of the networks we live within and through.

The network of networks, the Internet, is an environment constructed by code – languages and protocols. It is written by us, yet it is reality. Code is the geology, at once a historical trace of our activities, and a determining circumstance, the ground we stand on, dictating the life of the environment. Coding is the act of building the environment, to 'move' the environment and a way of moving in the environment. Even if this environment is written by us, the whole (the network), made up of its parts (the layers of languages and protocols, the packets, viruses, data, etc.), might have reached a level of complexity and richness high enough to make it interesting to consider it as an organism. It now seems fruitful to postulate that computers are no longer interesting because they can simulate reality, but because they transform the written word into reality, a reality whose ontology is to be found in and between

'environment' and 'organism'. Even if the complexity of the network of networks and their data have not yet reached a threshold where the network actually transforms from merely a set of connected nodes to an entity worth describing as a totally new category, form or dimension, a rich and fascinating set of issues and areas of research open up by claiming so, and solidifying it by giving it a name. I propose the term 'Infome' to denote this all-encompassing network environment/organism that consists of all computers and code. The term is derived from the word 'information' and the suffix 'ome', used in biology and genetics to mean the totality of something as in chromosome and genome.

Infomics

Within the Infome, artist programmers are more land-artists than writers; software are more earthworks than narratives. The 'soil' we move, displace, and map is not the soil created by geological processes. It is made up of language, communication protocols and written agreements. The mapping and displacement of this 'soil' has the potential of inheriting, revealing and questioning the political and economic assumptions that went into its construction. Moreover, this environment/organism is a fundamentally new type of reality where our methods and theories regarding expression, signification, and meaning beg to be redefined. This text briefly points in some directions of inquiry that are of immediate importance and interest for me as an artist working with and in 'code'.

Protocol geography

Imagine yourself flying over a landscape, your eyes following the mountain ridges and the crevasses formed by water running down the slopes over millions of years (Figure 7.1). There are roads crossing the landscape, some of them closely following the creeks and the valleys, some boldly breaking the patterns of the landscape, laid on top of it as if drawn on a map (Figure 7.2). There are circular fields, the result of the mechanics of man-made irrigation systems, and oddly shaped fields wedged between lakes and mountain slopes. It is a fascinating display of the interplay between nature and culture, showing off the conditions of human life, our histories, and philosophies of living and relationship to nature. Open any atlas and one will see attempts to map this rich connection between geology and anthropology. These images, the view from above and the maps, allow us to see the layers of our environment, of how we have responded to the geology, the climate we live in, and how we have manipulated nature depending on our beliefs at different moments in time.

The Infome is made up of layers of protocols and languages, each functioning as the nature, the conditions for the next layer, and all of them together forming the conditions, the nature, which we relate to when spending time in (for example by navigating the Web), or using (by sending an email or transferring a file), the environment. We as people are expressed in this environment as a collective through how we use it. Just as flying over a landscape reveals our cultures and their histories through the specific placement of roads, the shape of the fields, and conglomeration of buildings, we humans are expressed in its very construction, geology and climate. We wrote its mountains and its rain.

Figure 7.1 L. Jevbratt, 2004.

Protocol politics

Different coding systems and languages modify and insert themselves in different layers of the Infome. Each layer interfaces to its underlying layer by omitting access to details of the previous layer, simplifying and narrowing the construction of objects and actions in the specific reality layer that the code operates within. A layer can interface with its underlying layer in a more or less acknowledging manner. Some of the commonly used Internet languages/software, such as Lingo and Shockwave, strongly impose a metaphor from an already-known discipline such as film editing, while others such as Perl allow the underlying layers to peek through by letting the interfacing filter be of a more abstract nature. Perl could be likened to the creek finding its way through the lowest points down a valley, creating a meandering waterway, not always efficient to use, while a Java applet could be seen as a constructed canal that sharply cuts through the landscape, offering a fast and reliable connection between two points but missing out on the cultural and geological history of the landscape it traverses. And perhaps Flash could be seen as the colonialist attempt to create borders in a place that is only known from a map, a place that has not been visited by the parties dividing the land, but is very well known by its inhabitants. Think of the straight borders of Africa, the result of the continent being divided by nations with political agendas separate from and insensitive to the issues and struggles pertinent to the tribes that were inhabiting it.

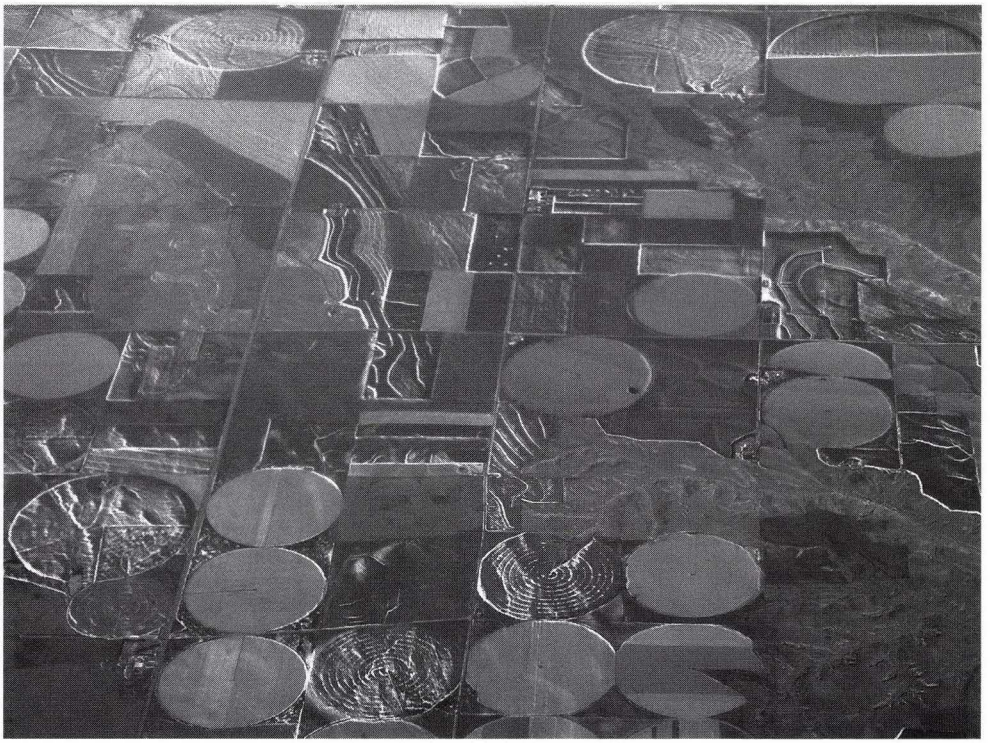


Figure 7.2 L. Jevbratt, 2004.

The Internet was created as an open environment, with is protocols and codes readily accessible for anyone interested. The transformation from a mere delivery system to a complex environment/organism that we possibly are seeing the start of, is a direct result of that architecture. We have not yet learned how to turn this entity in the making, into something profitable, so the obvious reaction from market forces is to counteract the transformation, to pretend that it is a delivery system, and to produce languages and software tools whose main use is the generation of content, and containers for that content. They counteract the openness of the network by creating proprietary protocols, languages and tools that disregard the geology of the environment.

Abstract reality

Within the paradigm that views the computer as a manipulator of arbitrary symbols, the dominating mode of the sign is the 'symbol': a situation in which the signifier arbitrarily relates to the signified, and where culture and convention dictate the meaning of the sign. Within that paradigm, software is seen as non-physical, and it is hard to justify the existence of an indexical sign that connects the signifier and the signified through an actual, causal imprint. In addition, since the Infome paradigm views the network environment/organism as 'reality' and 'life', the symbolic representations – the binary states, the data – are actual entities, not references to entities. They are actually

affected by events involving them. Within the Infome paradigm, the dominating mode of the sign is not the symbolic, or the iconographic, but the indexical.

This is a fascinating shift, resulting in new aesthetic expressions and implications. Images can now simultaneously be reality, since they are part of the Infome and an imprint of that reality, as if the image produced by a potato stamp were also a potato. This new emphasis on the indexical opens possibilities within the field of information visualization, which I currently work within. Instead of representing data symbolically by filtering it through known visual forms (such as using it to mimic aspects of physical reality) data can represent itself by being a slice of it or by 'smearing off' on something. The visualization is an indexical trace of the reality, an imprint, a rubbing, a manipulation of the reality, and it is reality.

1:1

I first started to explore these ideas with the projects *1:1* and *1:1(2)*.[1] The project *1:1*, created in 1999, consisted of a database that would eventually contain the addresses of every website in the world and interfaces through which to view and use the database. Crawlers (software robots, which could be thought of as automated web browsers) were sent out on the Internet to determine whether there was a website at a specific IP address (the numerical address all computers connected to the Internet use to identify themselves). If a site existed, whether it was accessible to the public or not, the address was stored in the database. The crawlers didn't start on the first IP address going to the last. They searched instead for selected samples of all the IP addresses, slowly zooming in on the numerical range. Because of the interlaced nature of the search, the database could, in itself and at any given point, be considered a snapshot or portrait of the Web, revealing not a slice but an image of the Web with increasing resolution.

1:1 Interface: Every(IP) (Figure 7.3), here shown in greyscale, is a visualization of the database and an interface to the sites it visualizes. The image is composed of pixels, each representing one website address stored in the IP database. The location of a pixel is determined by the IP address it represents. The lowest IP address in the database is represented in the top left corner and the highest in the lower right. The colour of a pixel is a direct translation of the IP address it represents, the colour value is created by using the second part of the IP address for the red value, the third for the green, and the fourth for the blue value. The variations in the complexity of the striation patterns are indicative of the numerical distribution of websites over the available spectrum. An uneven and varied topography is indicative of larger gaps in the numerical space, i.e. the servers represented there are far apart, while smoother tonal transitions are indicative of networks hosting many servers, which because of the density have similar IP addresses.

The initial idea was to continuously search the IP space to eventually have covered the whole range of addresses. However, the Web was changing faster than the database was updated, and in 2001 it was clear that the database was outdated. *1:1(2)* was a continuation of the project, including a second database of addresses generated in 2001 and 2002 and interfaces that show and compare the data from both databases. When the project was first created in 1999, the system approximately searched 2% of the total amount of IP addresses and found 186,100 sites for inclusion in the database.

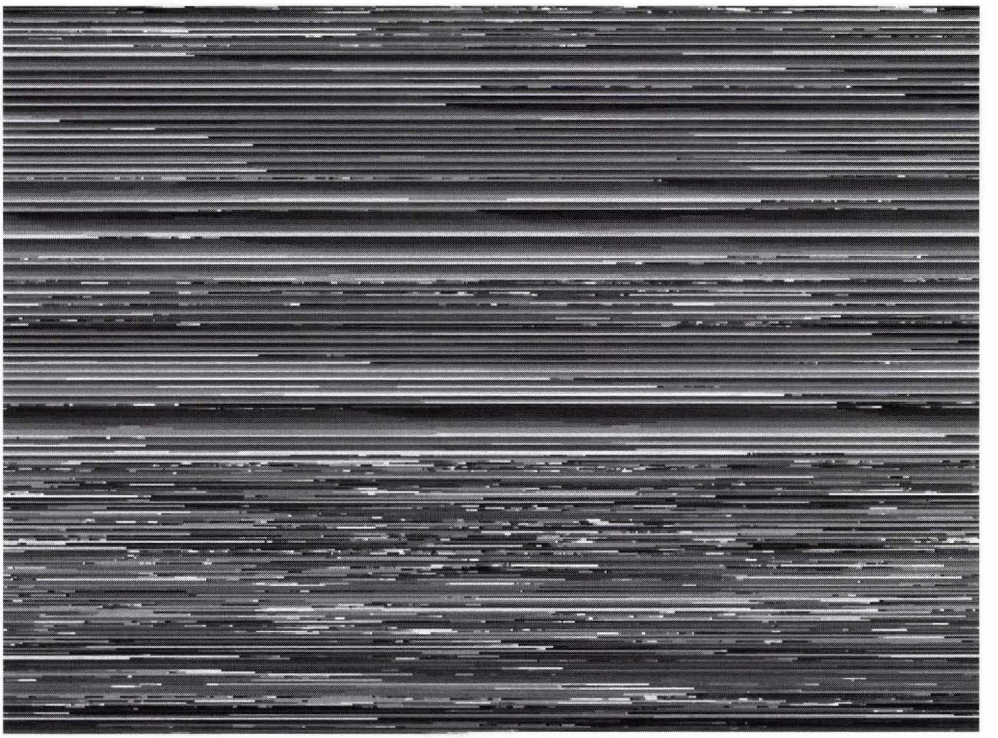


Figure 7.3 1:1 Interface: Every(IP). L. Jevbratt, 1999.

The second search started in 2001 and was searching the exact same sample of the IP range in order to be able to make comparisons between the Web in 1999 and 2001.

1:1(2) Interface: Migration (shown in greyscale in Figure 7.4 and Figure 7.5, a detail of 7.4, the actual image is in red and green) is a visualization of the two databases and an interface to the sites it visualizes. Each pixel location on the picture represents 255 IP addresses. The pixel in the top left corner represents the 255 addresses that start with 0.0.0 and the one in the lower right corner the ones that start with 255.255.255. The blobs represent IP addresses to servers that host a website. The red blobs, seen as the medium dark blobs in the greyscale reproduction, represent the websites the crawlers found in 1999 and the green, light grey in the reproduction, represent the websites found in 2001–02. The size of a blob is determined by how many sites it represents. Since each pixel/blob location represents 255 addresses, each blob represents between 1 and 255 addresses. The amount of sites is mapped to the blob on a logarithmic scale. The darkest areas are an indication of clusters of sites existing both in 1999 and in 2001–02.

Mapping the web infome

After *1:1* and *1:1(2)*, I continued to develop the ideas regarding visualization and the Infome with the exhibition *Mapping the Web Infome* in 2001.[2] I invited a group of

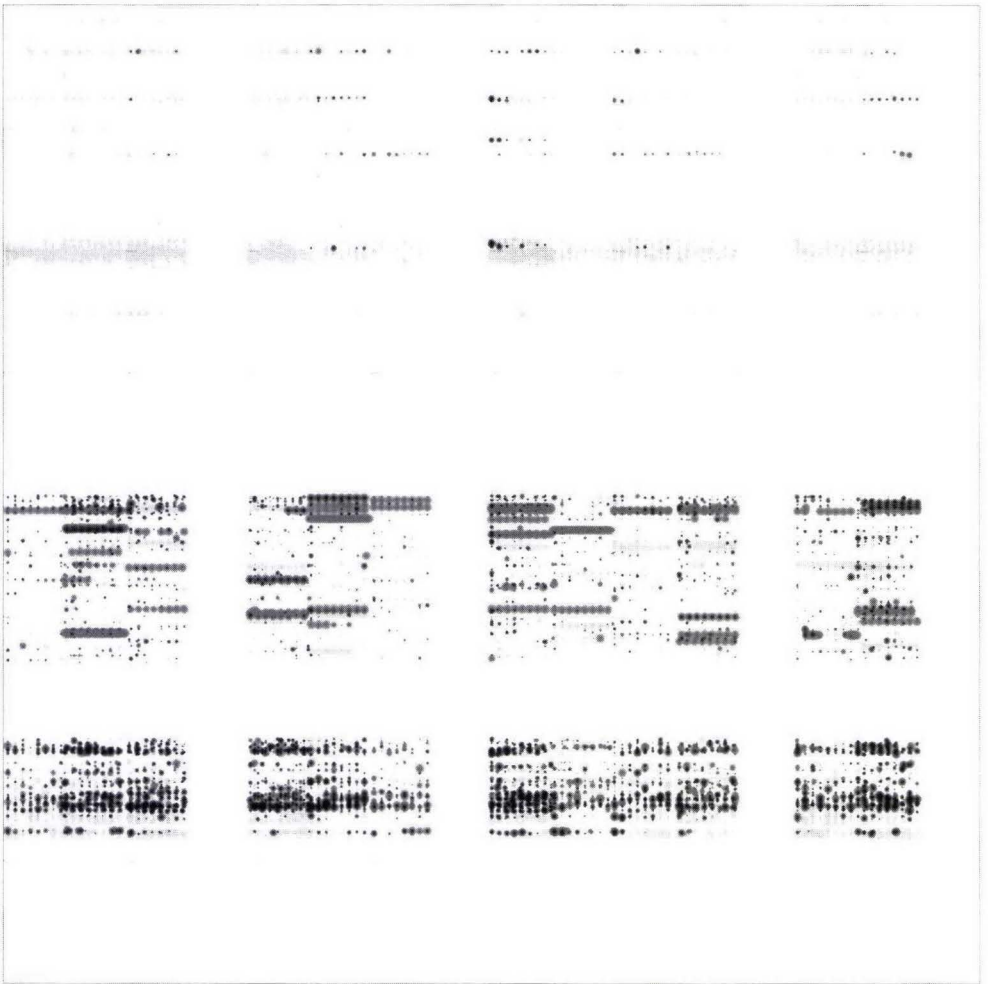


Figure 7.4 1:1(2) Interface: Migration. L. Jevbratt, 2002.

artists to produce projects with the software *Infome Imager*, which I developed specifically for the show with input from the invited artists. The *Infome Imager* allows the user to create crawlers that gather data from the Web, and it provides methods for presenting and visualizing the collected data. The projects created with the software ranged from textual and systemic investigations to more visual expressions of the web-infome. Three of the artists, Arijana Kajfes, and Jennifer and Kevin McCoy, were visualizing the use of colour in backgrounds, fonts and tables from the web pages their crawlers visited. The McCoys were starting a crawler by having it search for 'blue sky'. The crawler collected only blue, white and grey colours from the 30,000 pages it visited. Although here seen in greyscale, in the resulting image, *Every Blue Sky*, each pixel is a representation of a colour used in a web page visited by the crawler. The first web page visited is represented by the pixels in the top left corner and the last by the pixels in the lower right. In her project *22: search and thou*

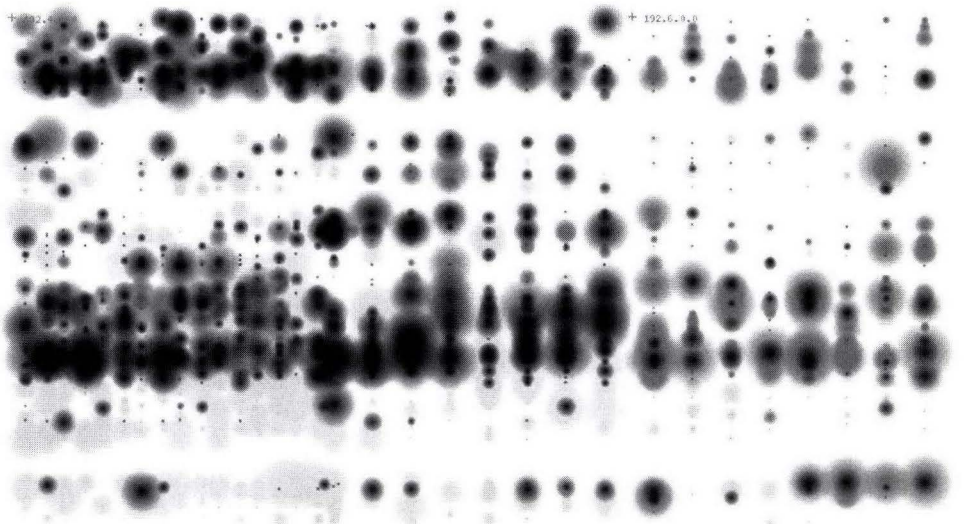


Figure 7.5 Detail of *1:1(2) Interface: Migration*. L. Jevbratt, 2002.

*shalt find_*, Kajfes started 22 crawlers by making them search for each of the names of the Major Arcana cards in the Tarot deck. Each of the 22 crawlers generated an image with the colours collected from the 1000 sites it visited. The images were printed as cards and shown and sold as a Tarot deck in the exhibition. In Kajfes' *22: search and thou shalt find_*, (Figure 7.6), each pixel is a representation of a colour used in a web page visited by the crawler. The first web page visited is represented by the pixels in the top left corner of each card and the last by the pixels in the lower right of each card.

Visualization

The *1:1* and the *Infome Imager* visualizations are realistic in that they have a direct correspondence to the reality they are mapping. Each visual element has a one-to-one correlation to what it represents. The positioning, colour, and shape of the visual elements have one graspable function. Yet the images are not realistic representations; they are real, objects for interpretation, not interpretations. They should be experienced, not viewed as dialogue about experience. This is interesting in several ways. On a more fundamental level, it allows the image to teach us something about the data by letting the complexity and information in the data itself emerge. It allows us to use our vision to think. Secondarily, it makes the visualizations function as art in more interesting ways, connecting them to artistic traditions from pre-modern art, such as cave paintings, to abstract expressionism, action painting, minimalism, and to post-structuralist deconstructions of power structures embedded in data. The visual look that follows from this thinking is minimal. It is strict and 'limited' in order not to impose its structure on its possible interpretations and meanings. The visualizations

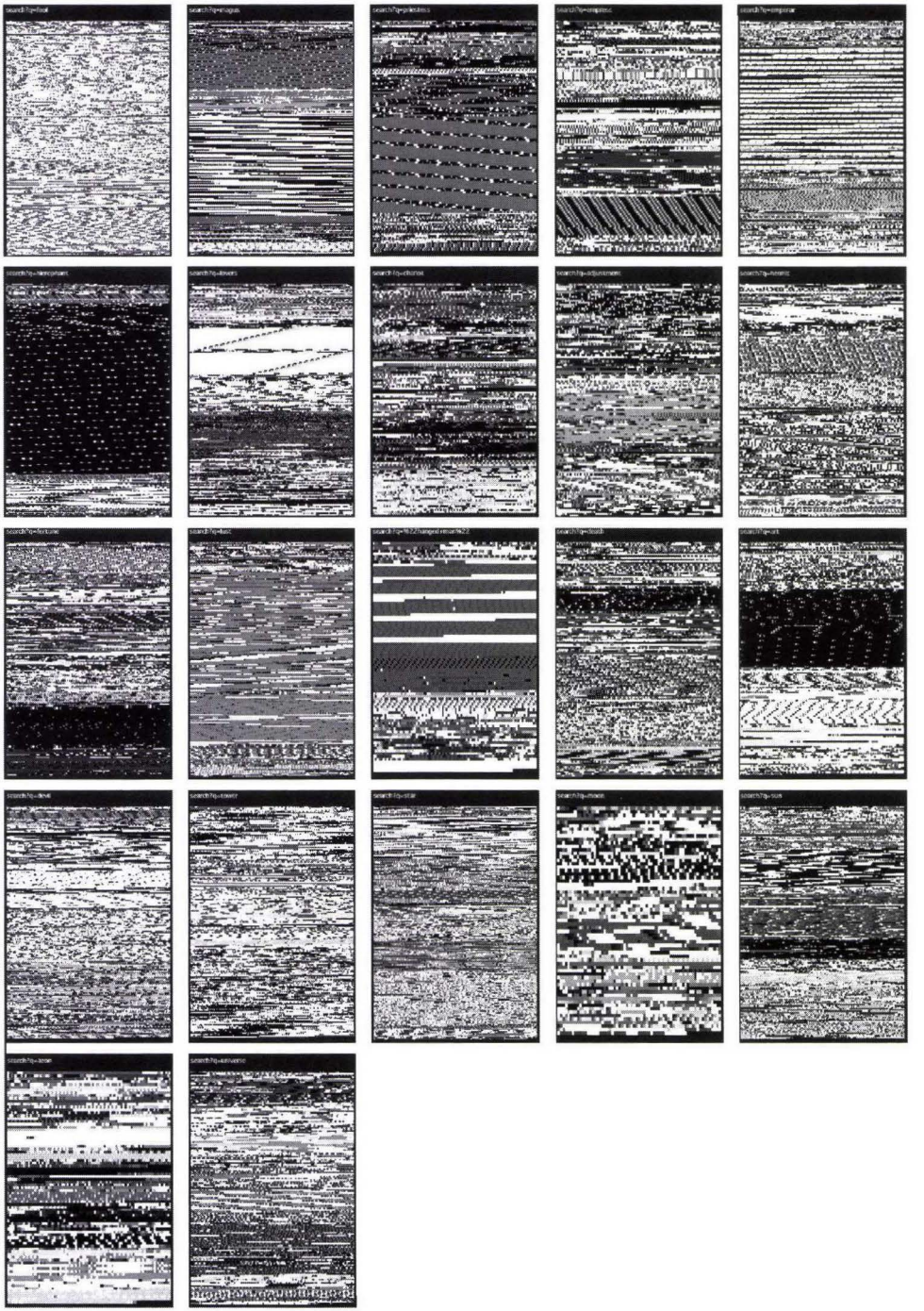


Figure 7.6 *22: search and thou shalt find*, Arijana Kajfes, from *Mapping The Web Infome*. L. Jevbratt, 2001.

avoid looking like something we have seen before, or they playfully allude to some recognizable form but yet slip away from it.

The abstract reality in which these images emerge is not a Platonist space of ideal forms, and the images are not the shadows of such forms. The term 'visualization' is problematic and would be beneficial to avoid because it indicates that the data has a pure existence, waiting to be translated into any shape or sound (or whatever medium the latest techniques of 'experiensalization' would produce). The opposite view that argues that the data are not there if we don't experience them – could be fruitful as long as it is not seen as a solipsist statement, but rather as a position more affiliated with ideas from quantum mechanics. The Heisenberg uncertainty principle implies that we can only be certain about something's existence if we see it. Everything else is known only with some degree of probability. In the first of these arguments – the data-purist view, images are merely one possible expression of the data behind them. The images get their meaning in a vertical manner; the truth is in the data, outside the image, behind or below it. In the second view, the contextualist stance, images cannot escape their context, the methods producing them and the discourse they are produced within. They get their meaning in a horizontal manner. The meaning is created from how the image refers to its image-ness and the tradition in which it was created. The most interesting examples of visuals displaying data negotiate between these opposite positions.

The type of imagery produced in genetics and biochemistry, sometimes called 'peripheral evidences', are imprints of DNA and proteins (Figures 7.7, 7.8 and 7.9). These images are evidence of something outside themselves, something (truth?) that could be visualized in multiple ways. Yet, because they do not escape the methods used to create the imagery, what they articulate could not be said in any other way. Another beautiful example of this simple but complex type of representation is found on TV. The static we see on the TV screen when zapping through non-existing channels allows us to see the Big Bang, the birth of the universe (Figure 7.10). In the static, 1% cosmic background radiation is hidden. The visual noise we see is not how we would choose to represent the Big Bang; it is not a visualization of it. It is in fact a direct experience of it.[3]

Perhaps the most appropriate term for visuals that aim to negotiate between data-purism and contextualization, such as the examples above and the visualizations created in my projects, would be a 'net' or a 'web' – an object that traps something. It is an interesting circularity that these terms are now most commonly used to describe modes of connectivity rather than entrapments.

The unintended

In order to focus on the organic and geological nature of the Infome, my projects disregard the fact that we created it. I choose to examine it from the outside as if I just landed on planet Earth trying to figure out whether it is alive, and whether the beings I encounter within it are intelligent or not. I regard the data of the Infome as noise and then head out on a signal hunt. What one finds, is how we are expressed as humans in and through the Infome, not what one single human is trying to express.

I focus on the unintended or make the assumption that the data are produced without intention, examples from various fields show that this strategy might reveal the

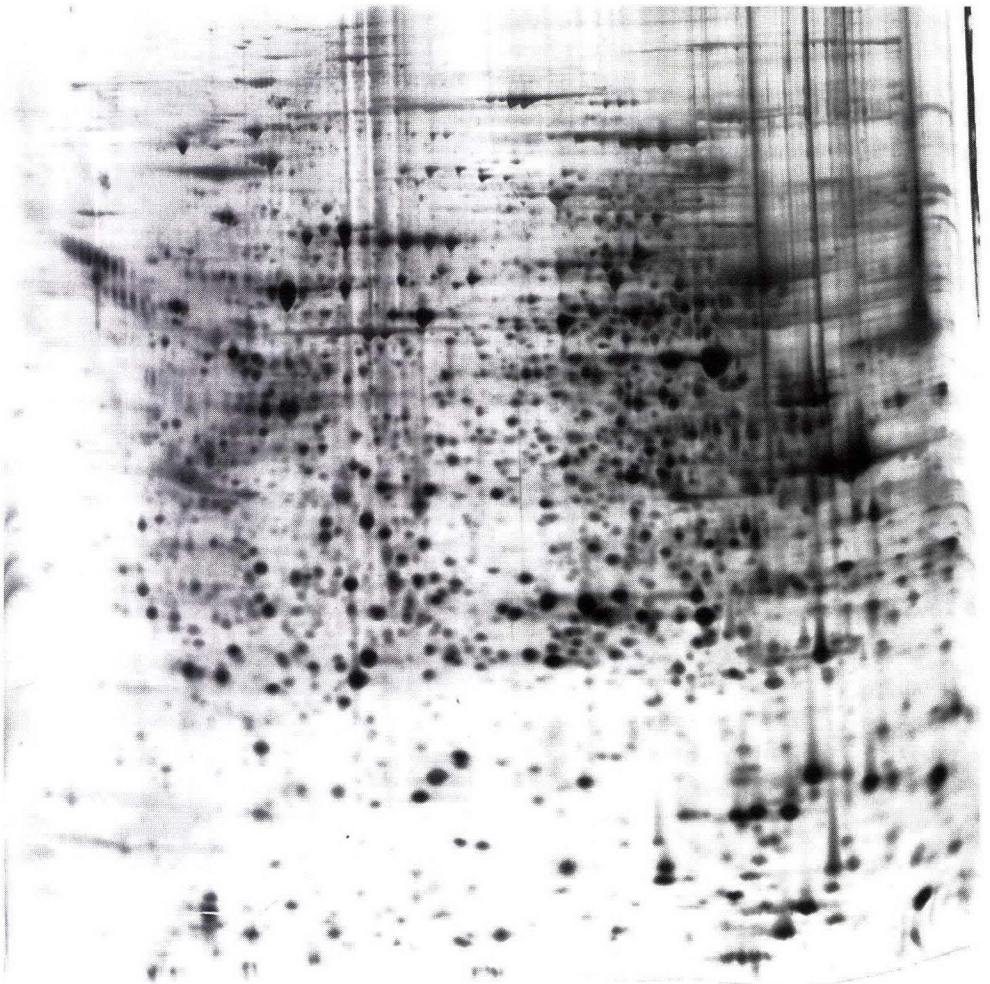


Figure 7.7 Two-dimensional polyacrylamide gelelectrophoresis, colorectal adenocarcinoma cell line, © Swiss Institute of Bioinformatics, Geneva, Switzerland.

identity of any given entity in a more accurate way.[4] The result from a search for any given term on a Web search-engine will yield very similar results if we look at the most relevant sites returned. However, if we look at the least relevant sites listed, the different search strategies of each search engine will be revealed. Similarly, biologists have found that the most well-connected molecules in an organism are the same between various species. The ones that set us apart are the least-connected molecules. In art history, the Morelli method claims that in order to identify the authorship of a painting, one should focus on the parts made with least intention such as the earlobes or fingers of a subject, not its eyes or mouth, which are painted with intention, and

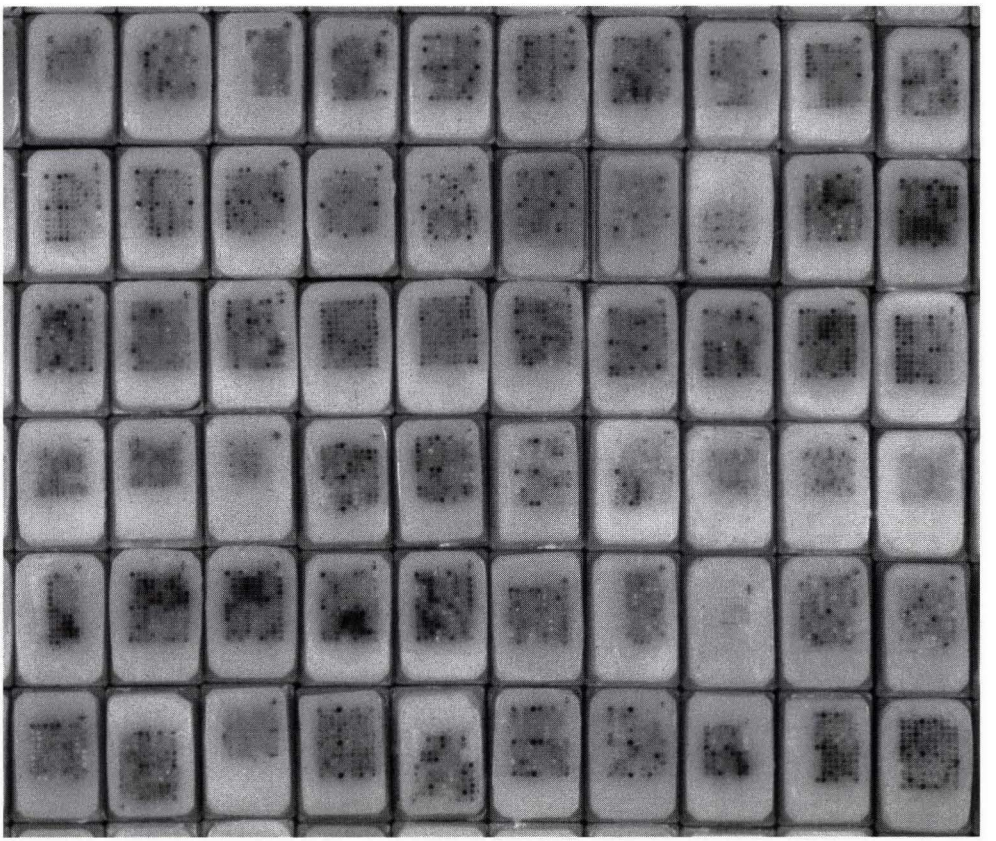


Figure 7.8 Tissue microarray, courtesy of Dr. Angelo M. De Marzo, the Tissue Microarray Laboratary, John Hopkins University.

which typically reveal more about the school the painting was made within, than about the specific artist.

Infome imager lite

When I continued to develop the *Infome Imager* software used in *Mapping the Web Infome*, I focused on its ability to collect hidden data which are not intended to be read as content. In *Infome Imager Lite*,[5] the user creates crawlers who collect data such as the length of a page, when it was created, what network it resides on, the colours used in it, and other design elements. The output of the crawler (Figures 7.11–15) consists of an image, which can also function as an interface to the crawled websites, and a legend describing the collected data.

The audience interacts with the software on the Web and in installations/workshops (Figures 7.16–20). The project aims to be a collaborative environment that glances down into the subconscious of the Web; it hopes to reveal its inherent structure and create new understandings of its technical and social functionalities.

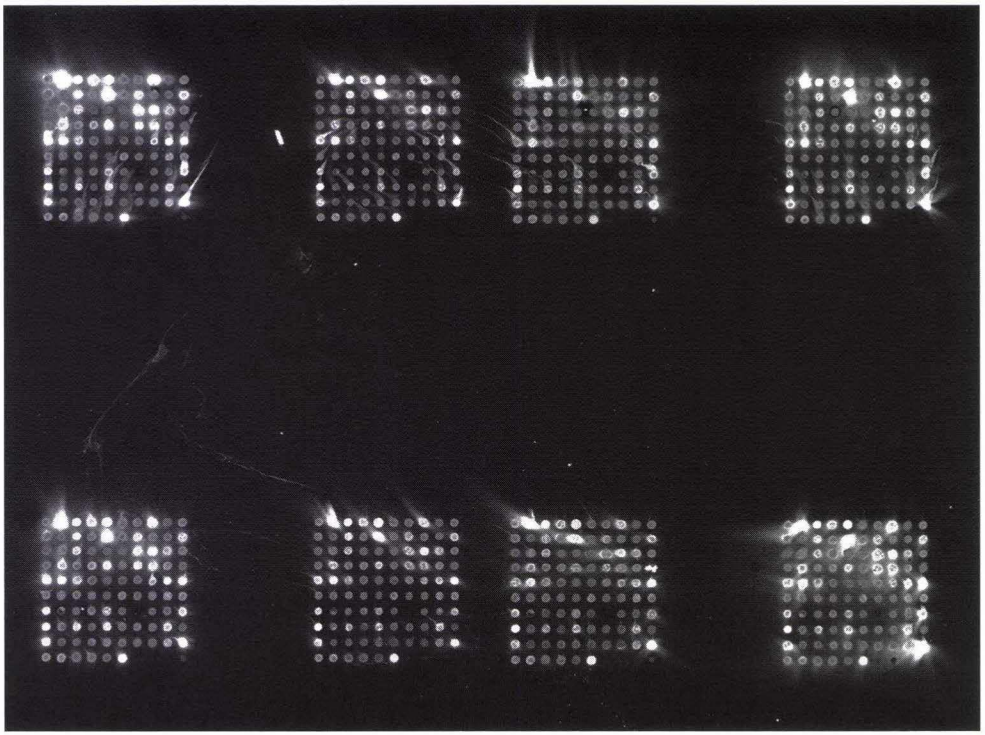


Figure 7.9 DNA microarray, courtesy of Daphnia Genomics Consortium.

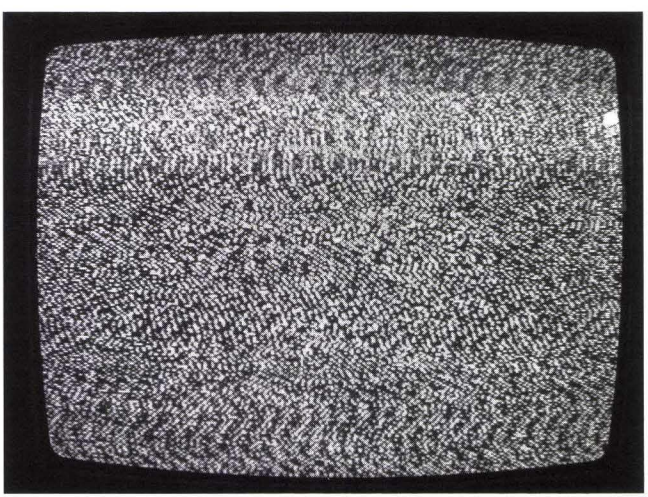


Figure 7.10 L. Jevbratt, 2004.

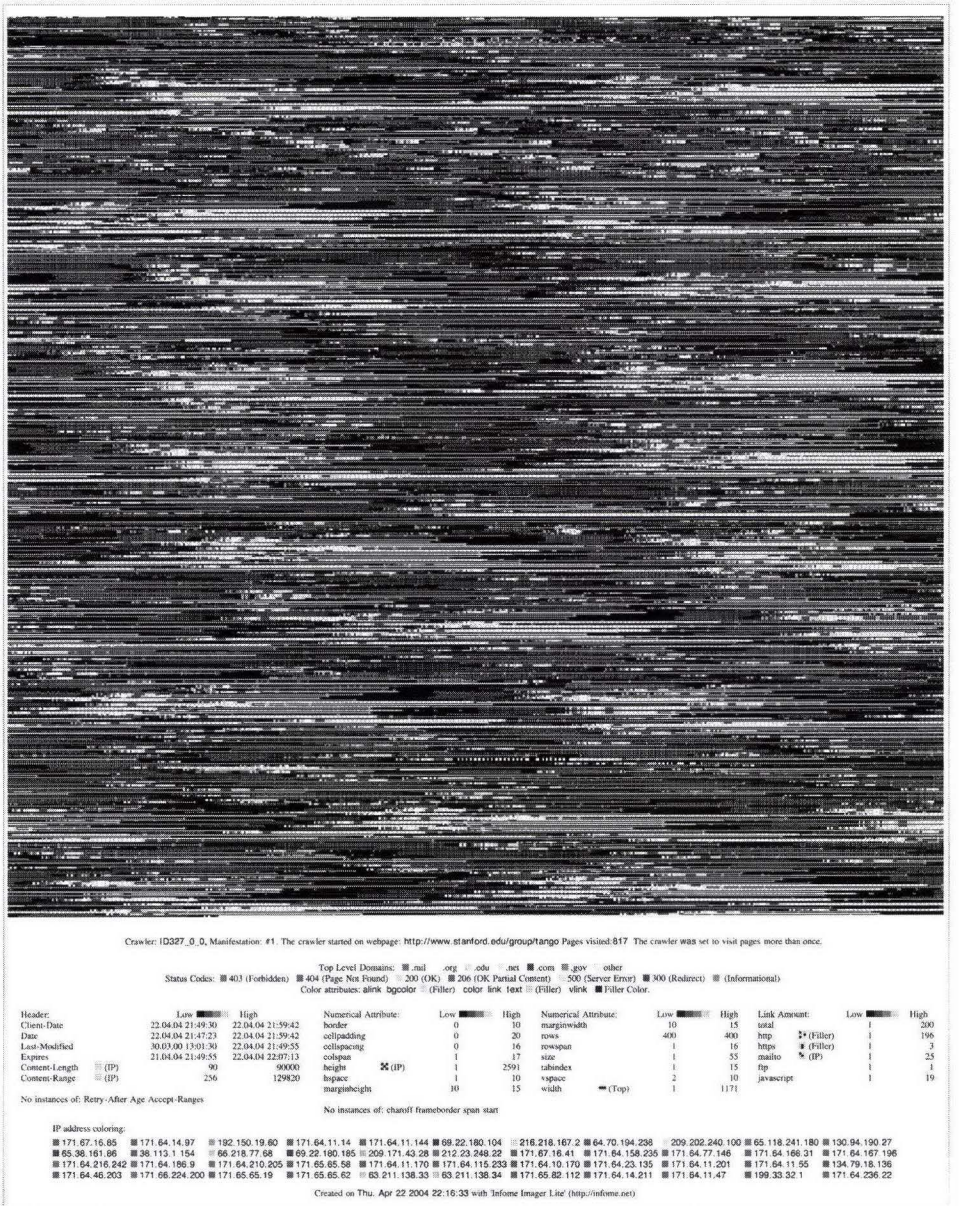


Figure 7.11 Visualization from *Infome Imager Lite*, L. Jevbratt, 2004.

Openings

The nature of the Infome, its complexity, unpredictability and beauty, point us in directions that we usually do not consider when engaging with information technologies. It asks us, with a wink, to wonder if something beyond our comprehension is making itself noticed in the appearances of the Infome.

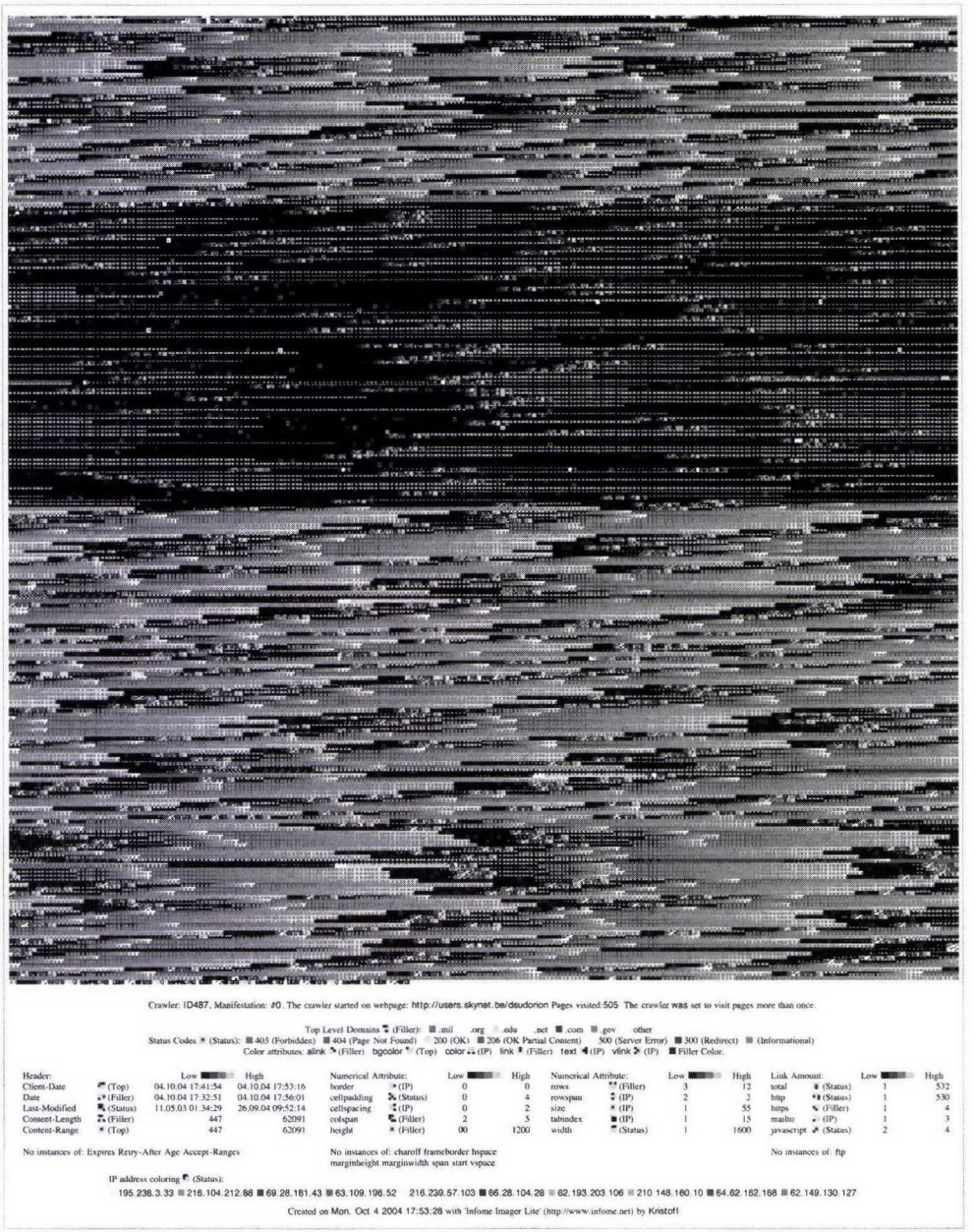


Figure 7.12 Visualization from *Infome Imager Lite*, L. Jevbratt, 2004.

Out of the ordinary

My project *Out of the Ordinary*[6] (Figure 7.21) explicitly plays with the idea of finding something unexpected, something that shows signs of an awareness hidden within the Infome. *Out of the Ordinary* is a network imaging software that measures and maps

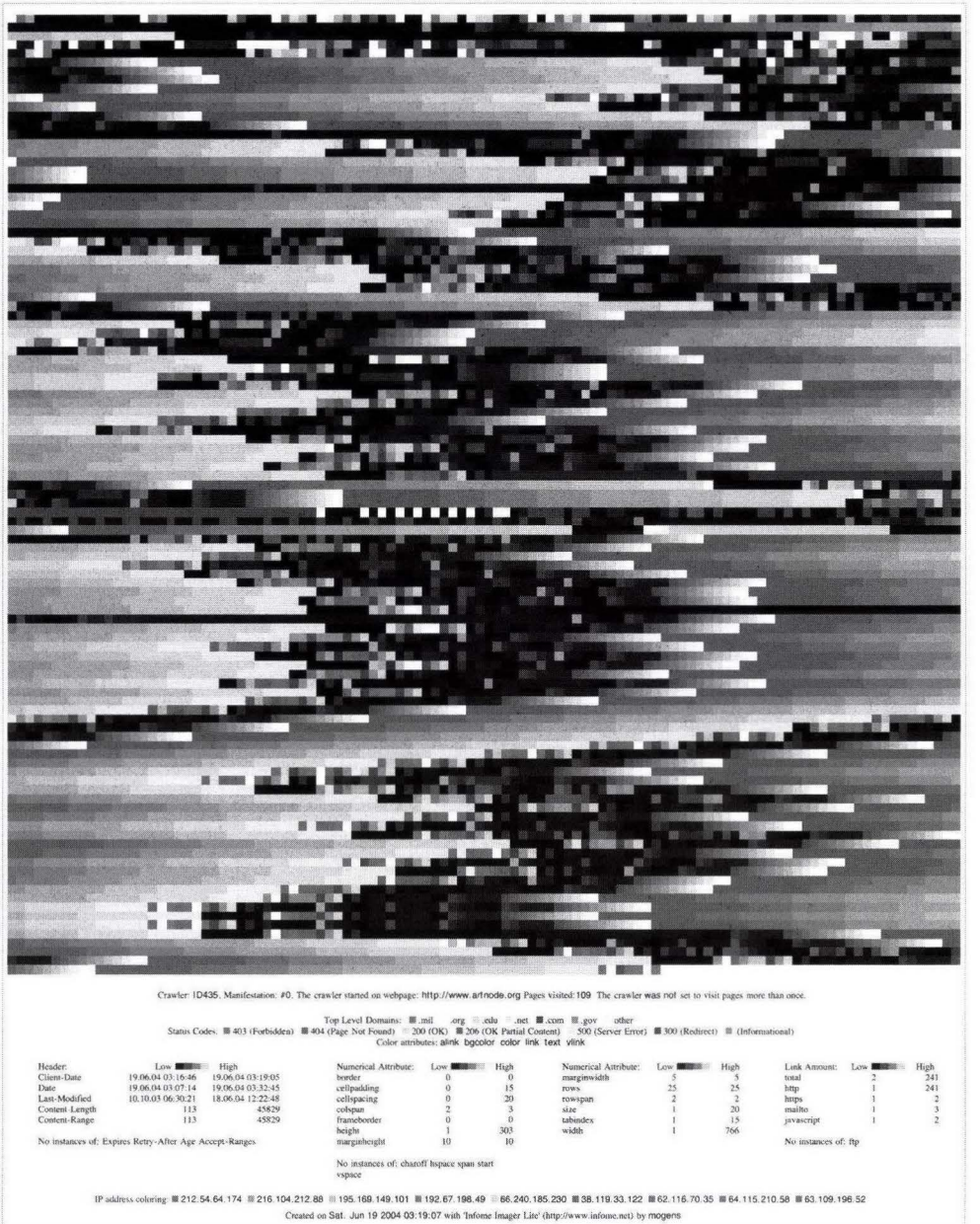


Figure 7.13 Visualization from *Infome Imager Lite*, L. Jevbratt, 2004.

the probability of communication between computers on the network that the software resides in, and between computers on the network and the Internet. Data travel on the Internet between two computers in packets. The *Out of the Ordinary* client maps the likelihood of a packet being sent between the two communicating computers. Each packet that comes through the network is represented by a square. The tonal value of

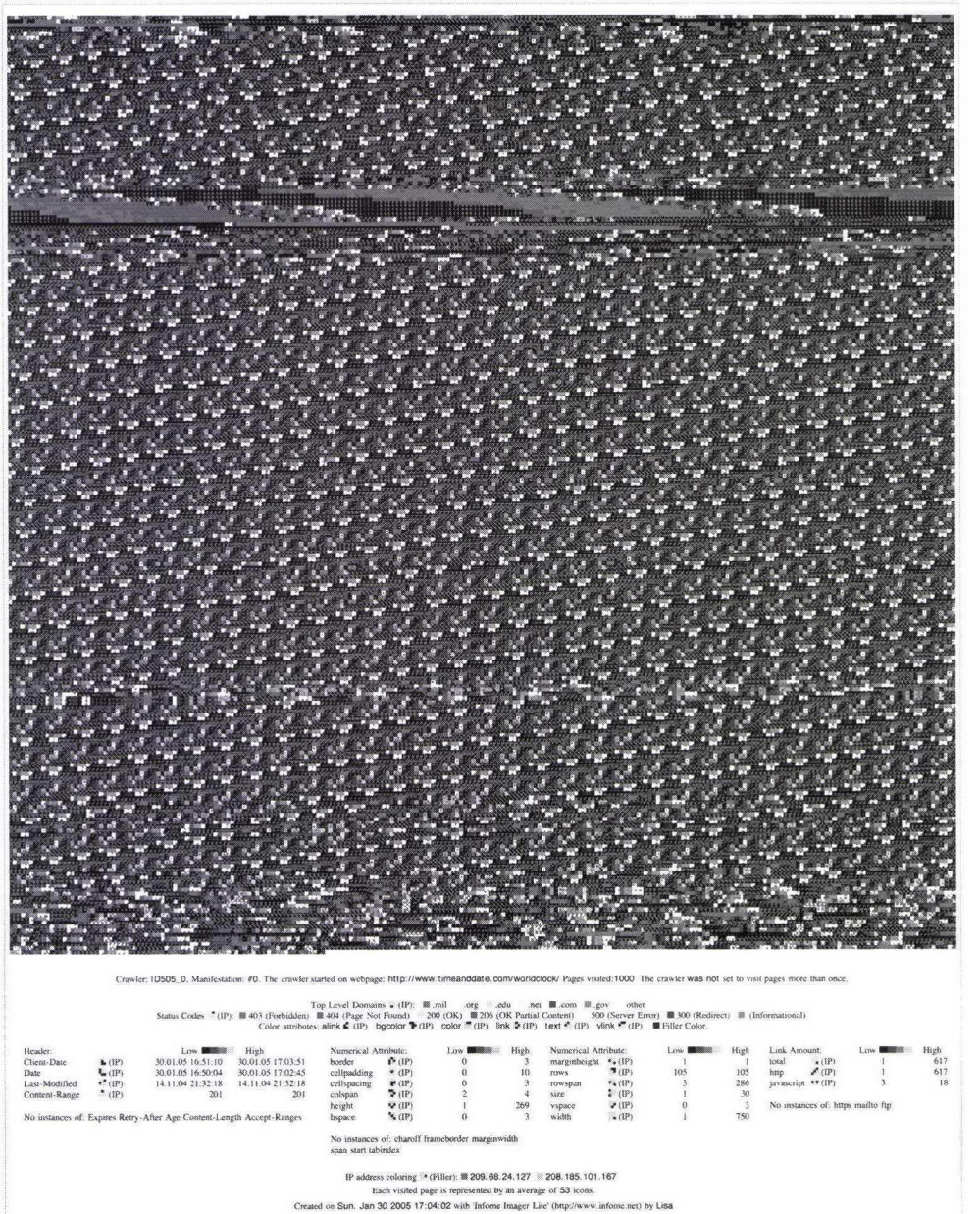


Figure 7.14 Visualization from *Infome Imager Lite*, L. Jevbratt, 2004.

the square is determined by the probability of the packet being sent between the two computers. The lower the probability is, the lighter the square is. The result is a greyscale image that is continuously created as packets travel through the network. It does not look like anything, until potentially, something emerges slowly, drawing attention to itself, revealing itself, letting us know it has meaning.

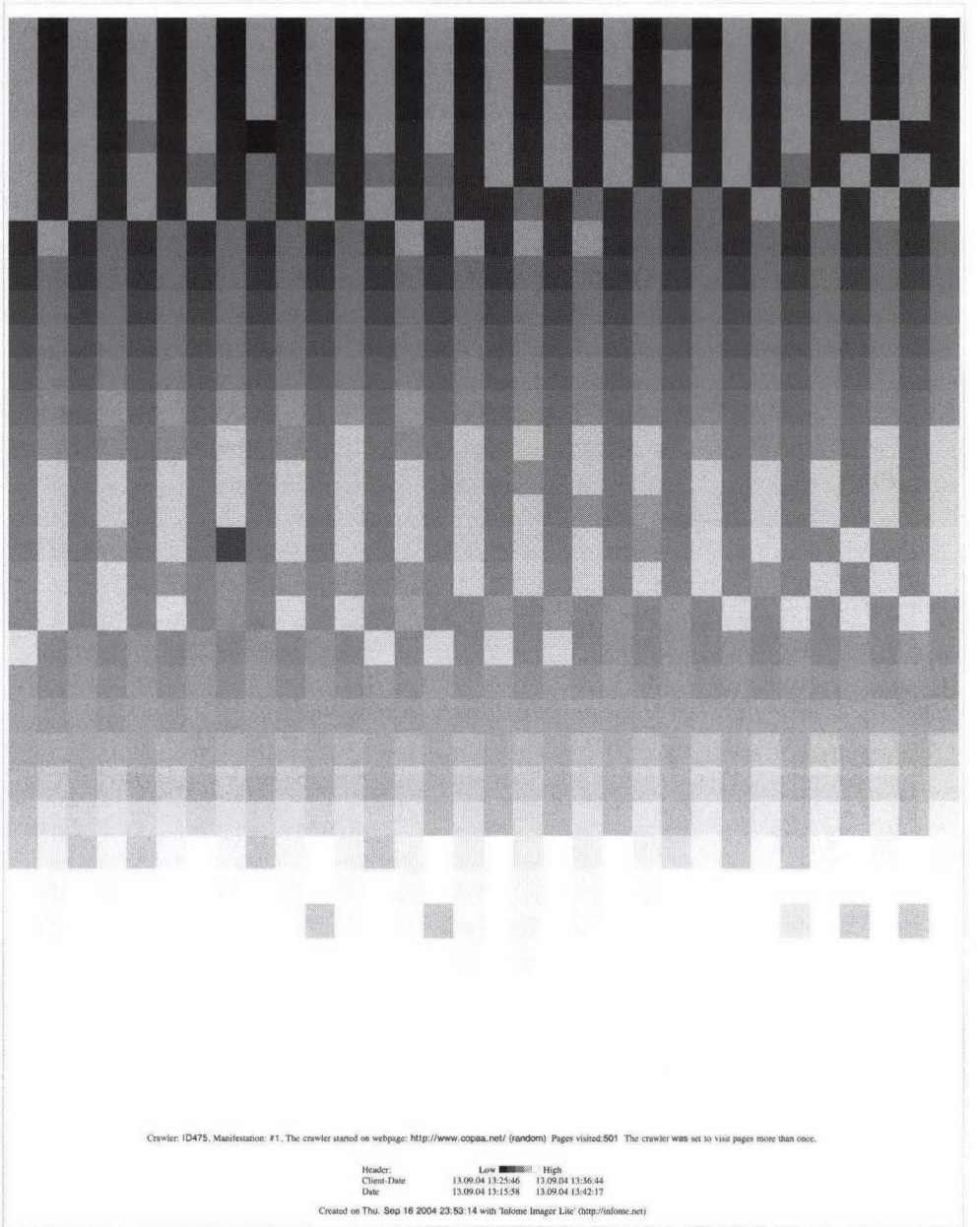


Figure 7.15 Visualization from *Infome Imager Lite*, L. Jevbratt, 2004.

A shift

The trajectory through history to the computer as a symbolic manipulation machine led us through several more or less explicit mystical traditions and practices. It takes us from the Pythagoreans (500 BC) with their number mysticism and Plato (428–348 BC)

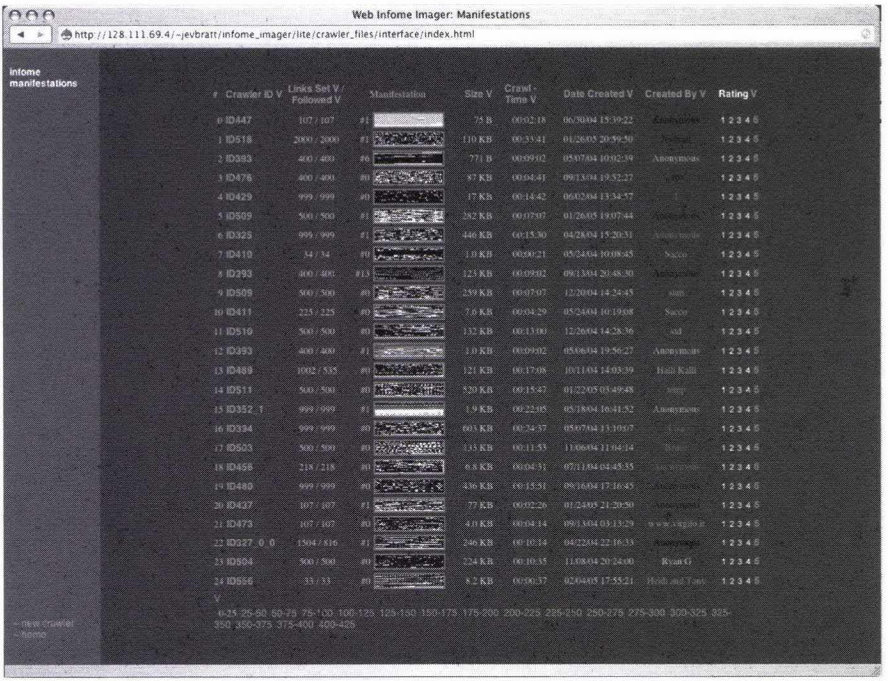


Figure 7.16 Screenshot of *Infome Imager Lite* website, L. Jevbratt, 2004.

Figure 7.17 *Infome Imager Lite Workshop*, installation in *Techno Sublime*, CU Art Museum, University of Colorado, Boulder, CO. L. Jevbratt, 2005.

Figure 7.18 *Infome Imager Lite Workshop*, installation in *Techno Sublime*, CU Art Museum, University of Colorado, Boulder, Co. L. Jevbratt, 2005.

Figure 7.19 *Infome Imager Lite Workshop*, installation in *Techno Sublime*, CU Art Museum, University of Colorado, Boulder, Co. L. Jevbratt, 2005.

Figure 7.20 *Infome Imager Lite Workshop*, installation in *Techno Sublime*, CU Art Museum, University of Colorado, Boulder, Co. L. Jevbratt, 2005.

Figure 7.21 *Out of The Ordinary*, screenshot from a mapping of the network traffic at computerfinearts.com. L. Jevbratt, 2002.

and his ideal forms. It touches the universal art of Raymond Lull (1235–1316), a model of understanding that anticipated symbolic logic, and the memory art of Giordano Bruno (1548–1600). These discourses served as a foundation for Gottfried Leibniz (1646–1716) when he conceived of the *lingua characteristica* (a language that could formally express all knowledge), *calculus ratiocinator* (an all-encompassing problem-solving machine/system) and his calculus. Leibniz's work proved highly influential for Charles Babbage (1791–1871) and led to his Analytical Engine, and for George Boole's (1815–64) theories of binary logic; both cornerstones in the development of modern day-computers. The logic conveyed in these traditions stems from a belief system where there are structures and thoughts behind physical reality, a system of symbols more real than the reality experience by our senses. This symbolic layer can be manipulated and understood by modifying its symbols. There is a thought entity outside nature, a power that is either in the form of a god, gnosis, a oneness, or in the likeness of a god as humans.

However, if computers are now the access points to the Infome, and coding and code are processes and entities used to experience and manipulate the reality of a multi-layered environment/organism, then the metaphysical is no longer an all-knowing entity outside, dictating the system, but an emergence, an occurrence within it: a scent, a whisper, a path in-between for a shaman to uncover. And what she or he finds is not an absolute but a maybe, made of hints, suggestions and openings.

Notes

1. *1:1*, *1:1(2)*, the author's website. Available HTTP: <http://jevbratt.com/1_to_1/> (accessed 3 March 2005).
2. *Mapping the Web Infome*, the author's website. Available HTTP: <http://jevbratt.com/mapping_the_web_infome/> (accessed 4 March 2005).
3. 'The next time you complain that there is nothing on, remember that you can always watch the birth of the universe.' B. Bryson *A Short History of Nearly Everything*, Broadway, p. 12, 2003.
4. L. Jevbratt, 'A prospect of the sublime in data visualizations', *Ylem Journal*, July–August 2004, vol. 24, no. 8, p. 21.
5. *Infome Imager Lite*, the author's website. Available HTTP: <http://jevbratt.com/infome_imager/lite/> (accessed 22 January 2005).
6. *Out of The Ordinary*. the author's website. Available HTTP: <http://jevbratt.com/out_of_the_ordinary/> (accessed 2 January 2005).

Chapter 8

Softer side of art

Maciej Wisniewski

Around the middle of the 1990s, I recall posing the following questions: Do ways of communication change how we view others and ourselves? To what degree is our perception of the world dependent on technology, and specifically information technology?

Communication technologies shrink distances and expand the notion of time. In a typical communication situation the greater the distance between people, the higher the likelihood of technological intervention or manipulation. Having a conversation with a person from across the room generally doesn't require any technology. A video call with a space station requires a fair amount of technological infrastructure. A film clip from a movie situated in prehistoric times often demands extensive technological manipulation.

Recently I began to calculate the amount of information I receive daily that is software mediated, versus the amount of information I perceive through direct interaction with the outside world. Strikingly this process revealed that my view of the world outside daily routine is almost entirely technology dependent – being somewhere between 65% and 85% reliant on software. When considering the far-reaching consequences that arise in changes in human communication caused by new technologies, it does not seem unreasonable to state that artists should be involved in the early stages of their development. Further, if these technologies and new forms of communication do inform our views of the world then isn't it only logical that HTTP and TCP/IP[1] are equally as important for artists' studies as Baudrillard and Foucault?

Visual artist as programmer paradox

Focusing on software as a medium in visual arts might at first seem a bit awkward. By its very nature software is invisible and is not really a medium in the traditional sense of the word, as the boundaries between tools and content are blurred, i.e. software creates both tools and content, and in most cases they become interchangeable. Traditional media such as radio, television, photography and print rely on the separation of tools and content. A photograph cannot alter itself, but a software program is capable of reproducing, messaging and replicating itself repeatedly.

Imagine a piece of software that connects to a camera mounted on a top of a building. It takes a snapshot of the weather, manipulates it so that it appears to be raining and then sends it to a local weather station. Let's further speculate that the software also copies itself and sends itself to any other computer on the network connected to

a camera taking pictures of the weather. At first, it appears as if the program is being used as a tool in a traditional sense. However when the software starts replicating and repeatedly sending rainy pictures across the network is it a tool, content, or both? Let's for a moment compare the interface, the visual manifestation of this program, with the functioning of its invisible processes of replication, messaging and image manipulation. Without knowledge of these hidden operations our interpretation of the produced images would almost certainly lead us to believe that it has been raining. As I will argue in the following pages, building transparency and openness into software systems is crucial to an understanding of our mediated 'reality'.

Machine programming versus network programming

Programming and designing interfaces are only the tip of the iceberg. Designing and programming communication is the crux of any network-based software. For Julian Stallabrass:

> Internet art is caught in a productive paradox similar to that which sustained modernist photography: the more photographers strove to make an autonomous art that used purely photographic means, the more they immersed themselves in the subject in front of the lens. Likewise, the further online art moves into Net-specific realms, the more it is bound up with the instrumentality of the Net itself.[2]

Roughly 40 years ago programs ran on a single machine which multiple users could log onto to perform different tasks. When computers became networked, many machines could be connected to a single network and multitudes of networks were soon formed. Contemporary networked computing requires software capable of handling complex relationships between various machines on a given network, however what is little understood is the manner in which these software interfaces define the personal relationships of the people behind them. A process that inserts itself so intimately into the day-to-day activities of users, demands an ethical position in which network programming becomes secondary to the social interaction that it facilitates and enables.

Most of the software processes that structure our interactions are not visible and they do not manifest themselves on the surface. There is a need for us, as users and programmers, to know what is really happening with the information that is provided and processed. We might ask how and where it is being stored, and how is it being delivered and protected? We may also reflect on what this vast amount of collected data says about us in general and cultural terms, and most importantly who has access to it?

> Cultural anthropologists contend that humanity cannot be understood *except* as a species embroiled in a unique way of life totally dependent on the exchange of social information. Culture, they say, is something that surrounds us like the air we breathe, determining the ways in which we interpret our every experience.[3]

The way in which we define ourselves and view our world is directly connected to the social impact of these networks on society, politics and government. In Lev Manovich's words:

> Because new media is created on computers, distributed via computers, and stored and archived on computers, the logic of a computer can be expected to significantly influence the traditional cultural logic of media; that is, we may expect that the computer layer will affect the cultural layer.[4]

The social and political implications of software- and communication-based technologies are almost limitless. In Peter Weibel's preface to the exhibition catalogue for *Future Cinema* he speaks optimistically about their impact on society at large, 'this book offers evidence of a surprising fact: Even the technological and ideological apparatus of huge industries can be transformed by individuals'.[5] Software creates Weltanschauung.

Postal service technology ('snail mail'), has provided us with a different view of the world by making the geographical world smaller. Similarly, network-based technologies allow us, almost in real time, to connect shared experiences – we live in simultaneous technologically maintained worlds. Network-based electronic technologies have collapsed distances and in many cases taken away the real need to travel.

Communication software is by default an invasion of privacy. But questions still remain, how much privacy do we need to give up and how much are we willing to give up; does communication software imply a different notion of community; does it suggest a different notion of government?

> The Internet is out of control: It always has been. It threatens secrecy. It allows secrecy. It threatens privacy. It enables privacy. It links. It fractures. It allows sexual predators to predate and evade. It lets law enforcement track and trap sexual predators. It conveys offensive material. It allows a free space for people to explore the limits of their tolerance. It forces the use of English. It allows Chinese speakers to share music, stories, and news all over the world. There is a reason for this lack of control. The Internet works so well as an example of a very distributed information system because it was built without 'controls' but with 'protocols'.[6]

These 'protocols' define large parts of our culture today. Shaping these protocols is an important part of contemporary art practice and has been the principle guiding the development of the artworks discussed in the following sections.

netomat

In a publication from 2003, Edward Tufte figuratively discussed the ill effects created by relying on Power Point software by focusing on the concept of the 'un-education' or 'un-learning processes' induced by frequent use of it.[7] For Tufte, robotic expectations are created when we allow software to do our thinking for us. Similarly, around 1996, knowing that existing Web browsers limited our experience of the World Wide Web through their reliance on print metaphors to structure information, I began to develop ideas for an alternative browser(s) that would allow different ways to perceive and interact with information on the Internet.

The original *netomat* (1999) software proposed a way to explore the Internet that took a flexible and free-form multimedia approach to accessing and presenting information

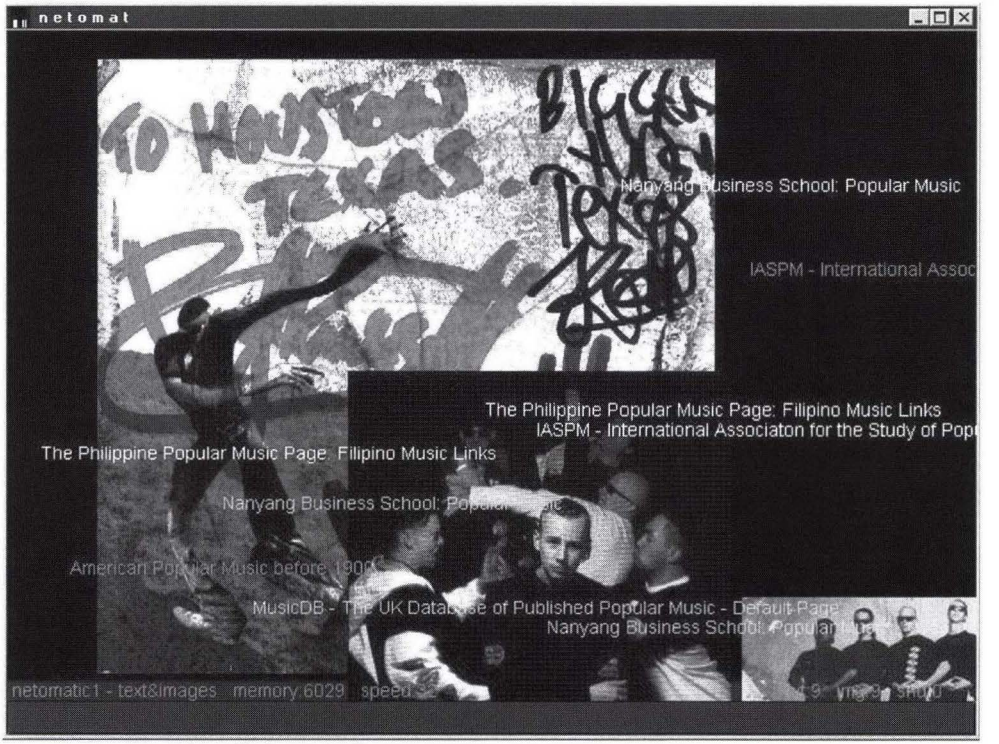


Figure 8.1 netomat.

on the network. When first shown in 1999, viewers could search the Web for multimedia content which was then presented to the viewer as a floating stream of text, pictures and sounds. The viewer could navigate this material by changing the direction and speed of the stream giving a very different experience to that offered by the standard format of retrieval and presentation of data (Figures 8.1, 8.2 and 8.3).

The idea behind the original project was to design an audio-visual language specifically to explore the 'unexplored' Internet by revealing how the ever-expanding network interprets and re-interprets cultural concepts and themes.

In traditional browsers typing the word 'Microsoft' into the browser would result in either displaying Microsoft's official website or by providing a list of links to Microsoft-related sites. Submitting the same query to *netomat* would result in a stream of text, pictures, animation and sounds from Microsoft's web sites and juxtapose them with images, text and sounds from other publishers. The resulting structure might contain official Microsoft material alongside caricatures of Bill Gates, sound bites, jokes about Microsoft and other commentaries.

The original *netomat* software allowed the user to define what part(s) of the network they would like to access, the type of data they would like to retrieve and how those data could be presented. A 'netomatic mark-up language', (nml) was developed specifically for the purpose.

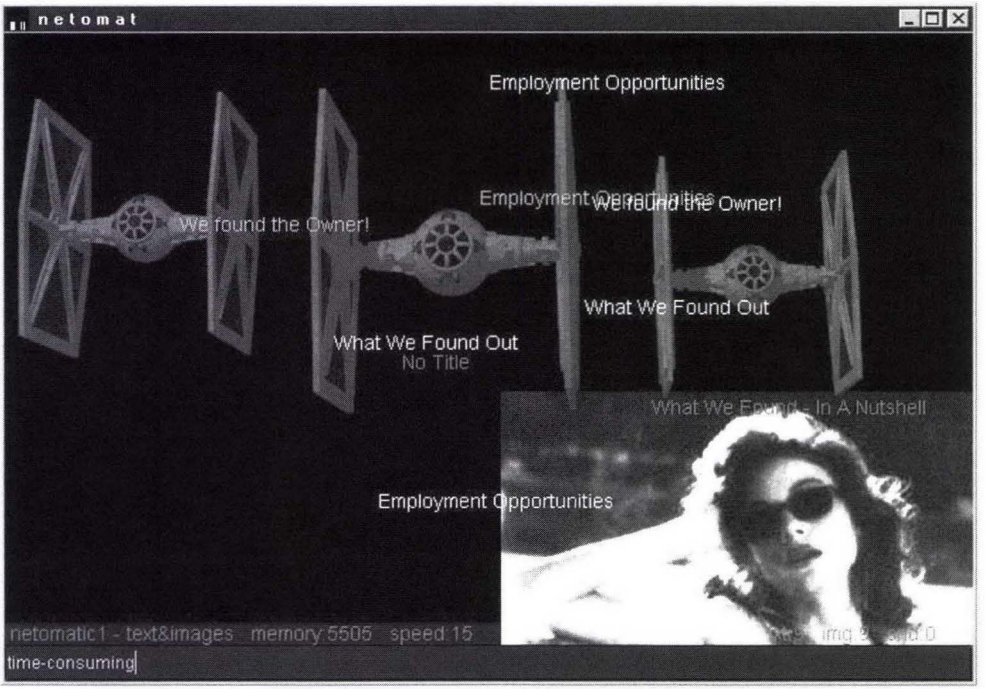


Figure 8.2 netomat.

The *netomat* software introduced both a new non-HTML-based Web but also worked seamlessly with existing Web content. The current iteration of the project is both a conceptual and technological extension of the original release and has evolved from a network 'viewer' into a network 'maker'. The most recent incarnation of *netomat* breaks down the barriers between the WWW and existing mobile phone networks. It allows the users to communicate freely between their mobile phones and their browsers and to create their own personal communication networks, again using nml.

These personal communication networks are user-driven, user-centric and user-managed. Unlike traditional networks such as Web (http network), email (smtp/pop/imap networks), IM (e.g. AIM, yahoo messenger, MSN, Jabber) and mobile phone networks (CDMA/TDMA) which are each separate incompatible silos of communication *netomat*'s networks focus on groups of individuals. From this perspective, each user has their own network of relationships that cuts across different domains of communication protocols and which can be fully controlled and administrated by the user. The strength of these networks lies in their ability to capture the diversity of a given social environment and serve the communication needs and the empowerment of individual users.

ScanLink

In 2000, a report from the National Academy of Science argued:

> For better or worse, we are inextricably interconnected and all must deal with the difficulties – and opportunities – that such interconnection brings.[8]

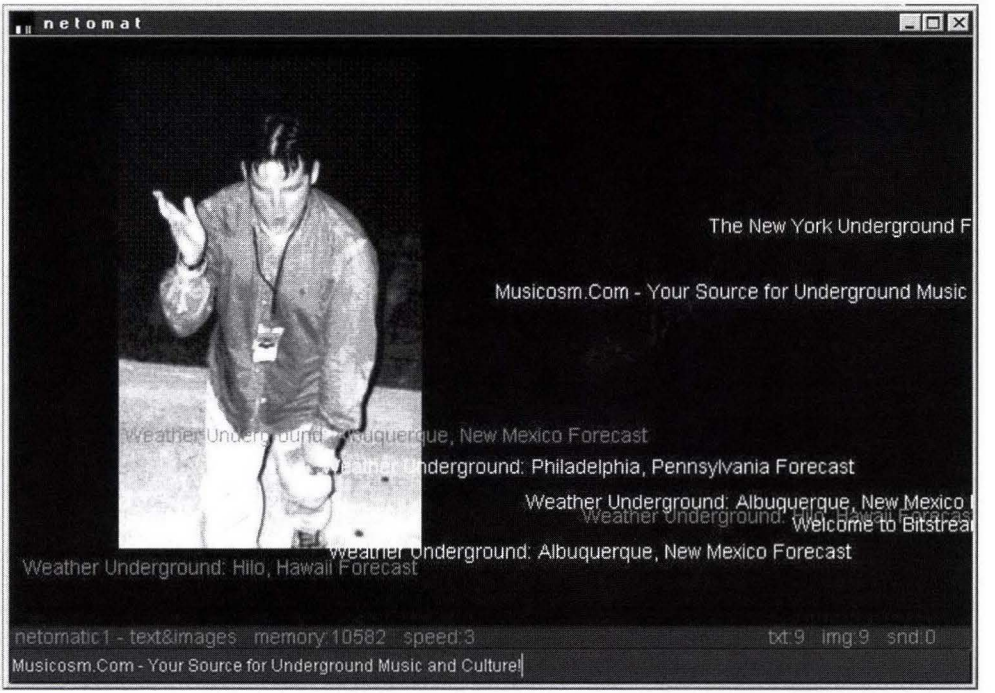


Figure 8.3 *netomat.*

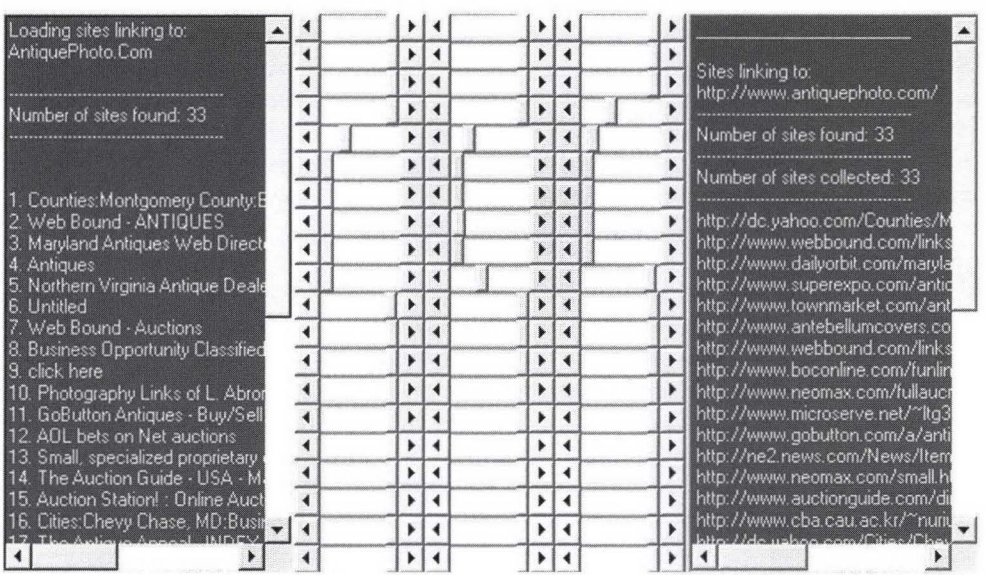


Figure 8.4 ScanLink.

Figure 8.5 *Netomatheque*, installation shot courtesy of the Postmasters Gallery.

A year or two before the original *netomat* was published, I began working on a project, which could be described as 'walking the Web backwards'. I wanted to see what a reverse traversal of links on any given web page would look like. In other words, I wanted to know who linked to whom and who was popular. At the time several major 'link hubs' such as Yahoo were already well established. However, these portals dealt with mainstream Web usage, and my interest leant towards the fringe. Using *ScanLink* (1998) the user could select a website and within seconds get a list of all sites that linked to it. The resultant underlying topology of connectedness of the WWW was not what I had expected, disconnectedness and isolation was very common.

Netomatheque

Installed in a faux living-room setting, with comfortable couch, fireplace and floor to ceiling projections, *Netomatheque* (2001) allowed the user to talk directly to the WWW using a regular phone, i.e. it re-formatted their encounter with the Net as a conversation.

Netomatheque consisted of custom-designed software that employed voice recognition, a text-to-speech engine and a search and display engine. The voice recognition engine translated the visitor's voice input into search queries, which then located the appropriate resources on the network. Once located *Netomatheque* (Figure 8.5) displayed information in the form of streaming sound, music, text and imagery floating through space. The projected walls changed before the viewer's eyes like living digital wallpaper.

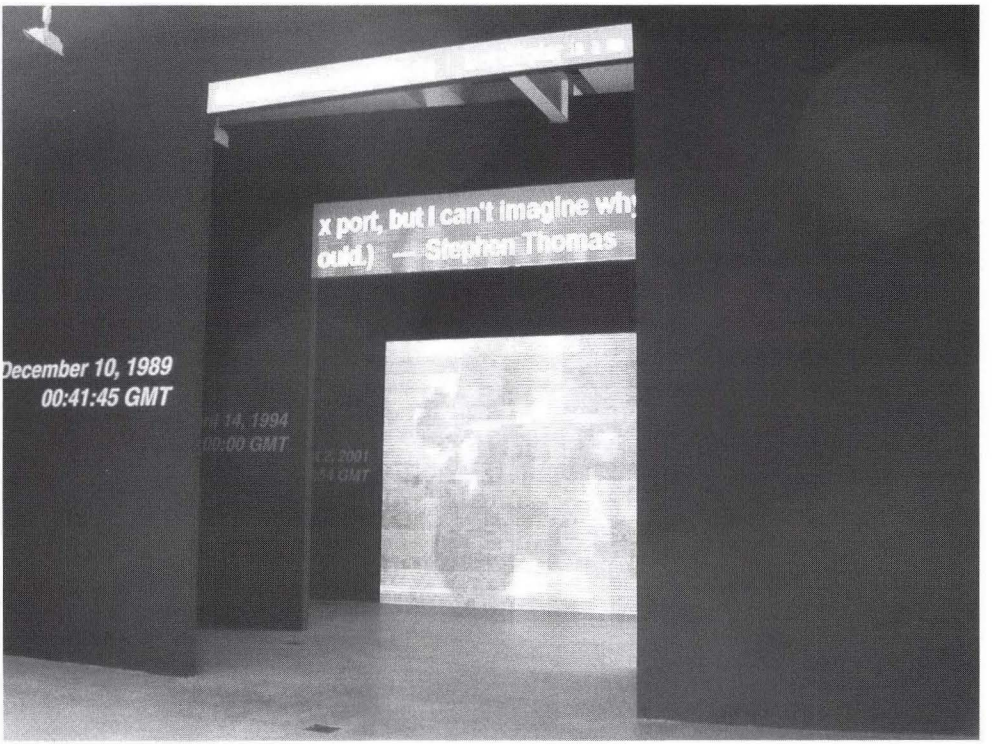


Figure 8.6 *3 Seconds in the History of the Internet*, installation shot courtesy of the Postmasters Gallery.

Netomatheque employed associative semantics. The voice input triggered constantly evolving streams of information from the network's 'memory'. For Steve Dietz the project provides 'an alternative browsing experience [...] which will take you on a journey deep into the Internet's subconscious'.[9]

3 seconds in the memory of the internet

3 seconds in the memory of the internet (2002) premiered at the Postmasters Gallery in New York in January 2002. The project consisted of material gleaned from arbitrary time samples selected from the three different decades of the Internet's development (1980s, 1990s and 2000s). For a period of a month, a custom-designed 'spider' software agent crawled the Internet to retrieve material which was displayed on three simultaneous live feeds and rendered using a specially created image and text synthesizer, and animation engine (Figures 8.6 and 8.7). Found material was surprisingly rich and included: images, news, email and other communication messages, and log and error files. Even material from the 1980s – prior to the invention of the World Wide Web – proved extraordinary in depth of content and media.

The specific slices of time were organized linearly on their own walls, so that the viewer could walk through a 'time tunnel' consisting of the represented changes in the Internet's development.

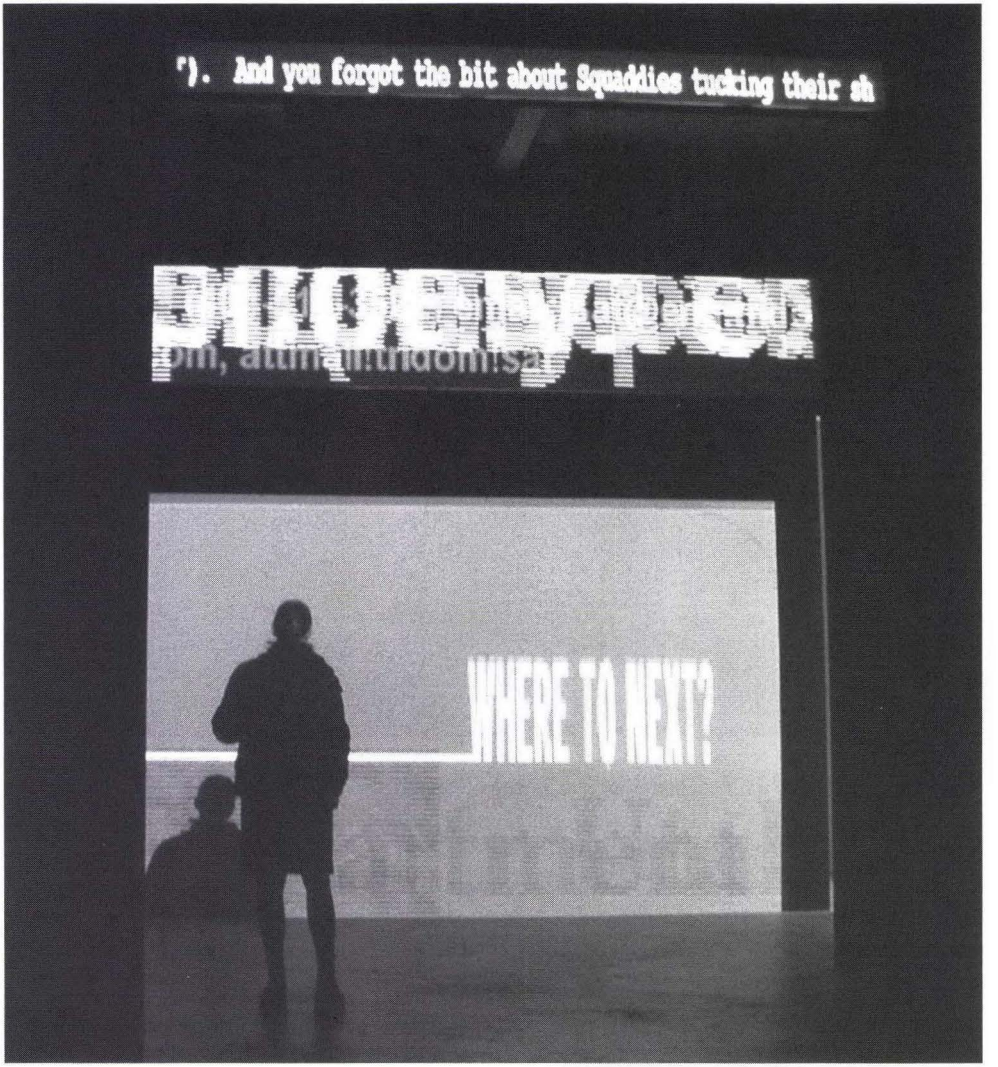


Figure 8.7 3 Seconds in the History of the Internet, installation shot courtesy of the Postmasters Gallery.

The retrieved traces reflected a subjective collective memory of the Internet's use and emphasized its scale, organic and social disposition and persistence as a cultural formation.

Instant messaging

Following these explorations, I became interested in making networks that could be created spontaneously, *ad hoc*, on top of already-existing networks and which were also capable of autonomous growth and retraction.

One of the first of these experiments, *Instant Messaging* (2002), consisted of a network of software-generated 'flies'. The software worked in a similar manner to any

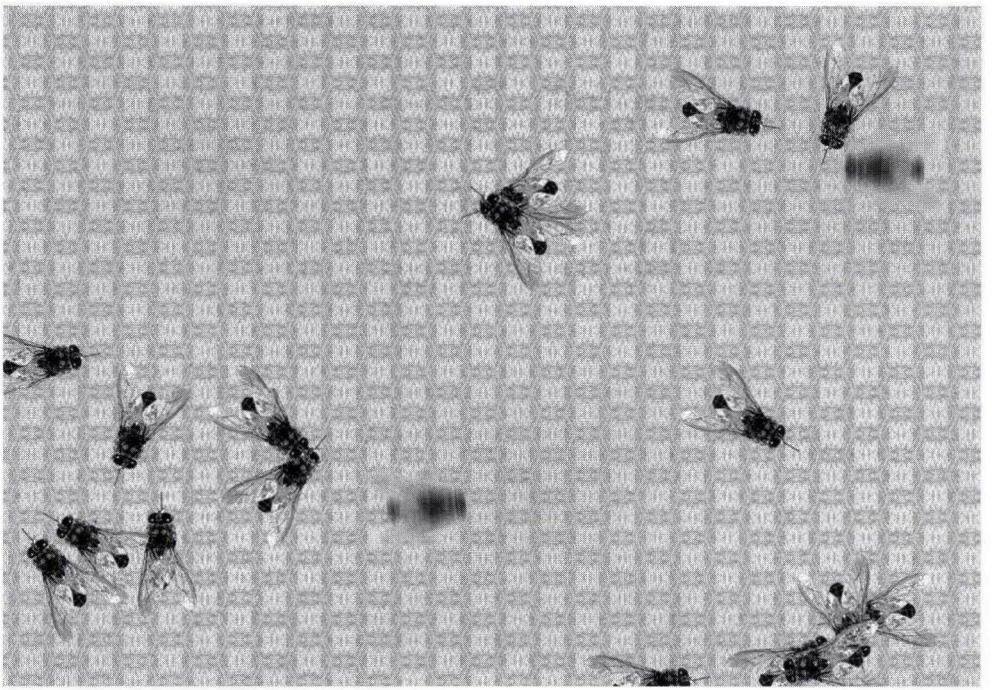


Figure 8.8 Instant Messaging.

real-time peer-to-peer messaging software – the 'flies' communicate, send and receive messages, seek each other out, mate, and travel back and forth between computers on a local network (Figure 8.8). Once the software has been installed, flies quickly propagate from computer to computer on any Local Area Network.

Instant places

The second project, *Instant Places* (2002), consisted of a software 'fiction' populated with inhabitants, that creates a network to connect dispersed data places. Once *Instant Places* has been installed, it connects to the Internet and begins to search for other installed versions of itself on the network. It makes no difference whether this is the computer next door or on the other side of the world, the routing time is virtually the same. Once located, the software allows its inhabitants to travel uninhibited place to place.

Instant Places (Figures 8.9 and 8.10) inhabitants communicate with each other over the network and consist of both predator and prey in the form of birds and mice. When the animals (whose population can dwindle or multiply) travel across networks, viewers are able to track their point of origin, their behaviour (fleeing, attacking, surveying, defending, etc.) and their precise longitude, latitude and altitude.

Instant Places cannot be influenced or altered by any factors outside of the software fiction itself. The narratives do not repeat but instead follow 'social' rules outlined by

Figure 8.9 Instant Places.

Figure 8.10 Instant Places.

the custom software. The inhabitant's actions are defined by real-time messaging. If there is a drop in the messaging, the system is programmed to generate activity so as to avoid lulls in the narrative.

Four stories with a twist

My experimentation with *ad hoc* networks led me to believe that the propagation of content through spontaneously interconnected nodes and resultant *ad hoc* connections provided a powerful alternative to existing channels of communication. However, an issue remained in how to extend these environments into the realm of human to human communication.

Four Stories with a Twist (2004) was my first attempt at combining messaging networks with a literary narrative. The project consists of an algorithmically generated 'music video' with an original score and script based on Albert Camus' *The Stranger*, a story set in Paris.

The project functions using a custom-designed software application that allows image and text capture for a mobile camera phone. This material is then re-mixed in real-time and programmatically animated by the musical rhythm of an original composition recorded using a synthesizer and two connected laptops.

Four Stories with a Twist was first shown at the *Villette Numérique* festival in Paris in 2004 (Figure 8.11). During the exhibition local participants equipped with mobile

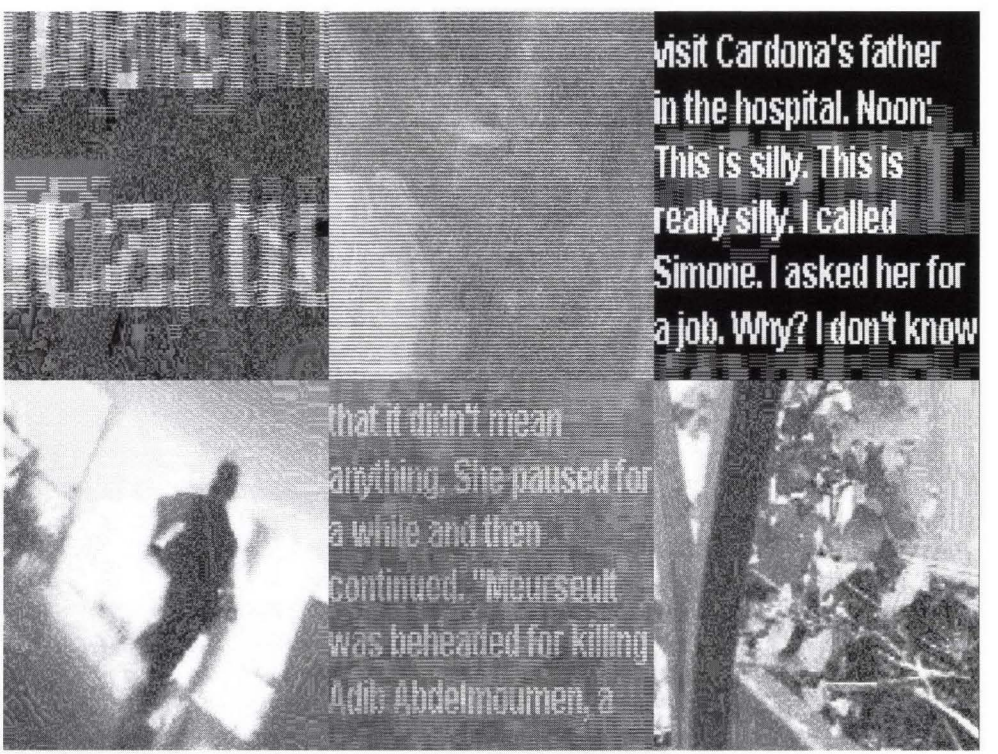


Figure 8.11 Four Stories with a Twist.

camera phones could send picture messages from around the city to the live generated 'music video' situated in the exhibition space. Throughout the period of the festival, a story would evolve based on the incoming messages, their volume, and the interconnectedness of the participants. The feedback loop established between the generated narrative and unpredictable nature of the incoming messages functioned to destabilize the original story, whose form increasingly fragmented.

Notes

1. TCIP is short for Transmission Control Protocol/Internet Protocol, and is a set of instructions used to connect computers on the Internet. HTTP stands for Hypertext Transfer Protocol, the communication protocol used by the World Wide Web that controls how information is formatted, accessed and transmitted.
2. J. Stallabrass, *Internet Art the Online Clash of Culture and Commerce*, London: Tate, p. 36, 2004.
3. R. Aunger, *The Electric Meme a Network Theory of How We Think*, New York: The Free Press, p. 46, 2002.
4. L. Manovich, *The Language of New Media*, Cambridge, MA: MIT Press, p. 46, 2001.
5. J. Shaw and P. Weibel (eds) *Future Cinema the Cinematic Imaginary after Film (Electronic Culture: History, Theory, and Practice)*, Cambridge, MA: ZKM, Center for Art and Media Karlsruhe, Germany and MIT Press, p. 16, 2003.
6. S. Vaidhyanathan, *The Anarchist in the Library: How the Clash Between Freedom and Control is Hacking the Real World and Crashing the System*, New York: Basic Books, p. 32, 2004.
7. E.R. Tufte, *The Cognitive Style of PowerPoint*, Chester, Connecticut: Graphic Press LLC, 2003.
8. *The Digital Dilemma Intellectual Property in the Information Age*, report produced by the National Academy of Science, Washington, D.C: National Academy Press, p. 58, 2000.
9. Steve Dietz used this phrase in describing *netomatheque* for the travelling Independent Curators International (ICI) exhibition, *Telematic Connections: The Virtual Embrace* (2001–2002).

Chapter 9

System poetics and software refuseniks

Tom Corby and Gavin Baily

This chapter charts the outcome of a 10-year collaboration, which has sought to develop alternative software, and network artifacts to those promoted by mainstream technology providers.

'System Poetics and Software Refuseniks' is split into three sections. In the first part, 'positions', we present a number of overlapping arguments that situate our work as critical practice. In the second part, 'practices', four projects are discussed that relate to these positions and in the third part, 'processes,' we provide a case study of a project made between 1996 and 2000. The approach taken in this final section is descriptive and reflective. It is offered as a form of mapping that lays bare creative approaches, and highlights the serendipitous processes that evolve in computer-based artwork – an approach that appears to conflict with a technological discourse that places the computer as the apogee of the measured and the rational.

Positions

Technology is not merely instrumental

Our overarching position is that artists need to develop software and network technologies that go beyond the narrow instrumental and utilitarian focus described by technologically deterministic discourses. In doing so artists can reveal both how technology operates in social and cultural contexts in complex and sometimes hidden ways and also suggest alternative technological forms that are inclusive of emotional, political and reflexive structures.

Networks induce hybrid practice

Networks pervade and cut across disciplines. This layered horizontal aspect allows us to relate and mix differing intellectual and aesthetic domains with relative ease and in doing so develop hybrid artifacts. In particular we connect avant-garde traditions concerned with the use of found (data) objects, with approaches borrowed from computer science concerned with simulating biological complexity. These relationships allow us to develop new ways of thinking about how works operate perceptually; which leads to our next position.

Software is organic matter

Software and networks are organic matter that should be seen as part of a continuum with the material world and not separate from it. In our work we attempt to draw out the 'soft' in software through the use of biological and anthropomorphic metaphors in order to extend and develop poetic structures.

Software is political

Software is regulatory, it is political in that it organizes the user according to determinate models (of the world, of them). Not neutral but opaque, mainstream software hides the markers of ideological bias both within its coding and more obviously in its visual interface. This is not necessarily a pessimistic analysis as it offers us opportunities to develop alternative forms of software, whose role is explored in the following position.

Technology as productive agency and cultural irritant

Harold Rosenberg has defined a particular type of artwork as an 'anxious object'. Such artworks deliberately problematize accepted conventions of what the art object is through a play on ambiguity that unsettles normative patterns and understandings of the nature of art.[1] For example, Piero Manzoni's *Merda d'artista* (1961) is, in any utilitarian sense, useless (you can't eat it) and patently undermines notions of skill and qualitative aesthetic judgement. As an act it is disruptive; it deliberately operates on the audience's anxiety to suggest new ideas, forms and contexts for art practice and draws attention to the sutured experience of the modern.

Similarly, in a narrow sense, our software and network artifacts have no practical function. They are not utilitarian, but are clearly forms of software or network tool that allude to certain genres of type, user and function, whilst simultaneously and wilfully being something 'other'; they are artifacts that induce 'anxiety' through similarity. Matt Fuller has described this approach elsewhere as 'speculative software', an approach that functions on a number of levels, but which is descriptive of work that operates reflexively on itself and the notion of software and its wider algorithmic potentials.[2] The presentation of work as 'software' then, enables an amplification of the language of digital technologies, by which the work functions as an agent of change in the wider culture.

Practices

The previous five positions conceptually link the artworks discussed in this section, each of which, while taking diverse approaches, share similar non-utilitarian approaches to the creative misuse of technology.

For example *Reconnoitre* (Figure 9.1) whose developmental process is discussed in detail in the case study, is an interdisciplinary project that sought to develop an alternative form of Web browser. Its *modus operandi* and therefore its effectiveness, relied on its ability to act as a generative stimulant which rubbed up against accepted notions of what a browser should do, and how it should represent the network as an informational domain. By contrast, mainstream or commercial Web browsers arbitrarily

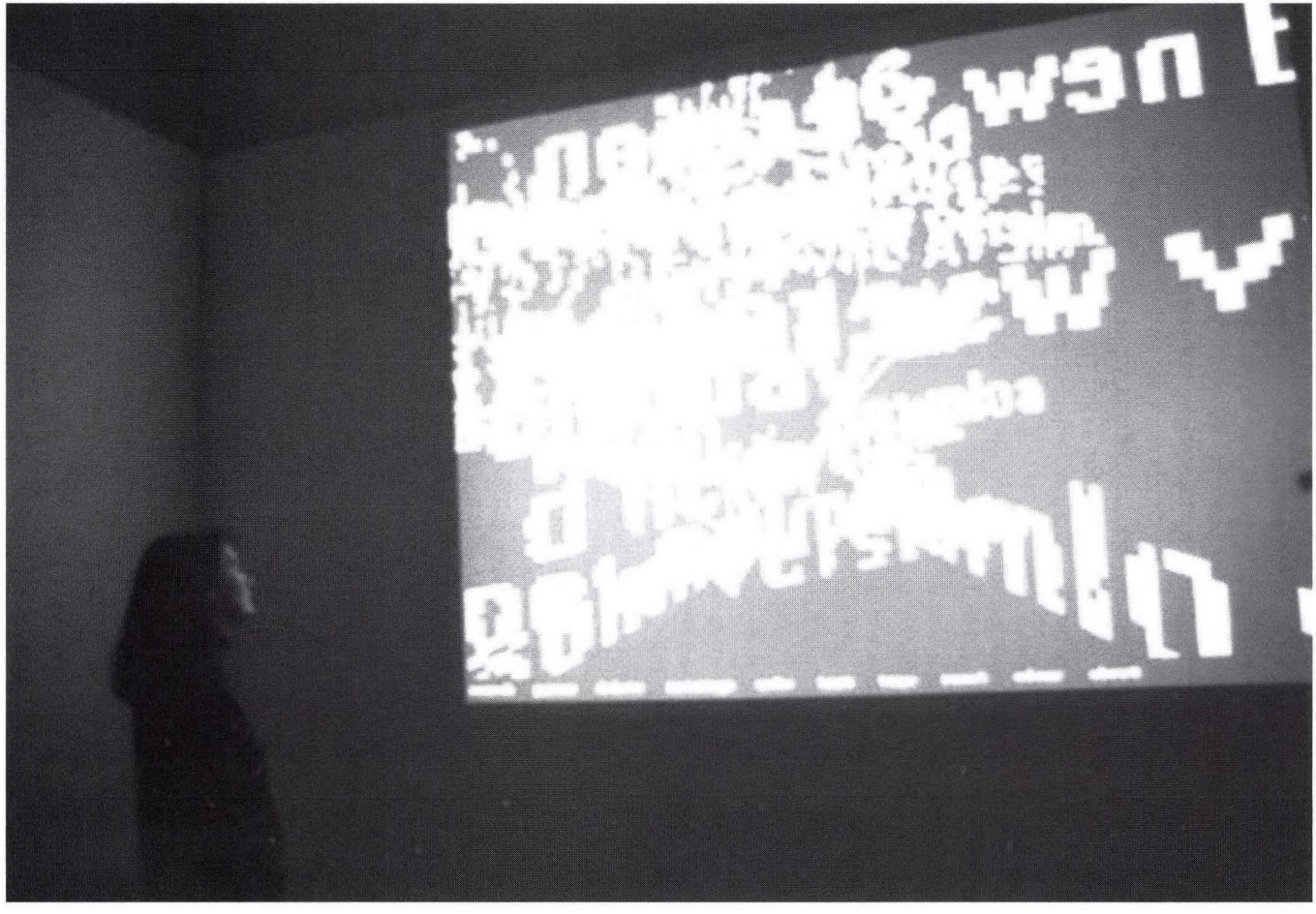


Figure 9.1 Reconnoitre.

impose models of language on the informational structures and communication flux of the network, typically in Bolter's and Grusin's term by 'remediating' print and graphic design conventions.[3] Such browsers are designed to render the data landscapes of the network as a business or marketing opportunity and are Western-centric in that important features are formated to be read from left to right.

Reconnoitre refused such narrow descriptions in an attempt to capture the informational dynamics of network activity as a poetic imprint. This necessitated playing both with and against user expectations about what an Internet browser should do, and by developing a set of representational schema suggestive of the sheer abundance of communicational activity and information on the network.

Before exploring this in further detail it is necessary to describe how the project functioned. Like other more familiar Internet browsers, the project initially had to be downloaded from our website, and would operate and run like any other software application on installation. On launching the program, users are faced with a black screen. Menu items refer to basic functions which run along the bottom of the interface including, 'search', 'delete', 'text', 'tags' and 'reset'. Unlike other browsers however, users are not able to access websites directly through inputing a site's address. Instead they are asked to interrogate the Internet by inputing a search term request into a 'search field' and in response *Reconnoitre* scavenges the Internet for search term 'hits' and returns relevant Web pages. Rather than list results in neat columns (as are common in Google), search term material is returned as deformed and desiccated text fragments that have been re-mixed with the normally hidden scripting languages that underpin and organize the page. Through this process, the underlying code structures are made visible as language components and are given a semiotic charge. The normative convention for Web page display is exploded as the returned pages are torn apart and reconfigured as a dynamic three-dimensional, evolving structure, that is navigable in three-dimensional space by the user.

'Dysfunctional' rather than functional, the project bought together disparate components of language and linked different disciplines (art practice, computer engineering and biology), in order to synthesize a hybridized artifact – an expanded software that forced new ways of looking at the network, and the technologies that underpin it. In sidelining functionality the user's relationship to the Net was changed from one of consumption to reflection. Signature elements of this project; data representation, organization and traversal are discussed in the following sections, as they were carried forward into later works.

Informational rhetoric

It is almost banal to state that we live in an age in which our lives are significantly affected by and dependent on data and information collection, management and analysis (e.g. informational bureaucracies, databases, statistical visualizations, etc.). The way in which this information is organized, both structurally (in its internal logic) and visibly as perceptible form or interface, has enormous significance on cultural and political levels. For example, data visualization largely arises from practices rooted in economics and science, and is often used predictively to model social policy. While supposedly neutral it is highly politicized in terms of data selection, filtering and visualization, signifying a wider dynamic operative at institutional and governmental levels

concerned with a cult of measurement and performance, and the commensurate application of market ideologies to all areas of cultural and social transaction.

We might go so far as to say that such data management processes are the key operations that reflect and shape our understanding of the world. In such terms, representation becomes less an issue of directly indexing an image to an external referent, but a multi-layered process, in which the world and all its activities are abstracted, measured and organized as informational data. This data set is then processed as an iconic surface or image. At all levels there exists the possibility for the imposition of an implicit bias or ideology.

Crucial to an understanding of this, from a critical art practice point of view, is the acknowledgement that the relationship between underlying data sets (whether as standalone databases, networks or archives) and their mediating representations, is not arbitrary. While often presented as some form of untainted fact, statistical visualizations, database interfaces, etc., act as both a membrane for access, and a culturally organized surface that formulates the perception of underlying data and informational structures. Simply put, there is no natural connection between the data and its representational form, other than the fact that it is digital material.[4]

This gap (between data and surface) provides opportunities to develop palliatives. Artists are well placed to inject human values into data management and organizational processes. Most straightforwardly they are able to do this through their understanding of the suggestive and connotative power of the image (as visualization, as interface). Also, by using the same database, imaging and informational gathering technologies as the practices it is critiquing, a form of stealth artwork is possible whose formal similarity enables it to operate within the same cultural, technological and social domains as the practices it is critiquing. In doing so the artwork slips under the radar in camouflage.

These possibilities are also explored in *Mesh* (2001), made in collaboration with Jonathan McKenzie and in *Loop_reprise* (2001–ongoing). Both projects explore how information is accessed and organized, but to different ends.[5]

Mesh (Figures 9.2, 9.3) drew upon visualization and modelling techniques borrowed from computer science and in doing so displayed a methodology used in many of our other projects, i.e. a laying down and bringing together of different language models in order to generate new interactions and perceptions of culture and technology. *Mesh* is visualization software that traverses, maps and reorganizes the hard disk of the computer on which it runs as a three-dimensional environment. In doing so it employs a self-organizing behaviour to acquire, shuffle and discard material discovered through its ruminating behaviour. Self-organization is a general model, which attempts to allude to the manner in which an organized whole with macroscopic features can arise from local microscopic processes. In *Mesh* an evolving image network is generated that takes its form from the interaction between the internal organizing algorithm of the software and the structure and content of the material found on the PC's hard drive. The project draws on ideas from systems theory about the interface between different types of self-organizing networks and the nature of the environment in which they are situated; for example, a biological organism can be viewed as a metabolic self-organizing system interfaced to its environment, which itself is a self-organizing system. Similarly *Mesh* can be seen as a form of agency that conducts exploration into an unknown data domain, sensing, responding and mapping it. This

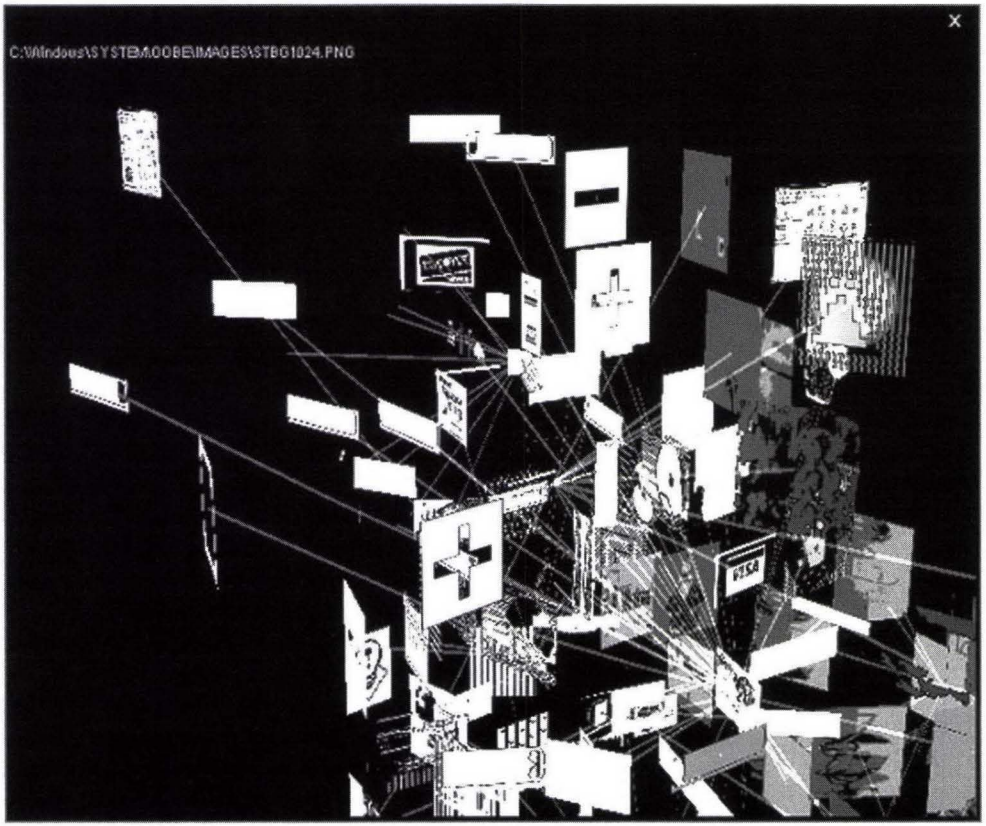


Figure 9.2 Mesh.

agency takes the form of a semi-autonomous system, whose initiation or starting point is defined in some way by the user, but whose behaviour cannot be predicted. *Mesh's* usefulness in such terms is described in the manner in which it re-deploys scientific method to other more disruptive means.

By delving into the normally hidden, private nooks and crannies of the hard drive the project shatters the rigid classification system imposed by the computer's file hierarchy in order to release the data material trapped within it. Through a process of revealing hidden data, the project maps image material to generate an imprint of the computer's use. The machine is revealed as a bundle of human traces. Fleshy memories etched into the hard drive which remake it as an extension of the social and the cultural. Frozen data are released, traces of user activity, half-abandoned projects, the debris of ignored memos, and images of long-forgotten friends float to the surface. New structures are formed from unpromising sedimentation.

This process of re-contextualizing knowledge taken from other disciplines is also evident in *GameboyUltraF_UK* (2002). The project consists of a 'Game Boy emulator' of the type that allows old arcade-style computer games to be played on modern computers (Figures 9.4, 9.5). As in *Reconnoitre* and *Mesh*, the work borrows a

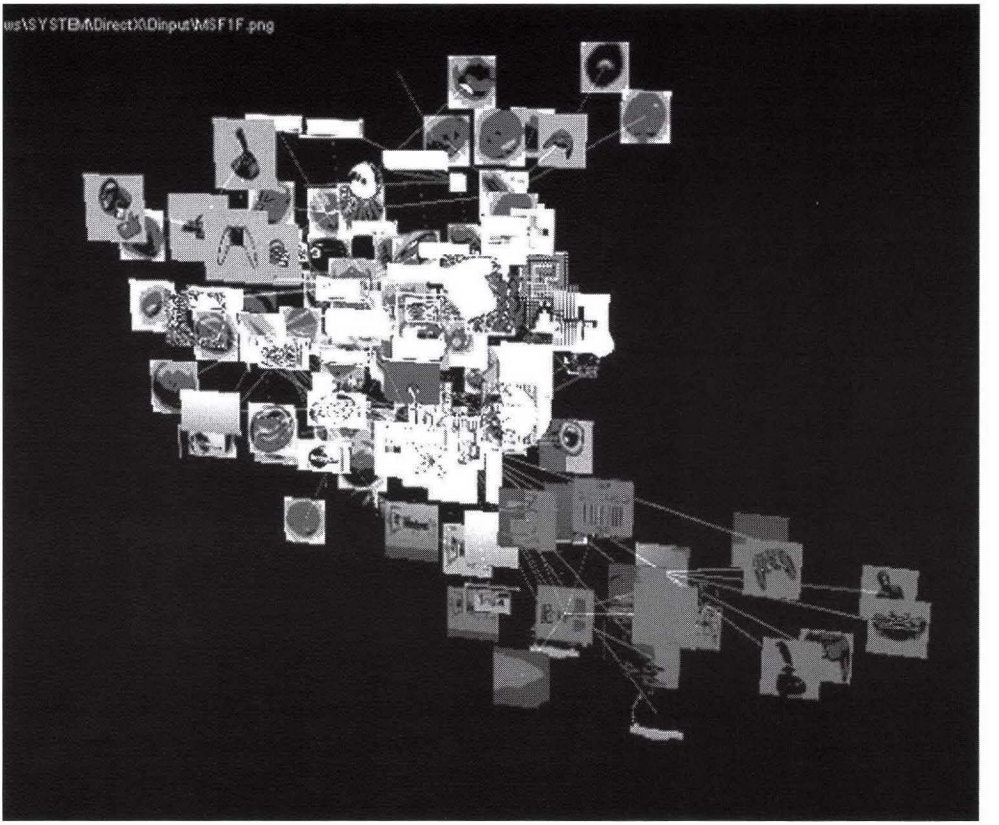


Figure 9.3 Mesh.

behavioural model taken from computer science. Variations in the rendering behaviour of the game are triggered by user interactions implicit during play and are manipulated by a cellular automata 'metabolism' that gives rise to numerous rendering symptoms.[6] The experience of playing games involves a helter-skelter race between the user and the destructive agency in the work, which hijacks the game for its own destructive ends. As games are played they decompose; image entities mutate into background and interface elements, or appear as fragments of the project's binary code. Text begins to emerge as a jumble of characters, sprites and binary data, as the cartoon violence of the original game is turned in on itself and the inside of the game seeps to the outside. Ultimately the control of the game is handed over to the hidden agency of the behavioural system. If left to run unchecked, the game is stripped of all visual manifestation and the user is confronted with a black screen, a representation of pure unburdened computer memory.

In addition, rather than a project that had been written from scratch, the code was presented as a readymade into which an artistic intervention had occurred. The project itself was a modification of a *free software* project whose source code was made available under a 'copyleft' license. Briefly put, *free software* takes advantage of the

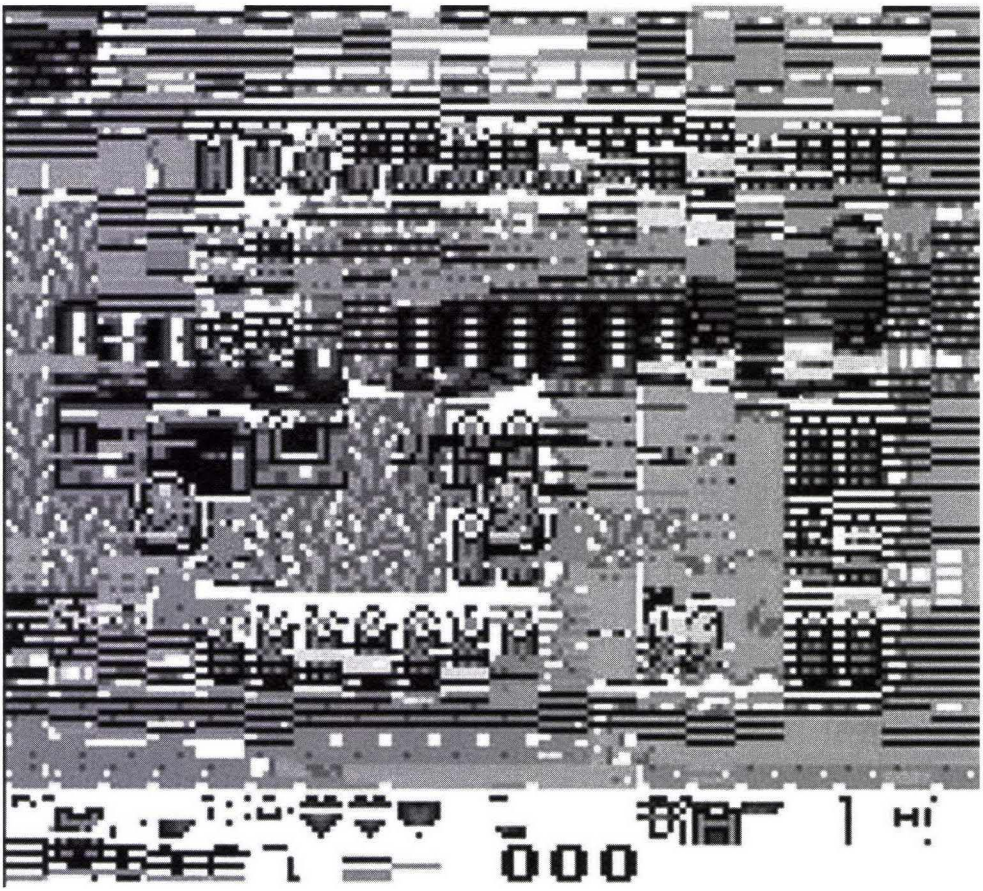


Figure 9.4 GameboyUltraF_UK.

Internet's capacity to support collaboration and the dissemination of ideas (and code) without restrictive and over-protective copyright and software licensing restrictions blocking development.[7] 'Copyleft' is a form of software license, which ensures that a program acquired under the scheme, once modified, continues to be made freely available for others to change.[8] The code in *Gameboy UltraF_UK* is an example of this. It was documented and commented (i.e. coding messages and instructions left by the programmers), thus allowing others to add their own attitudinal elements and rendering ailments. Anyone who came across the project could make their own version of it, as long as their customization was in turn released under a 'copyleft' license. As an expression of what Richard Barbrooke has called the 'hi-tech gift economy', this altruistic approach took to a higher level our already established practice of allowing our work to be downloaded and disseminated without hindrance or cost, but formalized it within a more organized practical and critical framework. References to issues of copyright and freedom of access to information also arose in *Loop_reprise* a project started around the same time.

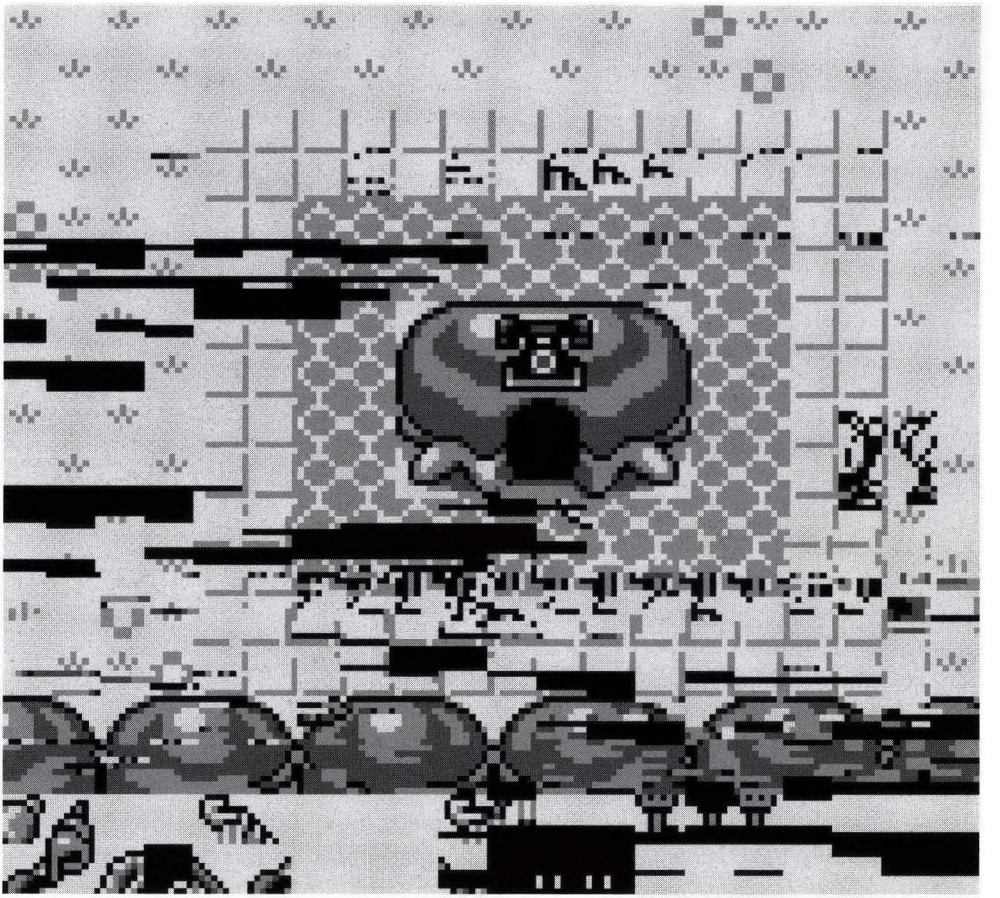


Figure 9.5 GameboyUltraF_UK.

Loop_reprise (Figure 9.6) is an ongoing project that has involved an obsessive process of accumulation, juxtaposition and scavenging. Like the works described above, it employs found objects and allows the user to coalesce temporary structures between given data components. It differs however, because rather than force connections between practices and positions – for example, arts and computer engineering – the project attempts to conceptually establish connections and meeting points between different cultural domains and expressions.

In descriptive terms the project exists as a digital music player that functions as a mechanism for collating a database of 'cover songs'. It arose from the particular technological space opened by peer-to-peer (P2P) file-sharing technologies such as *Napster* which allow users to search for, share and download music files through the Internet. It was noticed that searching for a particular song title using P2P software was liable to return not only the song that you were interested in, but every instance of that file with the same name. Searching for *La Mer* would return not only Charles Trenet's original chanson version of the song, but also offerings by Richard Clayderman,

Figure 9.6 Loop_reprise.

Acker Bilk, Cliff Richard and Kevin Kline, amongst many others. In this sense, what might normally have been seen as a quirk or 'bug' in the program actually enabled certain creative *modus operandi* that presented possibilities to point to previously disassociated cultural phenomena. In response, a number of databases were established, each representing an individual song and all the iterations of it that were possible to find. The databases were then collated into individual music players which allowed the user to browse the different implementations or performances of the song.

Rather than allowing users to remix or re-author sound samples, the different versions of the song play sequentially as a series of repetitive units. The shifts in interpretation are sometimes dramatic and at other times subtle. While acknowledging that it is almost impossible to describe the experience of the work in a text, by looping the same song through its different manifestations a unique sound form coalesces that cuts a section through a stratum of different cultural interpretations of the same composition. The work therefore functions as a sonic motor that reveals hidden cultural links and allows us to establish new ones. In a broader sense the work also connects the tradition of the found object or readymade with the cover version from contemporary music, the loop from digital multimedia, and the use of the repetitive unit from minimalism.

Loop_reprise also highlights debates concerning attempts to limit the scope of file-sharing activity. By searching for, downloading and assembling found digital material it runs foul of current legal attempts to limit file-sharing activities at the behest of large corporations. From collage onwards, artists have sought to question issues of authorship,

skill and originality and form new processes and structures for representing experience through the use of the found, borrowed and vernacular. As such, the continuation of the project (as process and exhibited artifact) becomes a de-facto political act, and lays down a marker in a wider cultural debate in which long-established forms of creative activity are at risk of being censored by copyright laws sponsored by corporate hegemonies.

Process: Reconnoitre as case study

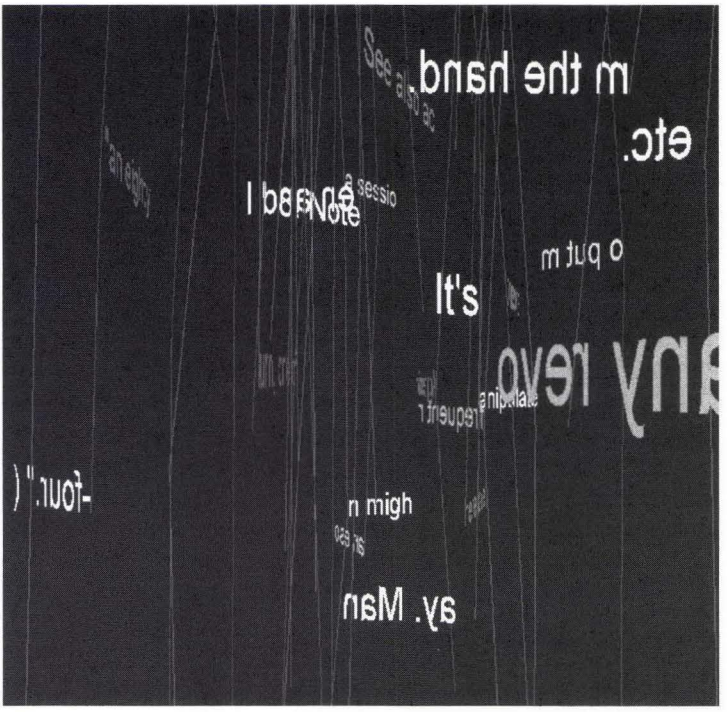
New projects always begin with a conversation, an outline idea that frames a set of issues or concerns to be explored. Work emerges discursively; both in a literal sense as an ongoing making and reflective activity and through contact with other disciplines, ideas, the public and curators, etc. Making is a relational activity, a 'kludging' together of code and interface fragments, ideas and models borrowed from other disciplines. These components jostle and interact to drive development forward; the final project is always different from its initial aims. *Reconnoitre*, like much of our work, evolved as a series of interconnected pieces or releases over a three-year period; the distinct project phases are explored chronologically below.

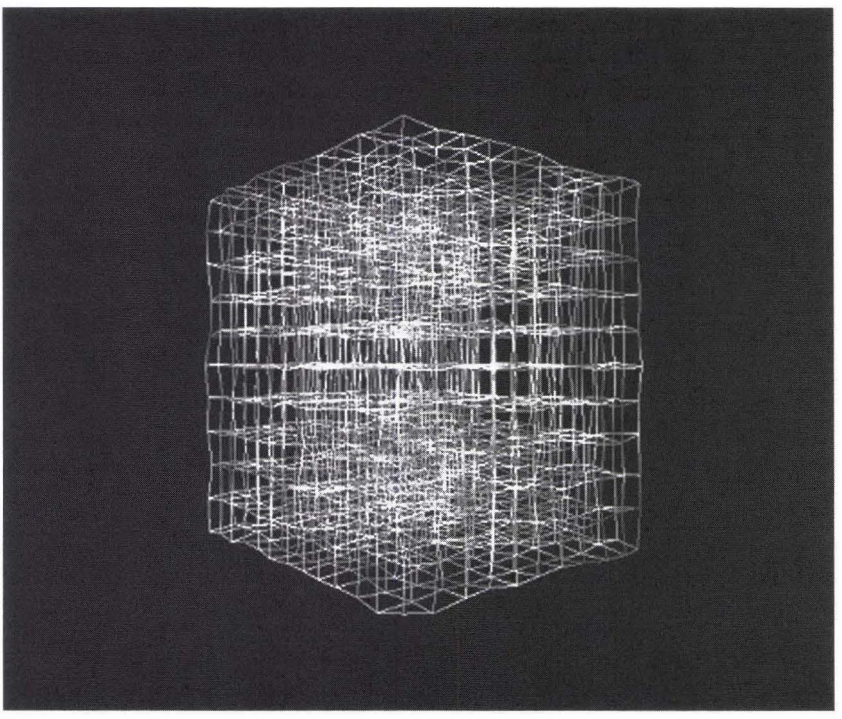
Release history and development: 1995–96

Reconnoitre grew out of a project concerned with recycling and transforming the types of digital detritus (images, text, etc.) found during routine Internet searches in order to construct assemblages suggestive of the diversity of communication activities operating on the networks. This, as yet, untitled project was shown at The Institute of Contemporary Arts (ICA) as part of a series of lectures called *Deep Screen Diving* in 1996, and the following year, at a similar event at the ICA, entitled *Parallel Space*.

Early versions of the project took the form of single images, generated by a parsing algorithm, which abstracted found search term material and output it as a single JPEG image. This 'boiling down' process attempted to produce a single static representation, which would be suggestive of the complexity of activity on the network. However, it was soon decided that the arbitrary nature of the algorithmically generated image and its *uncertain* relationship to what it was attempting to represent, offered limited avenues for further development – prompting an exploration about how found material might be organized spatially as a navigable environment.

The move to 3D was an attempt to locate the material in a context more suggestive of the browsing or journeying experience of the online visitor. Using Virtual Reality Modeling Language (VRML), a number of approaches for structuring the found material were developed, including wire frame forms suggestive of architectural elements and 3D ASCII text formations (Figures 9.7, 9.8). These projects were published on our website and were accessible in the browser using a VRML plug-in. The data sets used during this period were collected by hand from online medical dictionaries, an arbitrary decision, initially based on availability, but which later was to suggest behavioural possibilities for the final release of *Reconnoitre*. (This anthropomorphism surfaced in later works as a vehicle to develop emotional textures.) The fissured arrangements of these pieces were also considered metaphorically suggestive of a wide range of phenomena, including geological processes, viral or bacterial infection,





Figures 9.7, 9.8 Early wire frame experiments for *Reconnoitre*. Screen shot (1996–97).

biological morphology, and flows of energy in urban environments. The connotative effect of these developments was then carried forward into later versions of the project.

Reconnoitre 1.0: (1997–98)

The first publicly released version of the project was developed during an artist-in-residency scheme at the ICA's New Media Centre. This residency proved a catalyst for the project's development partly because the sustained contact and feedback with a visiting public brought issues of function, representation and interactive possibility in the work into focus.

The VRML projects had evolved a 'stripped down aesthetic' but were not dynamic. The next development stage involved linking the work directly to the Internet and automating the data collection and parsing operations. A number of important decisions concerning user interaction in the work were made during this period, and the project acquired its name.

1. Web Agents: How to collect and filter data?

Research into search engine technologies had unearthed a 'Java' open source web spider developed by Jeff Poskanzer. A web spider is a class of programs described as 'bots' (short for robot), used to collect and index information for Internet search engines. This particular program navigated the Web starting from a user-specified website address, mapping relational structures between pages, and indexing and downloading search term matches. Because the code for the web spider was open source, we were able to incorporate it into our project in order to increase *Reconnoitre's* interaction and behavioural scope. The inclusion of this code also forced a switch in the development platform from VRML to Java, whose programs can be developed as clients (i.e. computer programs that exist on a user's machine, e.g. a Web browser or email program is a client).

Up until this point *Reconnoitre* had been embedded in a Web browser window, re-engineering it in Java changed its context and function. Rather than be viewed via the Internet, the work was now downloaded by the user and used to access and 'browse' the Internet through – it had become an Internet browser in its own right. In addition, the added functionality of Java enabled the development of an interface that while somewhat sparse, nevertheless allowed the user to type a Web page address or search term directly into the project and see returned results and material visualized in real-time.

2. Language and classification: How to organize data in space?

In functional terms user request activated a web spider which traversed the Internet and downloaded the relevant Web pages beginning from the Web address and search term word specified. The material was then formatted 'on the fly' in the application window appearing as cross hair 'result nodes'. Depending on the version of the project, each node either represented a returned Web page, a search term or an image. Result nodes entered the environment and were placed at random x, y and z, co-ordinate positions in relation to a central point. Wire frame links were then automatically

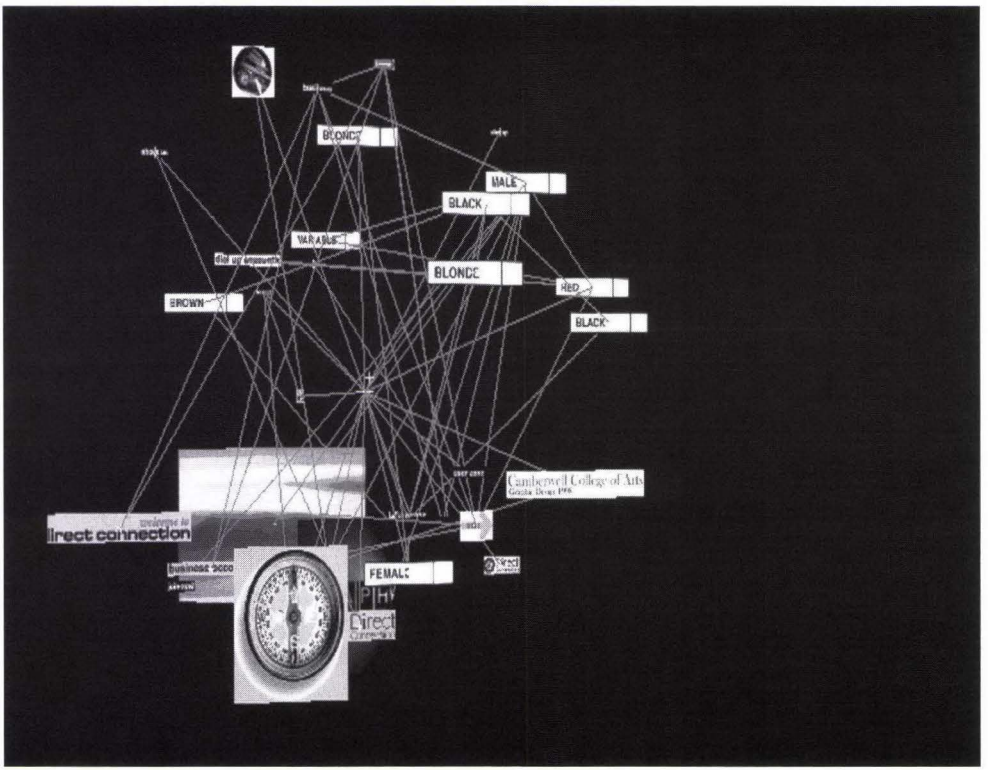


Figure 9.9 Reconnoitre 1.2 (1997–98), screen shot.

generated between these nodes, forming an emergent structure that spun out in real time in response to new material returned by the web spider. The environment was fully navigable and the nodal points could be collapsed or opened to reveal compacted Web page material. From this functional prototype, four variations of *Reconnoitre* were developed, each exploring different interaction and representation strategies.

Reconnoitre 1.1: attempted a relational mapping of a given website. Each result node in the environment contained an entire Web document; for example, all subsequent links off the result node represented the actual connections contained in the original document. As a result the generated form was both a representation of the traversal of the web spider and the hypertext structure of the specified website.

Reconnoitre 1.2: (Figure 9.9) differed from the other versions in two ways; firstly a website address was always required and secondly, downloaded and displayed material took the form of images rather than text. The web spider collected material starting at the given website address and any image encountered in its travels was downloaded and realigned in the browser environment.

Reconnoitre 1.3: (Figure 9.10) functioned similarly but visualized the returned images using a different organizing mechanism. Firstly, any attempt at representation of the relational structure of the returned website was discarded. Secondly, each image

Figure 9.10 Reconnoitre 1.3 (1997–98), screen shot.

was 'desiccated' – converted into coloured pixels and spread throughout the environment, giving the appearance of a 'pixellated fog'.

Reconnoitre 1.4: (Figure 9.11) came closest to the concept and function of the finished project. Like *Reconnoitre 1.3* the work did not map the structure of the Web, but represented it as an ambient information space. When the user entered a search term request, it was placed in the environment at a random position. Clicking on these search terms released found material, which had been cut-up by the program and re-mixed to form fragmentary text structures that had been filleted from the original website. The program then organized this material as an inert structure, navigable and viewable by the user.

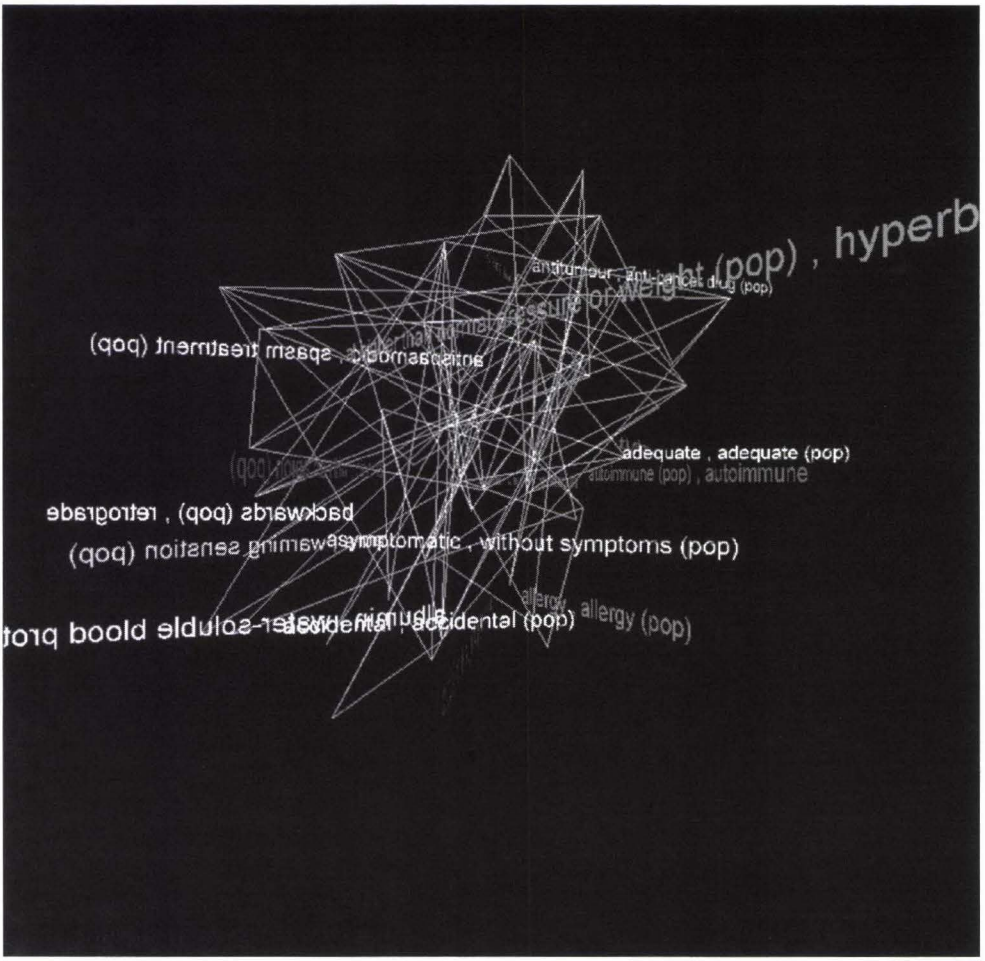


Figure 9.11 Reconnoitre 1.4 (1997–98), screen shot.

Throughout the development of *Reconnoitre* a tension had existed concerning the aims of the project. On one hand a pseudo-function was suggested by versions of the work that mapped the relational structures of websites. However, as later releases took a more poetic approach, the mapping method was dropped in favour of a conceptualization of the network as an ambient environment. While the aims of the project had sharpened, much work had yet to be done. During our residency at the ICA we had opened the New Media Centre to the public to give demonstrations of work in-progress and to gather feedback. Here we found that bringing together public response with working process, proved valuable in highlighting strengths and weaknesses of the project. A number of issues were evident; progress had been made in deciding on a particular approach that favoured 'dysfunction' over function and a representational strategy that framed the Net as an informational condition, i.e. representing it as a kind of amplitude or resonance. Developing methods for imaging

this ambiance in the form of fluctuating temporal process required further work. In *Reconnoitre 1.0* a connective principle had been established, with the user able to generate a material configuration through communication with the web spider. While this mechanism provided interesting results, ultimately the material environment remained overly static, leading to the final release of the project *Reconnoitre 2.00* which was to address these issues by focusing on the development of a behavioural model metaphorically suggestive of the Net's invisible electromagnetic 'flux' and eddies of communication.

Dramatizing connectivity: Reconnoitre 2.00 1998–99

Reconnoitre 2.00 attempted a representation of the network that was not cartographic, but poetic and metaphoric. This shift in priorities required a corresponding change in the manner in which the returned search-term material was organized, as it needed to be suggestive of a resonating, informational process. Much research was carried out during this time that bought together various aspects of computational biology, chemistry and physics in order to explore how physically based process-orientated phenomena could be depicted. Eventually, a behavioural model was found that simulated dynamic processes akin to an electrostatic charge.

Electrostatics functions through interaction between negative and positive forces so that elements with opposite charge (positive or negative) will attract or pull towards each other and objects with the same charge will push away. In this version of *Reconnoitre* the search term requests and returned material were tagged with various types and strength of positive and negative pseudo-electrostatic charge when they entered the environment. The use of which produced unpredictable organic constellations of components, as the search term material was compelled to reconfigure itself in response to the competing electrostatic forces, which it had acquired. Shot through with dynamic behaviour, the structure emerged and pulsated with a life of its own. Furthermore, an environmental variability was suggested by a decay mechanism in the form of a life cycle attached to each piece of text as it entered the environment, that led to the material becoming gradually more dilapidated throughout the works usage. In parallel, wire frame links were generated between different text fragments and established randomly in response to certain environmental and temporal states. So, framed by the 'electrostatics' behavioural model, variable densities of wire frame link, and a textual structure that accreted through time, the overall effect suggested an evolving informational space, with a distinctive temporal and visual form.

Rather than map the space with an inert structure, the emanative processes operating in *Reconnoitre 2.00* ceaselessly re-organized and reformated the search material. The use of the electrostatics model and the strong temporal aspect described by the decay mechanism changed the perceptual experience of the work thereby making a more reflective and immersive experience for the user, an aspect of its potential which had not been foreseen. The extent to which the environment enabled these 'emotional relations' was suggested by the frequency with which users would input personal or touching search term requests like 'help' or 'I love you'. Each experience of the work therefore produced a context-sensitive individuated form arising from, and responsive to, the different personal histories, desires and inclinations of separate users (Figure 9.12).

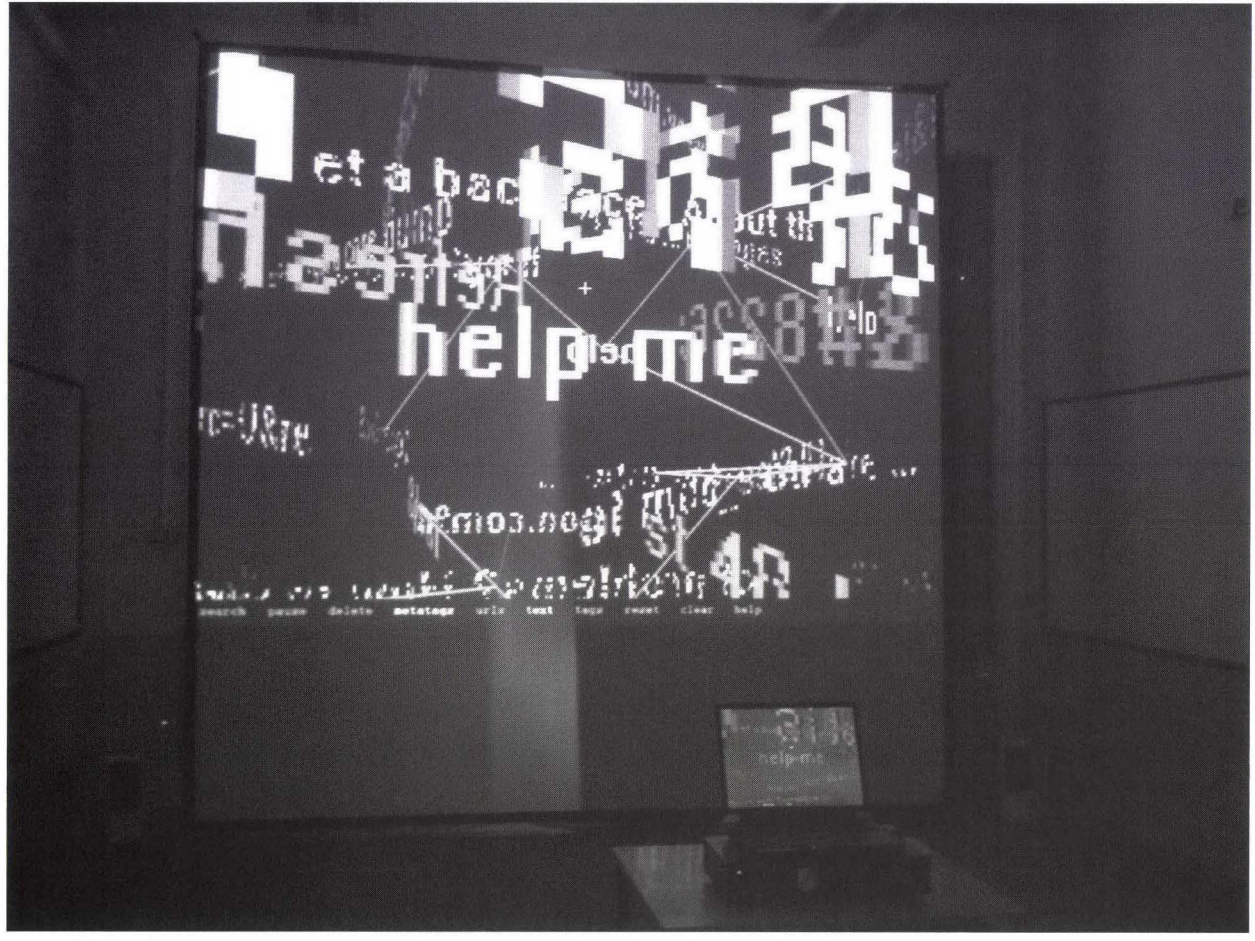


Figure 9.12 *Reconnoitre 2.0* (1999–2000). Installation shot 2004, DMZ London, courtesy of low-fi and Jon Thomson (photo: Jon Thomson).

Summary

Reconnoitre 2.00 evolved in response, and in conversation with, the identified strengths and weaknesses of earlier versions of the project. By balancing function (i.e. being able to 'do' things), with an intimate, reflective engagement (i.e. being able to watch, or be absorbed in an evolving environment), the project mixed a poetic, emergent representation of the dynamic rhythms of the network, with interface and functional modes derived from Internet browsers and search engines.

This reflexive approach describes a creative methodology that forces a connection between diverse disciplines. In particular it enables the hybridization of avant-garde protocols concerned with the development of experimental language sets, linked and re-mixed with domains appropriated from biology, computer science and philosophy; a process which reflects the connective and relational dynamics of the network itself.

Notes

1. H. Rosenberg, *The Anxious Object: Art Today and its Audience*, New York: Horizon Press, 1964.
2. M. Fuller, 'Behind the Blip', *Behind the Blip: Essays on the Culture of Software*, New York: Autonomedia, p. 29, 2003.
3. J.D. Bolter and R. Grusin, *Remediation: Understanding New Media*, Cambridge, MA: MIT Press, 2000.
4. S. Johnson, *Interface Culture: How New Technology Transforms the Way We Create and Communicate*, San Francisco: Harper Edge, 1997.
5. All referenced artworks available at the authors' website. Available HTTP: <http://www.reconnoitre.net> (accessed 20 December 2004).
6. Cellular automata have their origin in systems described by John von Neumann and Stanislaw Marcin Ulam in the 1940s. They are dynamic and operate on a grid, the units of which are assigned behavioural characteristics and are capable of interacting locally to generate 'bottom up' patterning or re-formulations of the gridded structure.
7. R. Barbrooke, *The Hi-tech Gift Economy*, the Hypermedia Research Centre. University of Westminster. Online. Available HTTP: <http://www.hrc.wmin.ac.uk/theory-hightechgift economy.html> (accessed 12 June 2004).
8. For further information about Copyleft see the website of *The Free Software Foundation*. Online. Available HTTP: <http://www.fsf.org/> (accessed, 22 July 2004).

Chapter 10

Digital bop poetics

Mark Amerika

The digital begins with writing, with encoding scriptures.

The first email I get when starting this poetics comes from an old friend, a sharp-as-a-tack septuagenarian, who is dying. The subject of the email is 'sentence' and when I open up the body of the message it says: 'Without the unreal the real is unreal.' When I email him back and ask him what it is he is working on, he tells me that he is writing a series of fragments about his own writing practice. Funny, I respond back, so am I. I have decided to write about my evolving practice as a writer, albeit one that has attempted to expand the concept of writing to include such sub-genres as net art, hypertext, experimental artist e-books, mp3 concept albums, motion graphic cinema, DVD with surround sound installation, DJ/VJ performance, and multi-user 3-D environments. He writes back a two-word response: 'digital poetics'. Yes, I respond back, 'a digital poetics'. Somehow we always end up working on similar projects, he reminds me in a follow-up email, and I just hope he lives long enough to decide it's time to stop working on this project and move on to the next one.

Another writer friend of mine, a well-published and acclaimed African-American postmodern novelist, once told me that he never finishes a novel, that he just stops writing and then he moves on to his next project. This attitude of stopping and not finishing, of 'finally unfinishing' as Duchamp referred to it in relation to his *Large Glass*, is something that informs much of the experimental postmodern writing of the 1970s and 1980s. It is a decidedly anti-closure stance, a narrative space of mind where stories never end, where one can literally hopscotch or leap-frog from page to variant page, read every other sentence, skip chapters or paragraphs, or shuffle the unbound and unpaginated pages like they would a deck of cards. The question these unconventional authors posed with their multi-modal narrative spaces was how can we alter the act of reading a novel while still relating to the experience being transmitted by the writer as they write.

This kind of in-your-face relational interactivity with the writing experience itself has been called everything from metafiction to self-reflexive postmodernism to masturbatory self-indulgence. But what's a writer to do? Especially one who no longer feels the need to lock themselves in the traditional paradigm of what Barthes called the readerly novel, that ever predictable storytelling guise that constructs the narrative environment under such false pretenses that the reader literally gets lost in a book. Why get lost in a book when you can activate your own writerly intelligence in and beyond it? Bataille tells us he writes NOT to be mad. Cocteau says that writing is a sickness. Joyce reminds us that the writer is a pseudo-autobiographical work-in-progress

who composes Exactly One Text as part of an endless surge of momentum that traces the energy flow of any given material culture captured in its local place and time. But what is local in the networked space of distributed flows and how are writers supposed to act in these transmediated environments?

To act: as in – perform. As in – rhetorically generate a style of substantiated narrative momentum that models itself after a way of seeing that one intuitively recognizes as artistic or part of the history of aesthetics, even and especially that part of the history of aesthetics that is decidedly anti-aesthetic in its subversive practice. Its subversive Life Style Practice. The Plug-In Artist of today, writing with images, sounds, text, code and live performance, takes the digital noise that permeates our material culture and filters it through a metamediumistic Life Style Practice that becomes the trademarked persona of the artist. Perhaps those of us who still call ourselves writers no matter how we act or what we compose, should see ourselves as prosthetically enhanced performance artists. Digitally equipped *GRAMMATRON*s, nomadically wandering the desert of the real in search of the unreal. 'Without the unreal the real is unreal.'

Beckett was Waiting For Godot the way Mallarme was also Waiting For Godot, staring into the blank white page on the verge of a nervous breakdown. Not a total collapse of psychic stability, but rather an opportunistic event where the artist unveils the sickness that has been building up inside – an interiorized subjectivity dying for creative transformation. The transformation takes place during the act of writing, when the unreal is revealed in the real and one can finally, after all of this waiting, shed the cellular skin of clapboards that have been weathering the storm. The storm of potential meaning. Now that the release is in progress and the cellular skin of clapboards is dissolving in a solution of digitally manipulated acid poetics, there is no turning back. Meaning is deployed, the blood rush of hyperactive flux identity is fluidly transfused, traces of data are coagulating into network-distributed artworks that are cleverly named and situated within the narrative mythology of an avant-pop presence that has used the most powerful technology of all, writing, to prophesize its own future.

It's 1993, 1994, 1995, 1996, 1997, and the net art roll of the dice has proven yet again that no matter how hard we try to kick back and do nothing, to become The Ennui Generation composed of hack artists faking a practice somewhere toward the end of that lacklustre century that never seems to want to end, we are, in fact, NOT ABOLISHING CHANCE in any way, shape or form. Thanks to email, the ease of creating conceptually charged websites that enable us to simultaneously invent our practices and market those same inventions as we Go Live, not to mention our amateurish passion to engage with the power of spatialized networks while refuting our durational existences in linear nettime, we can now capture our active states of consciousness in asynchronous realtime. A kind of 'timeless time' or state of perpetual jet-lag consciousness where the fad of Being fades into something like a blur-motion cinema of active perception, a streaming media fiction that like a chameleon reconfigures itself to whatever shifts are taking place in the autopoetic world of the artificial intelligentsia.

> Q: Would somebody please unpack that last sentence and the idea of 'asynchronous realtime'?

> A: OK, I'll give it a try, but as usual, only within the context of a digital poetics that works around the margins of a play, in this case a theoretical play called *Cracking the Code of Meaning*, and that is always presenting itself as if it were in dress rehearsal, that is, hyperimprovisationally decharacterizing the formal arrangement of the discourse as a way to reveal the unreal, the thing that desperately wants to manifest itself on the blank white space of the interface we find ourselves subjected to.

Asynchronous realtime or 'timeless time' aka jet-lag consciousness is indicative of a formal investigation of complex event processing where the net artist becomes a multitude of flux identities nomadically circulating within the networked space of flows (both geo-physical networks and cyberspace networks); or, living in asynchronous realtime oftentimes produces a feeling of always being pre-empted while simultaneously enabling the nomadic net artist to hyperimprovisationally perform multi-modal trance narratives.

'Fad of Being' = presence, that is, a contemporary fashion statement, but one that is infused with a proactive agenda of distributing hyperimprovisational performances in asynchronous realtime, creating an opportunity to start a completely new fad – for example, net art or 'being a net artist' was at one time considered a fad that caught on not only with a distributed community of international artists using the Internet protocol, but eventually, and to the dismay of many, the institutionalized art world too (three words: absorb, absorb, absorb).

'Streaming media fiction' = what the nomadic digital artist becomes as they navigate their way through the networked space of flows in asynchronous realtime – in my case, it can evolve at any given moment as an experimental novelist, a hypertext writer, a net artist, a VJ performer, a director of narrative activity producing DVD with surround sound installations, or a writerly context provider whose digital poetics occasionally loses itself in the imaginative netherworld of abstract expression and neologistical wordplay.

'Autopoietic' = a system that maintains its defining organization throughout a history of environmental perturbation and structural change and that regenerates its components in the course of its operation.

'Artificial intelligentsia' = an internetworked intelligence that consists of all of the linked data being distributed in cyberspace at any given time, and that is powered by artistic and intellectual agents remixing the flow of contemporary thought.

For me, a Life Style Practice is what a net artist performs when creating a work in network culture. It is at once a nomadic narrative that re-invents what it means to be an artist in an experientially designed cybernetic environment and a proactive intervention that takes place within the context of an emergent artificial intelligentsia. I say the operative environment is both experientially designed and cybernetic because the aesthetic conditions of command and control being expressed in the work of the nomadic net artist are already embedded in the mental space in which the artificial intelligentsia conducts its business. Once this shared mental space that is being network-conducted (steered) by knowledge workers throughout the polyvocal discourses of contemporary art and thought is distributed over the Net, it doubles as a kind of digital apparatus that we all use to capture consciousness for us, and that we continuously encode with meta-tags of meaning. Borrowing from the metacommentary

aspect of talmudic culture, nomadic narrative as Life Style Practice is *cite-specific hypertextual consciousness* in action ('I link therefore I am'), written and recorded using whatever technologies happen to be around at any particular moment in time: memory, stone, parchment, palimpsest, paint, film, computer code or even digital thoughtography, a term I invented for my artificially intelligent protagonist in *FILMTEXT* (2001–2).

At one point in my *FILMTEXT* (see Figures 10.2, 10.3, 10.4, 10.5) net art site, the following words are displayed in animation: 'Endtroducing ... The Digital Thoughtographer, an artificially intelligent filter, a techno-shamanic medium.' Navigating through the *FILMTEXT* website, the visitor continuously encounters the 'Digital Thoughtographer' (DT) who, referred to above as an artificially intelligent filter, is also called an alien, a virus, or a plug-in artist. As the story's protagonist, the Digital Thoughtographer becomes a lens to a post-apocalyptic world apparently devoid of meaning, but this does not stop the DT from continuing its search for meaning or the possibility of experiencing utopian rapture, even if only for a moment. The DT participates in a process of spontaneous creation where the plug-in artist becomes an active agent influencing the emergent artificial intelligentsia that keeps shifting its shape in the networked space of flows. In investigating this process of spontaneous creation as a hacktivist intervention designed to alter the networked space of flows, the DT realizes that the artificial intelligentsia always already exists in its emergent state and that it first manifests itself with the advent of writing in ancient cultures. It could be said that the machine aesthetic, and with it the opportunity to hack reality, begins with the practice of writing and that in the *FILMTEXT* project, the artist-protagonist, here referred to as DT, attempts to discover a new kind of visual literacy that will expand the concept of writing beyond the mere verbal while reimagining the textual.

The artificial intelligentsia has always had as its number one agenda item: expanding the concept of writing. Look around the contemporary art landscape and see what's happening in digital art culture. More than any other art discipline (painting, sculpture, video, performance, etc.), digital artists are writing out their poetics as part of their practice. They also go to more conferences, participate on more panels, and give more public demonstrations of their work than artists of any other discipline. Why is this so? Perhaps it has something to do with the 'demo-or-die' mentality that we associate with technology corporations, but my own answer as to why digital artists take on the oftentimes unpalatable role of snake-oil salesperson is because they are part of this previously described internetworked intelligence that consists of all of the linked data being distributed in cyberspace at any given time, and that is powered by artistic and intellectual agents remixing the flow of contemporary thought. That is, they feel compelled to keep the network alive, and as such, will not easily drift into conventional roles like the ones we associate with artist as individual genius. This does not mean that they themselves may not, in some very significant ways, be artistic geniuses, but the difference between them and, say, a Picasso or Damien Hirst, is that they are signatories to a collaboratively generated network of linked data that is intimately integrated into their simultaneous and continuous online art performance, the one that happens in asynchronous realtime.

Much of this linked data is text-based and happens via email, either one-to-one email distribution or one-to-many, as with popular email distribution lists. Seeing

that email is generally thought to be experienced asynchronously but that the artists involved often feel as though they themselves are experiencing the networked space of flows in realtime, it almost goes without saying that this internetworked intelligentsia operates (hyperimprovisationally performs) in asynchronous realtime (if it feels like I just said this, or that you are sure you have read these passages before but in different variation, remember what the great Yogi Berra once said: 'It feels like déjà vu all over again'.). Digital artists are the avant-garde troops of the twenty-first century who, thankfully, no longer have to be ahead of their time. In fact, they are no longer avant-garde. They are avant-pop, that is, they take on the forms of the mass media so as to better subvert the mass media from within, i.e. to demassify it into niche communities or what we now call peer-to-peer networks. Digitally inclined avant-pop artists are not deconstructionists who, in the old French style, playfully sample from the history of philosophy so that they can then remix the nagging metaphysical Text that never goes away. This kind of post-structuralist critique of culture may be one elemental by-product of their ongoing online art performance. Fine. But A-P artists are proactively engaged in constructing (writing into existence) coded viruses modelled after the forms of communication we associate with the mainstream media environment and, using the networked new media technologies at their disposal, redistribute these viruses into the mainstream culture so as to subvert its one-size-fits-all mould of reality. Corrupting the mainstream media culture, everything from the business news channels, to presidential campaigns, to corporate-sponsored museum exhibitions, is standard practice in the nomadic net art world. The interventionist strategies of many a hacktivist net artist are aimed at reconfiguring the conservative and liberal sides of the corporate mentality so that the online art performance exudes a politically charged aesthetic aura.

But didn't Benjamin say that aura was dead and that the authentic was history? Perhaps it's time to authenticate the silence.

Coda

The transition from print to screen to network is never easy, unless you are a born net artist. Of course, this is impossible (just ask your mother). So, instead, you must give birth to yourself as net artist. For me this started with *GRAMMATRON*.

The *GRAMMATRON* project (Figure 10.1) consists of over 1000 web pages, thousands of hyperlinks, an original soundtrack of over 40 minutes, a unique navigational structure composed using specially coded Javascripts, and a virtual gallery consisting of scores of digitally animated and still images. The work was created exclusively for the World Wide Web and is a retelling of the popular Golem myth from the ancient Cabala. The narrative of *GRAMMATRON* depicts a near-future world where stories are no longer conceived for book production but are instead created for a more networked-narrative environment that, taking place over the Internet, calls into question how a narrative is composed, published and distributed in cyberspace. The day *GRAMMATRON* was released on the Internet as one of the first major works of Internet art, the New York Times wrote: '*GRAMMATRON* is grappling with the idea of spirituality in the electronic age' and that as a work of art it could be viewed as 'a meditation on the electronic medium's impact on language and the writing process'.[1] The reference to *GRAMMATRON*'s investigation of spirituality

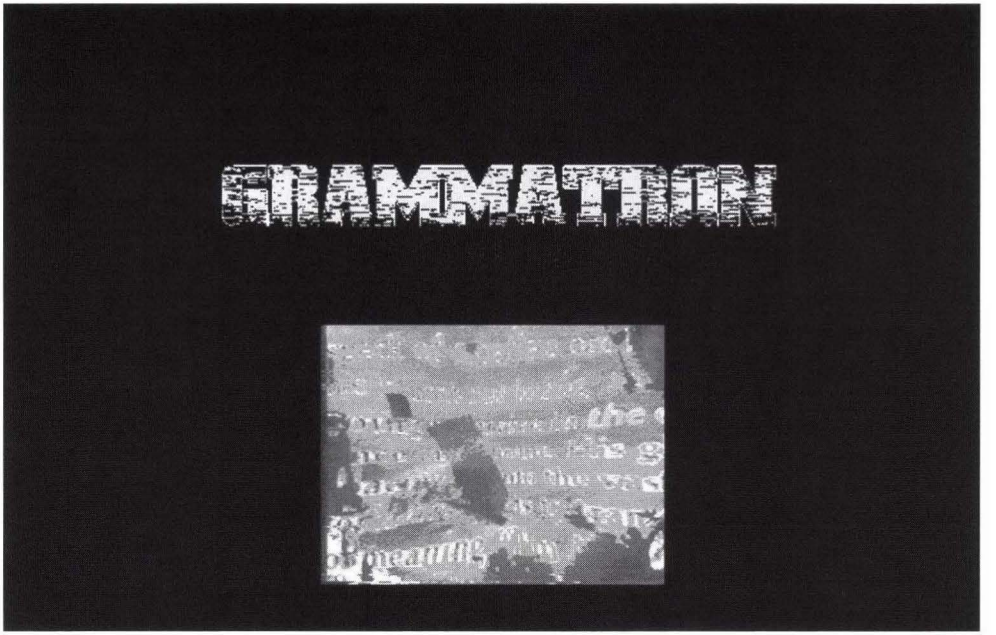


Figure 10.1 Grammatron.

touches on a subject that permeates most of my work, namely, how does the individual artist, forever drawn to eternal ideas of truth and beauty, operate in the fast-paced media economy of information capitalism? For me, the best way to engage with this issue is to experiment with the media economy itself, to take hold of whatever new media technologies are useful at any given time while distributing my own narrative content through these networked media environments and, in so doing, construct alternative art experiences that investigate the role of subjectivity in computer-mediated cyberspace.

All three works in my net art trilogy are attempts to show us how writing is now becoming more performative in a network-distributed environment.[2] It's fueled by what Gregory Ulmer calls 'the logic of invention'[3] and requires a more proactive, inventive approach to making things, oftentimes collaboratively, with the electronic apparatus. In *GRAMMATRON*, this 'inventive approach' utilized the new GUI-interfaces of the WWW to investigate the interrelationship between animated images, streaming audio, and customized hypertext links in a 'public domain narrative environment' that was on the verge of becoming an over-hyped new media economy. Although the narrative of *GRAMMATRON* has often been cited in the context of avant-pop art firmly rooted in the rival tradition of experimental literature, in many ways the actual story being told is that of the coming reign of viral marketing and how the magic of hypertext works both ways. It gives being and substance to our fantasies, but thereby makes it possible for them to be packaged and sold back to us.

My second major net art work, *PHON:E:ME* asks viewer-participants to expand traditional notions of authorship and narrative and invites them to 'remix' their own textual-auditory experience over the Web. The work comes equipped with

a 'hyper:liner:notes' that randomly generates bits of narrative information tracing the social interaction of a network of artists, utopian dot.comers, DJs, and anti-copyright enthusiasts looking for the next cultural revolution. The *PHON:E:ME* project was commissioned by the Walker Art Center in Minneapolis and the Perth Institute of Contemporary Art in Western Australia, with additional funding from the Australia Council for the Arts and the Jerome Foundation. Collaborating in production of this project were Erik Belgum, Anne Burdick, Cam Merton, Tom Bland and Brendan Palmer.

Theorist Steve Shaviro, in his essay for the *PHON:E:ME* Walker Art Center website, writes:

> Mark Amerika works at the critical point where new sensory ratios are starting to emerge. Most obviously, his piece plays with the intersection between the ear and the eye, between what we hear and what we see. More subtly, it also explores a disjunction within the eye itself: between what we can read and what we can only look at.[4]

Whereas *GRAMMATRON* experiments with the hypertextuality of the Internet as an interconnected global computer network, *PHON:E:ME* more consciously investigates the way auditory media pervade our daily lives and how this in turn affects the way we experience what have become routine cultural practices such as reading, writing, listening to music and surfing the Internet. With a multitude of viable media formats and cultural objects fighting for our attention, questions of choice and designing our own interactive experiences come to the fore. By experimenting with both the design interface as well as the artistic content constructed especially for the *PHON:E:ME* website, I am attempting to find ways to express the impact of this audio-visual 'noise' while inviting the participant – the artistic 'co-conspirator' – to create their own alternative version of the work based on the parameters the artist put in place.

Created in the tradition of film-makers such as Dziga Vertov, Jean-Luc Godard, Maya Deren and Chris Marker, the online version of *FILMTEXT* attempts to translate cinematic language into the multi-linear navigational forms associated with emergent new media genres such as net art, hypertext and motion graphic pictures. The work was created in collaboration with Chad Mossholder, John Vega and Jeff Williams. The manipulated images used in this work of digitally expanded cinema were shot on location at the Haleakala Crater, a vast desert landscape atop a dormant volcano that reigns high above the South Pacific on the island of Maui. Other significant video location shoots took place in the Australian Outback as well as in the dynamic urban zones of Tokyo, Japan and Hong Kong, PRC. Each of the video shoots required extensive research, travel, technical training, and coordinating a small crew of assistants. Besides experimenting with recently released digital video hardware and software technology, *FILMTEXT* is more importantly a fictional investigation of what it means to be human in a post-apocalyptic media environment. Borrowing from pop culture genres such as science fiction, cyberpunk, and interactive game environments, the piece takes into account William Burroughs's re-conceptualization of language as a virus and investigates the nature of computer, biological and media viruses via an abstract expressionistic interplay between the semantic imagery, the audio loops, and the various cryptic texts embedded in the design interface. The work invites the interactive participant to navigate their way through an ambient game space where

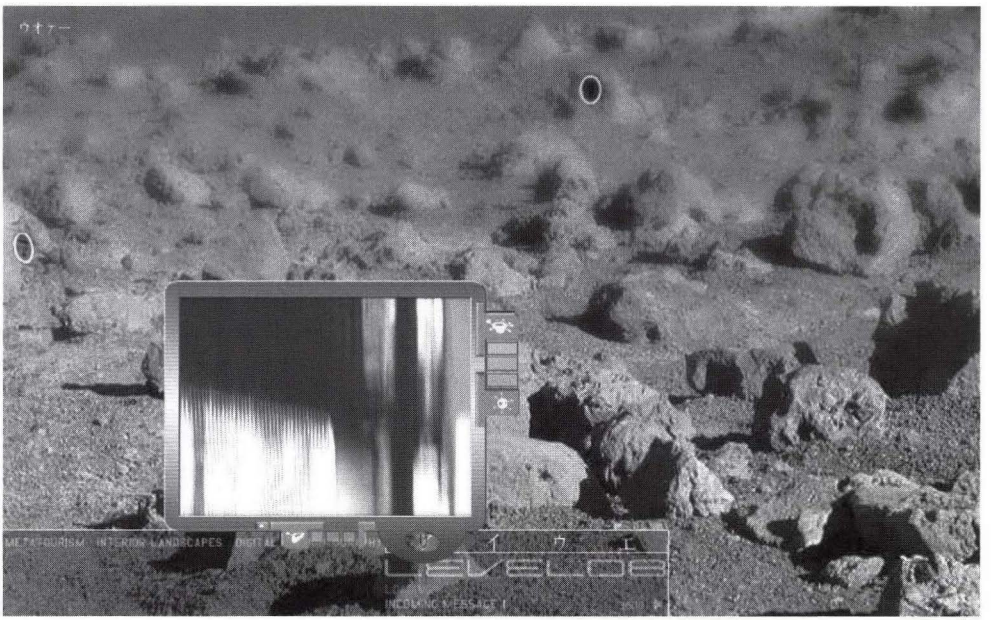


Figure 10.2 Filmtext.

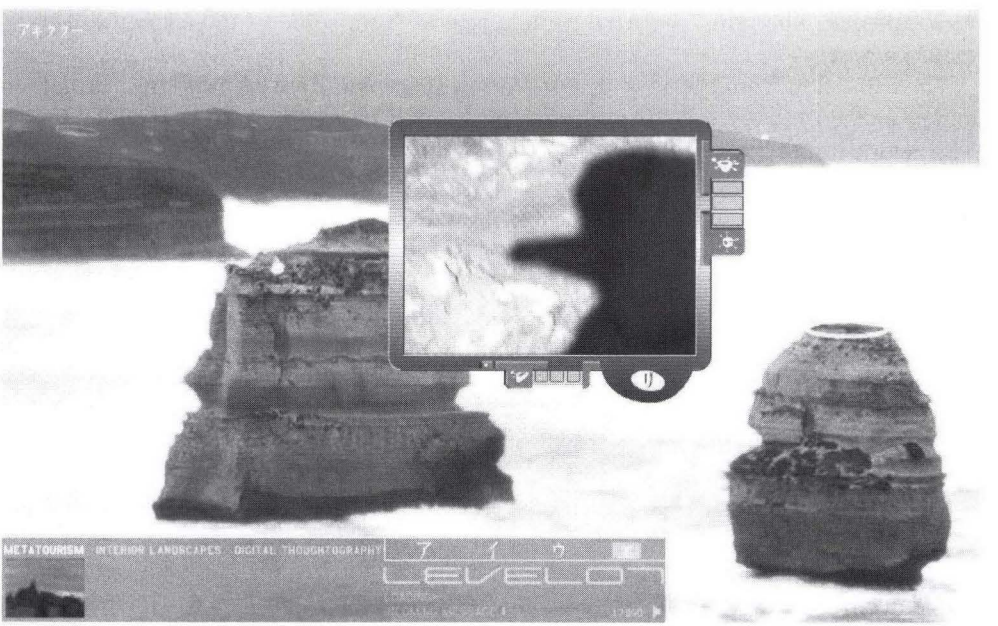


Figure 10.3 Filmtext.

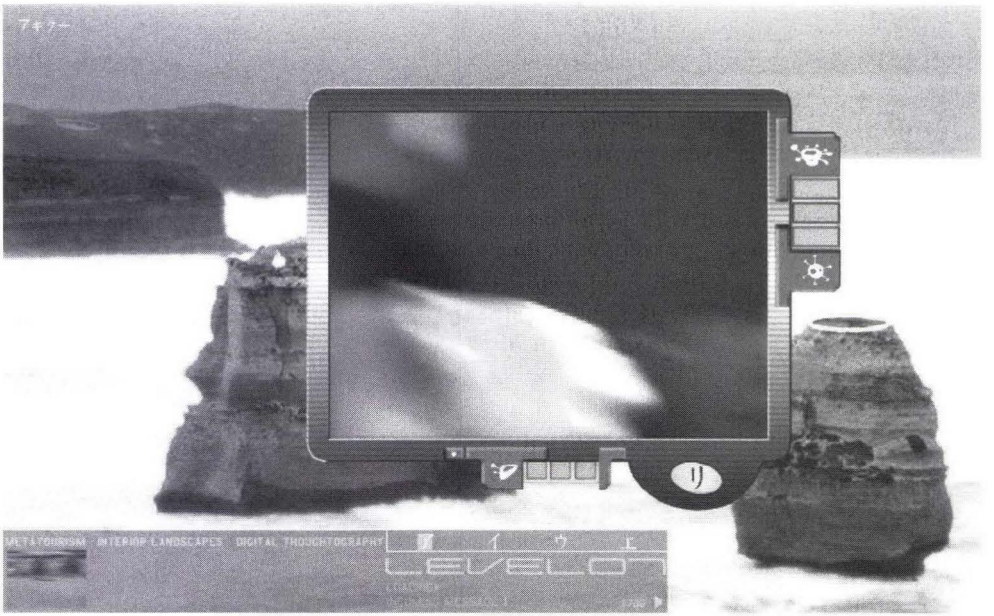


Figure 10.4 Filmtext.

'going to the next level' never guarantees anything except the opportunity to produce new versions of the work you are navigating your way through. In this regard, *FILMTEXT* is a philosophical investigation that plays with the animated Internet environment and its supposedly liberating potential to help free us from some of the encumbrances of material reality.

The transition from network to installation space was natural. My latest project to date is a video-projected DVD with surround sound art work, entitled *CODEWORK*. This work-in-progress centres around the relationship of two figures, an artificial intelligence known as the 'Digital Thoughtographer', and an unidentified woman whose scripted voice-over telepathically communicates with this alien shadow figure.

In this work, I am developing what I have referred to as a 'painterly video style' that is synched with a wide range of electronic sounds I am designing with two collaborators, a German actress (Jutta Wolfert) whose voice-over I script and digitally record, and a sound artist (Chad Mossholder) who is assisting me in the creation of a unique surround-soundtrack for the DVD narrative. The idea for developing *CODEWORK* came to me after having been invited to tour parts of Japan and Europe as a performance artist creating live, 'hyperimprovisational' works of digital cinema (what is sometimes called VJing). The term 'hyperimprovisational' refers to my using computers and specially designed algorithms to generate new versions of the work in a live environment. Taking much of my digital source material from the video footage I shot in Asia, Australia and Hawaii for my *FILMTEXT* net art site, I used my jacked-up laptop computer and VJ (visual mixing) software to generate images whose aesthetic qualities were clearly coming out of the tradition of independent film and painting, although these images are made with pixels as opposed to oil or celluloid. I am

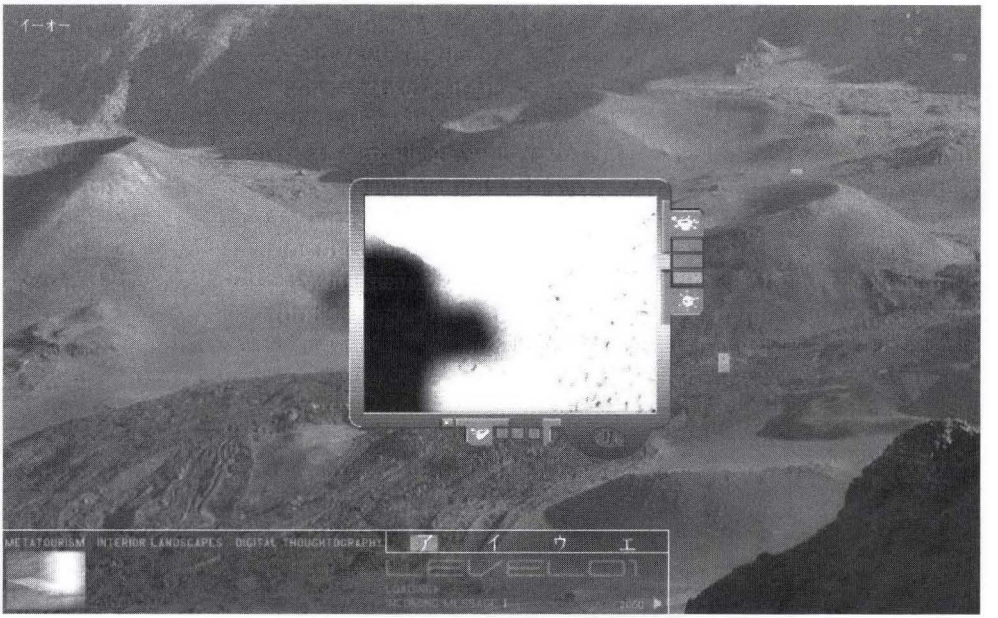


Figure 10.5 Filmtext.

now recording these live 'remixes' and putting them back on my computer where I edit them into smaller fragments which then become the video art scenes for *CODEWORK*. Excerpts from the DVD work are also being performed as a 'hyperimprovisational' remix in various museums, universities and art festivals, as well as yet still new iterations on the WWW. The resultant process creates a performative feedback loop between the video location shoots, the net art sites, and live performances and installations, that is productive of new works in their own right.

Notes

1. M. Mirapaul (1997) 'Hypertext fiction on the web: unbound from convention', *New York Times on the Web*. Online. Available HTTP:<http://www.nytimes.com/library/cyber/mirapaul/062697mirapaul.html>(accessed 20 January 2005).
2. *GRAMMATRON*, *PHON:E:ME .01* and *FILMTEXT* can be found at the following website addresses: <http://www.grammatron.com/>; <http://www.walkerart.org/archive/C/A9737DCEEB4E21CB6164.htm>; <http://www.markamerika.com/filmtext/> (all sites accessed 23 March 2005).
3. G. Ulmer, *Heuretics: The Logic of Invention*, Baltimore and London: John Hopkins Press, 1994.
4. S. Shaviro (1999) 'Ten reflections on Mark Amerika's PHON:E:ME .01', Walker Art Center. Online. Available HTTP:<http://www.walkerart.org/archive/A/AB737DB278986EDB6169.htm> (accessed 29 October 2004).

The wrong categories

Jon Thomson and Alison Craighead, in conversation with Kris Cohen

Imagine a pair of British artists who want to drive through the American south – from, say, Atlanta to Alabama. Whatever their reasons, it's a trip like any other and there are tasks to be done, and preparations which they divide between themselves. One organizes the events, the stops; the other organizes their movement – hires the cars, books the motels. The story here lies in this last task, with the motels.

Because people have likes and dislikes when it comes to motels or anything, and because these preferences tend to be predictable, there are categories. Official, semi-official and tacit categories. Expensive motel, inexpensive motel; large, small; urban, rustic; vibrating or non-vibrating beds. All kinds of categories, along many different lines of interest.

Now imagine this: you're the American purveyor of a motel in Mobile, Alabama and you get a call. The voice on the other end is British and a woman's; you are therefore culturally predisposed to finding the woman charming, intelligent and elegantly mannered. Then you register what she's asking: 'Hello. Excuse me, are you grubby?'

So, this is the question: how do you respond?

Remember: you're the purveyor of a motel in Mobile. You therefore pronounce it 'mo-beel'. Grubby?! Did she say 'grubby'!? We may be only one star, but grubby? Knowing the categories, and having a feeling (however aspirationally lofted) for which category your establishment achieves, you're likely to deny the accusation. Which is to say, you're likely to take the question as an accusation. However hopelessly you cling to your one star rating, you're not grubby. Quaint, unique, economical, friendly ... but not grubby.

Maybe your imagined conversation went like this:

Alison Craighead: Excuse me, are you grubby?
Motel Purveyor: Um, pardon me ma'am?
Alison Craighead: No, I mean, we're looking for grubby *motels.*
Motel Purveyor: Um ...

Or, the relativist hotel owner might answer ...

Motel Purveyor: Depends on what you mean by 'grubby' ma'am.

Or, if you're a committed capitalist with quick reflexes ...

Motel Purveyor: Grubby as you like miss.

It's an absurd exchange, but then, stranger things have happened to British artists in Mobile, Alabama. One way to talk about this absurdity is to notice the misuse of some pretty standard categories. Some motels are grubby, no doubt, but when identified as such, one is generally being warned away – or if you're the owner in question, you are being insulted. One can be certain. Categories traffic in certainty: they want to produce it and they rely on it for their propagation. So when your *Rough Guide* tells you that a motel is 'grubby', you know what it means. You understand that the action you're thereby meant to take is to not stay there. The category operates unobtrusively to inform our decisions, to help us know how to think about the motel (or the anything) in question.

Categories like this also militate against all sorts of other actions, like, for instance, asking the person on the other end of the phone if their motel is grubby. Thus, Alison Craighead didn't ask the question on her and Jon Thomson's trip through the American South. But they wanted to. It was their intention to seek out grubby motels (best not to ask why). But the categories, and their knowledge of them, made the straightforward way to find grubby motels impossible. So they read other signs to find grubbiness, they had to find the hidden voices of that category: types of cars in the parking lot, proximity of truck stops, naming conventions (e.g. do they use the word 'Love' in the name?). When what you're after is the wrong category – the grubby motel, say – then you become adept at spotting these secondary signs, the silent features that prove the rule in order to mask the exceptions.

Thomson and Craighead traffic in the wrong categories, in their choice of motels and in their art. They misapply familiar categories, misuse them or critically literalize them. This is a tactical perversity in their work, and one of the keys to both its creation and its effects.

Others have noticed a role for the wrong categories in the history of art. We find them suggested, for instance, in the writing of Walter Benjamin:

> The history of every art form shows critical epochs in which a certain art form aspires to effects, which could be fully obtained only with a changed technical standard, that is to say, in a new art form. The extravagances and crudities of art, which thus appear, particularly in the so-called decadent epochs, actually arise from the nucleus of its richest historical energies.[1]

Which is to say, in critical epochs, certain art forms slip their categories. But these slips tend to go unnoticed, as such, for in art criticism as in art, epochal drifts get bogged down in categorical persistence. In other words, the categorical glitches *are* acutely noticed, but misidentified. As a tactic for preserving certain categories, these new forms of art are labelled crude or extravagant, before the direction of their gesture is perceived; before it is understood that they are aspirational in the effects they seek. And significantly for the study of new media art, which is so often conflated with its technicity, Benjamin identifies the movement towards a changed 'technical standard' as the motive force behind these epochal shifts. For example, the Dadaists' destruction of art's aura would only be achieved, Benjamin argues, with the rise of the popular cinema. The technology of the moving image was the ultimate instrument of this change.[2]

Benjamin's analysis, as his title states, is of *mechanical* reproduction as both a technical capacity and a categorical provocation at the end of an era of art making – he

marks the undoing of categories, however belatedly recognized, however persistently mis-recognized. But we have since entered an era of digital reproduction, a fact which is only affirmed by the persistence of mechanical reproduction and its defenders – old technology always exists alongside, and in dialogue with new technology in periods of transition.[3] But if mechanical reproduction disrupts contemplative immersion as a mode of reception, what does the digital do? One of the great gifts of Benjamin's essay was his careful delineation of effects: the impacts of mechanical reproduction; the influence of a changed technical standard on both critical reception and artistic production. Beyond the desultory symptoms of digital reproduction's omni-presence, what are the effects of the digital on contemporary art practice, and how does practice, in turn, comment on the digital and its diverse effects?

In answering this sort of question, it is probably best to start humbly, with specific cases. We will look at one case in particular: Thomson and Craighead's *Template Cinema* pieces. The prologue above introduces some of the concerns which will occupy the remainder of this essay. For various reasons, we approached the driving question of this volume, the question of new media practice, quasi-ethnographically. The first and most circumstantial reason being: I'm a social scientist of sorts, although one with a background in art history. The more important reason being that we wanted to avoid the glosses that are endemic to broad, distanced reflection. We wanted to look at Thomson and Craighead's work as it happened. So we decided to use their trip to Atlanta as our field site. This approach had several advantages. Their time in Atlanta was a month-long period of intense work on *Template Cinema*, relatively uninterrupted by the usual things like teaching and, let's say, Life. And while this setting might lack the ethnographic verité of Real Life, with all of its complications, it benefits from a high level of sustained concentration on the question of new media art practice. The Atlanta stint was a period of critical incubation for Thomson and Craighead's *Template Cinema* works, so our dialogue (in the language of social science: our data) was almost exclusively addressed to their latest work – although the general concerns of our conversations have application outside of *Template Cinema*. The period of a month was useful in that it bounded our interaction; it sampled a period of time and changes that occurred over that period, and in so doing, attained the useful specificity, the graspability, of something with a beginning and an end. Finally, because they were to be in Atlanta and I in London, the practical concerns of our interaction – the fact that we wanted to be in almost daily contact – suggested that we use an Internet chat software as our only mode of communication. This seemed appropriate to the medium and the content of their work, and a neat solution to problems of documentation and analysis.

We had two kinds of interaction firstly, real-time Internet relay chat (IRC), and secondly, what some of us in the social science business might sexily call 'random behavioural sampling'. In the first, we chatted for periods that ranged from 15 minutes to an hour, during which I acted as an informal interviewer and invested interlocutor. The themes and drifts of these chats were led by our collective instinct for what was interesting, as well as by the practical tasks and artistic concerns which populated the day on which we chatted. The random sampling consisted of an unchanging set of questions, which Thomson and Craighead would answer whenever I prompted them. The prompts were random to the extent that they came at an unexpected time, with the aim being to sample their behaviour, their new media practice, at various points

Figure 11.1 Downtown Atlanta, June 2003.

in the course of their workday. In traditional social scientific work, random sampling is a technique that can be useful for studying behaviours which unfold unpredictably in time, i.e. processes. If someone was interested to know, for example, about people's oral hygiene habits, one might ask participants how their teeth feel at different, random times of the day. The result, ideally, is a data set which represents behaviour in relation to important contextual circumstances (e.g. time, place, resources). In our dialogue, random sampling was both an earnest attempt to observe new media practice, and a kind of parody of that very attempt – an acknowledgement of the impossibility of the task, or at the very least, the difficulty of speaking about new media practice, either in its new media-ness or in its practical aspects. Call it, then, a challenge to the categories involved in the task.

What follows are extracts from our real-time chats, organized by themes which emerged in those conversations. Where desirable, we've stuck to the text of the original conversations, trusting that what chat lacks in forethought and careful articulation it makes up for in candor and brevity. We have, however, edited the transcript in places where the original conversation was too multi-layered or esoterically self-referential to be clear. We have also, in places, added prefatory, interceding or concluding remarks, to draw out ideas that we've since found illuminating, under-illuminated, or otherwise alluring in the original chats. Data from the random sampling are used where it is used.

Figure 11.2 Little Five Points, Atlanta, June 2003.

Setting the scene

*** Channel created on Wednesday, on the 18th June, 2003, 12:32:36

krispy: Ali! Hello. Ok. Let's just do some gentle contextual work. First, what did you have for breakfast?
alison: Breakfast: nectarine, slice of toast, tea.
JonT: I had peanut butter on my toast.
krispy: Are you adapting to local conditions?
JonT: So far so good, and as our friends have Mac based wireless networking, it's been a doddle getting online. We even started working a bit yesterday. The mosquitoes are murder though.
krispy: Can you describe your working conditions a bit?
alison: Sofa, two laptops, classical music, easel and watercolours. [JOKE!]
krispy: Is the classical music something you brought or one of your friends'? And what is it?
JonT: It's Debussy from our iPod. Something gentle for the early morning, and it goes well with the thunder if not in a slightly hackneyed way.
alison: It's very early!
JonT: When it's not pouring we might try sitting out back on the deck under the trees. As we both have laptops we're fairly free range.

krispy: Do you roam around a lot physically when you work, or do you tend to stay rooted? Is it good to have the computer with you?
alison: No, we sit next to each other.
JonT: And jump about the place sometimes.
alison: And when we get stuck we walk to a café and have tea.
krispy: In response to what do you 'jump around the place?'
JonT: Usually when I'm on a roll with intensive computer work and need literally to flex muscles but also am excited.
krispy: Ali, do you jump around?
alison: No, I prefer a duvet.
krispy: I'm assuming there's no cafe in walking distance from you now. It will be interesting to watch what behaviour stands in for the London-based getting stuck behaviour.
alison: I am hoping for ice-cream eating.
JonT: Actually, we are only around 15 minutes walk from Little Five Points [a densely commercial, relatively pedestrian-friendly neighbourhood in Atlanta]. It just depends on the weather as to whether walking is an option. It's amazing how disregarded the sidewalks are too: there are so many places where tree roots are just carving up the stonework on the pavements.
krispy: Would you say that you've started (whatever that means to you), or that you're still arranging, planning, prepping?
JonT: We are arranging and planning but that's already started in my book. We have booked a day or two in Savannah at the weekend. We reckon work in the week at home and have little trips at the weekend. We are also just scouring the Web for sounds and webcams that we think will be suitable for the online *Template Cinema* [which we will spend most of our time researching here in Atlanta].
alison: Yesterday I booked a few motels and started to organize a physical schedule of where we will be.
alison: We are looking for run-down motels.
alison: It's quite hard, i.e. asking, 'Excuse me, are you grubby?'
krispy: Why do you want grubby? Are you planning to stay nights there?
alison: Two nights and we want classic motel imagery. We are setting up familiar work patterns but taking the role of professional tourist very seriously [at the weekend].
JonT: I would imagine that the two activities will intertwine.
[there were some relatively uninteresting winding-down remarks here, then ...]
JonT: Next session?
krispy: How about 30 minutes at 7 pm GMT/2 pm GA time?

The wrong familiarity (part I)

Template Cinema is an umbrella term used by Thomson and Craighead to indicate a body of work that variously explores ways in which cinematic outcomes can be automatically generated and played-back in real-time from existing data found on the World Wide Web.

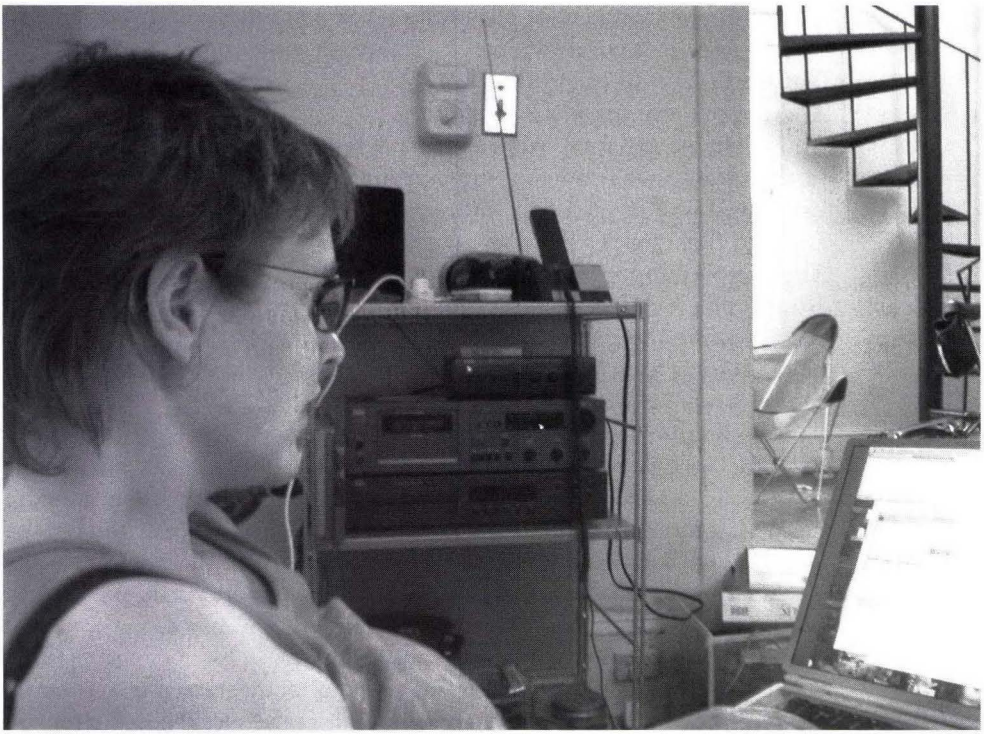


Figure 11.3 Alison working indoors.

The online *Template Cinema* work referred to here as under development closely followed the launch of Thomson and Craighead's gallery installation, *Short Films about Flying* which combined a live video feed they found of Boston's Logan Airport with randomly loaded net radio and text grabbed from a whole host of online message boards and websites. The live video stream was appropriated from an existing commercial website where its visitors were able to remotely control the camera, so each movie was shot and paced by its own (albeit unsuspecting) camera person once set against a sound track and interrupted by inter-titles. By designing a strict template structure within which these elements could be randomly pitted against one another, an endless open edition of unique films replete with universal leader, opening titles and end credits could be created on the fly for gallery visitors.

For various reasons, *Short Films about Flying* could only work as a gallery installation and relied on a mixture of what could be deemed live Web and database information. For example, the camera feed from Logan Airport was indeed live, give or take a few seconds of buffering, whereas the inter-titles all originated online but had been edited and compiled into a static database, which sat on the hard disk of the computer running the installation. This way of working allowed Jon and Alison quite tight control over the set of conditions they were creating, but what they also wanted to examine was the possibility of creating works of *Template Cinema* that were made entirely from live elements referenced in real-time both on and from the World Wide Web. This is the online *Template Cinema* work under development in the discussions

Figure 11.4 Jon working out back.

that follow, and you will find that from time to time the installation *Short Films about Flying* is referenced and discussed in relation to the new online works.

*** Channel created on Wednesday, on the 23rd of June, 2003, 17:31:23

krispy: Jon, you said you want to help the viewer make connections between the disparate elements you draw from the Web. But I think cinema is particularly bad at helping people make connections: for me, there's not another medium that so well conceals the conditions of its own making (especially with a film like the Matrix, for which computer graphics, actors in a studio, actors on site, etc., are all folded into a single, seamless thing that is supposed to look real enough). So does cinema work for you in the juxtaposition with Web content? Does it reveal itself in that context?

JonT: It's more about setting up a familiar space within which a viewer can contemplate the live elements we are representing. An example could be a live airport webcam plus soundtrack (a live feed from a NASA broadcast say) and another mp3 sound source from a Web music archive. All paced on a timeline to create a kind of single screen video work or 'film' work.

JonT: I can also imagine this idea of sound-tracking live images as lending itself [in the future] to some form of utility.

krispy: Whoa! Sound-tracking ... 'utility' ... can you elaborate on that sentence a little more?

JonT: Well, perhaps one day security guards looking at their surveillance camera feeds will get 'chilling' music when an intruder moves into frame.

alison: Or anyone with tights on their head – you would need a tights-on-head audio filter for banks.

JonT: Although we are not building utility into the works we are developing at the moment, why not have musical elements that convey information? So when the weather is nice out, the music is in a major key, or when the FTSE is down, the music speeds up dramatically?

krispy: Right. Music always does convey information – it can hardly help it. Try playing The Beach Boys at a funeral. My experience of the music in *Short Films About Flying* was sometimes at odds with the tone of the images. In fact, I'm not sure the images had a tone without the music and inter-titles.

JonT: With *Short films about Flying*, it's almost like the Web is a piece of string and we're just tying different knots in it, and by placing the viewer centrally, s/he joins the pieces together that are often un-related. In our case the knots lack utility in its strictest sense.

alison: But they do have form.

JonT: In a way, the whole *Template Cinema* title is a misnomer, well not a misnomer, but our interest is not about expanding cinema *per se*, but about visualizing things about [all] our experience of such a huge networked space like the Web.

alison: But it would be threaded together by the viewer.

krispy: I think there's something about Delight in the form of your films. I would, in a normal day of Web surfing, have experienced the separate elements of your flying films as dull, almost numbingly so. But in the context in which you presented them, they were delightful. Something about the feelings that the silent film form evokes.

alison: It's about bringing some sense of order to a tumbling database for a moment and then seeing it fall back to disarray.

krispy: You've talked a lot about presenting unfamiliar elements in familiar and unfamiliar ways for viewers. Where does your experience of the familiar and the unfamiliar come in? Does the Web ever get to feel overly familiar (and therefore hard to get analytical distance from)?

alison: We have to make a lot and throw a lot away.

krispy: And the things you throw away are sometimes no good because they're too familiar?

alison: Well quite simply, they just don't work, and it's always best not to think too hard why – just keep going or you end up curled up in a ball in the corner.

JonT: As an artist you are almost always in a position where it is hard to get analytical distance until a long while after completing and exhibiting something. To talk generally though, I would say that people are more familiar with the language of film and television, than of hyperlinked networks like the Web.

krispy: This theme about familiarity and unfamiliarity, about the making strange of overly familiar things, is starting to sound like a central tactic of your practice.

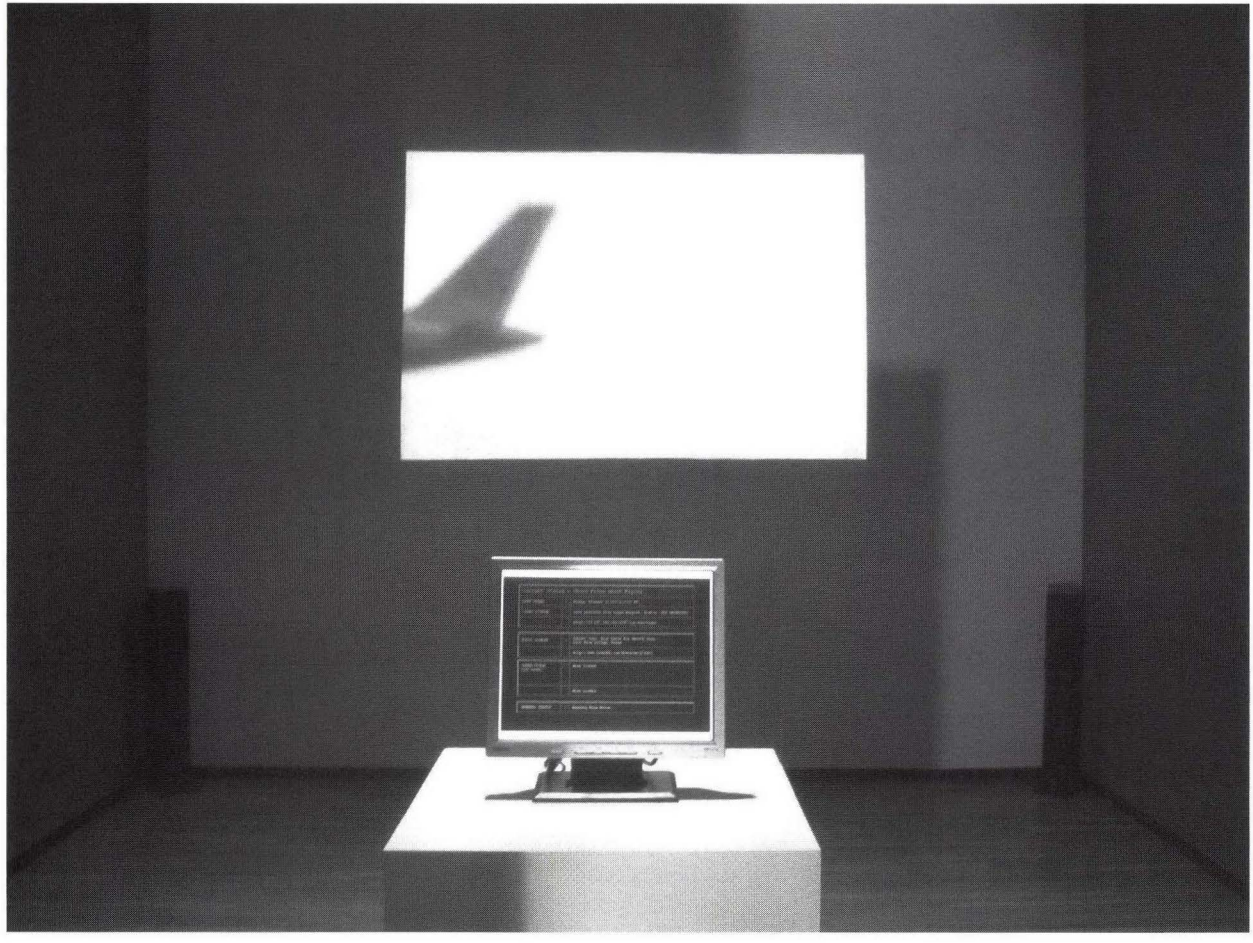


Figure 11.5 *Short Films about Flying*. Installation view, Walter Philips Gallery, Banff, Canada, 2004.

A Familiar Interruption: It is useful when beginning to speak about familiarity to ask 'for whom?' and 'what is that familiarity helping us to overlook?' Above, Thomson and Craighead are talking about an effect of over-familiarity on their capacity to evaluate their own work, in preparation for presenting it to a public. But a motivating goal of this preparation is to play out effects of familiarity for their audiences.

Trawling

*** Channel created on Wednesday, on the 25th of June, 2003, 22:32:17

krispy: So can we talk about trawling the Web? Is that the starting point for everything you do, or do you start with some search parameters, something you're looking to make?

JonT: No, trawling is not the starting point of everything.

alison: But I am an adventurer to the heartlands.

JonT: In a way when we're trawling, we often know what we want (and could make it ourselves) but want to find it out there already.

krispy: Is it important that you do not alter what you find? In just this case, or all cases of your work?

alison: In [nearly] all cases. It's about pointing and agenting.

JonT: In the case of the online *Template Cinema* pieces we're working on now it is particularly important.

krispy: Really, why?

JonT: We like the idea of these movies being completely about configuration. A simple list of instructions on a timeline resulting in uniqueness from our found material.

JonT: It's never exactly the same (what we find, and what we set out to find).

krispy: But it's not quite like discovery, pure, naive and wide-eyed?

JonT: [Not generally.] When we first started just appropriating stuff online, it was almost as a response to the almost knee-jerk need people had to upload a lot of anything onto their homepages. We figured it was more ecological to recycle what was already there.

alison: And more interesting. The Internet is a sprawling muddle. People are constantly uploading. Collecting data is like a nervous twitch, but in the end what we find just reflects us, the users of the Web.

krispy: Recycle and before, Ali used the word rubbish to describe what one finds on the Net. What's that language about?

JonT: For me, recycle was more about re-use rather than making something out of rubbish, although the Web is full of rubbish, what with data being so easy to copy from place to place, there are inevitably so many bits of disused data just lying around the place.

krispy: But your work isn't about sorting, is it?

JonT: No.

krispy: By disused do you mean not visited, as websites?

JonT: Yes. Cobwebs.

krispy: And you like to find the cobwebs? But not clean them, rather honour them? Make films out of them, featuring them?

alison: That makes me feel like a housewife: 'I am just trying to tidy up the Internet. When did you last hoover your homepage?'

JonT: Well actually for us, all that matters is that it's not deleted too quickly, otherwise our work stops functioning too.

krispy: Talk a little bit about how you actually browse. Search engines used? Types of questions asked? Ways you like to formulate things? Is there an art to this? Is there a formalism to your searching methods?

JonT: Alison is better at searching than me.

alison: Yes I am the expert (Hee! Hee!).

krispy: What skills or special talents make you expert?

alison: I get attached to stories. At the moment I am looking for a particular telephone conversation. It's a recording of a first contact between a mum and birth daughter. We found and lost it you see.

krispy: Does that happen a lot, you see something, then lose it, never to be found again?

alison: Yes, I lost my first suicide note that way, but I am discovering that people have a tendency to record these encounters and keep them.

Interruption for Songwriters: notice what a really great lyric this is: 'I lost my first suicide note that way.' For reasons mysterious to me, but probably worth investigating, Alison is constantly producing great lyrics.

JonT: I'm good at the first stages of searching, but not at getting detail from the deep.

krispy: I think learning how to search the Internet was about – let me try to remember – having a more expansive sense of the kind of stuff available on the Internet, and a nascent feeling for the kinds of categories that exist or naturally form or build up over time. It was about coming to know what to expect. It's very hard to look for something if you don't quite know what the possibilities are, in terms of what's possible to find ...

alison: For me, it's about being unrelenting and obsessive. You need to keep changing tack and keep asking the same question but in different ways. It's also about recording and noting where you have been so you can re-trace your steps.

alison: I keep notes on URLs, etc. I never trust bookmarks. I have the capacity to become so geeky it's just not attractive.

JonT: I think what Alison is talking about [here], is really digging deep.

krispy: A lot of it is luck, don't you find? That's what I get again and again from bloggers, who are really good about trawling the Web and getting excited about what they find there. Give me an example of something you asked a search engine recently, and what search engine?

alison: Google. My birth mom answerphone.

alison: Google. My birth mum answer phone message.

alison: Google. My birth mom phone message.

alison: Google. My mom phone aif message.

alison: It's interesting [how small variations in search criteria offer different kinds of results. For example,] 'I love you' is very commercial but 'love

me' isn't – it's more needy, demanding and sad. Perfect country and western without being over sentimental.

krispy: That's very interesting. I never thought of search engines as being able to do that kind of sociological work, even though I have some of your, Google tea-towels.

Interruption about tea-towels: These relate to Jon and Alison's online multiples shop called *dot-store*, where among many other things tea-towels were sold sporting authentic search engine results relating to the search criteria, 'Please help me', 'Please listen to me', 'Can you hear me?' and, 'Is anybody there?' The towels are machine washable and made from 100% Egyptian cotton.

krispy: What's perfect country and western without being overly sentimental?

alison: Perfect country and western rides that line. It's at its best when it has longing, travel, desire, big spaces, pioneering and remorse.

krispy: How did we get onto country and western music?

alison: Search criteria. It's needy, demanding and sad searching for stuff just like country and western. I have thought about penning a song about my searching and longing on Google.

krispy: That could be the world's best country and western song. You should do it.

The wrong familiarity (part II)

JonT: [Say more about what you mean when you say] familiar/unfamiliar?

krispy: OK. The way I think about familiar/unfamiliar comes out of a long and ongoing discussion about the role of [so-called ordinary] language in writing. Some people, a while back, like Orwell famously, said that language needs to be popular and able to be understood by all, else it's fascist. Others argue that language needs to have the shock of the new, so that, if you want to introduce new ideas, you must use new language. Positions have gotten more subtle and nuanced, but in general, when I think about the usefulness of unfamiliarity, I'm thinking about how unfamiliarity can force a kind of engagement from an audience that familiarity does not. So while we may be entertained when we see another love story ... it's not necessarily helping us think about love or relations, unless it's defamiliarizing that dynamic. So you start to hear Derrida's deconstruction in this, the first tenet of which [as he says in the recent biographical film *Derrida*] is not to naturalize what is not natural. ...

JonT: Can you give an example?

krispy: E.g. love isn't really natural, but when we see eight million sappy love story movies, it comes to seem so. The power of something that defamiliarizes is that it shocks us out of this rut of thinking. I think your *Template Cinema* has this defamiliarizing effect, both on cinema and on the stuff of the Web. When placed in relation to each other, both cinema and Web matter is defamiliarized. Other theorists have used different language to describe a similar move: e.g. Deleuze and Guattari and deterritorializing.

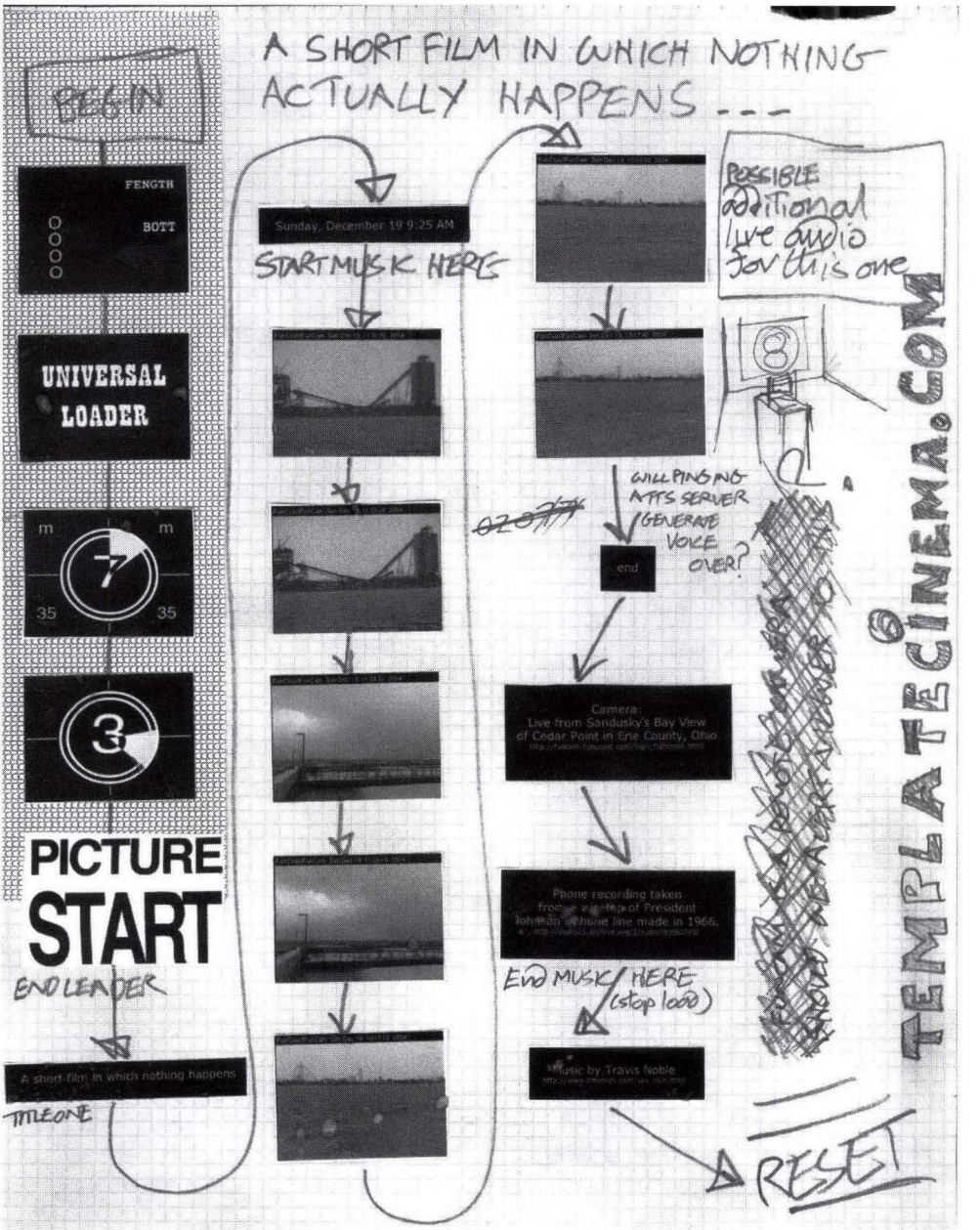


Figure 11.6 Sketch for *A Short Film about Nothing*.

I heard echoes of this when you two were talking about recontextualizing the Web – this was a few days ago now. Is this resonating with you now or are you both asleep in your coffee mugs?

alison: No, we are reading.

JonT: OK I see what you mean, and in the context of *Template Cinema*, we would agree and even go as far as to say that these ideas are in our minds, but not as eloquently articulated in writing as this.

krispy: If I was to have written about *Template Cinema* the first time I saw it, I might have talked about it in these terms.

JonT: We are certainly pitting two formal structures against each other in the hope that they will illuminate each other in some way.

krispy: Do you think it's obvious to people who see *Template Cinema how* they are made? That you are drawing live streams from the Web? Do you want it to be obvious?

JonT: Yes we do, and to that end we try and make the process visible. In *Short films about flying*, we have the second screen that displays the status of each film. So on the wall you have the film, and on the laptop you have information on where the visuals, sounds and inter-titles are being sourced from as they appear.

krispy: How will you do that when the films are Web based?

alison: How we give this information online is another design issue.

JonT: Although, we are in part going to explain the online films in terms of their live-ness by using credits.

krispy: Yes. It would be interesting if the film itself was somehow able to reference its sources, because it can just look, while watching, like the two of you created all the elements, visuals, sounds, etc.

JonT: You are right. I think it is our job as much as possible to make the processes transparent in online *Template Cinema*.

krispy: The thing about defamiliarization as a tactic, is that you have to give enough of the cliché thing so that there's some kind of disorienting, or useful, oscillation, between the uncannily familiar thing and the uncannily unfamiliar thing.

JonT: We think that in *Short Films about Flying* we succeed to some extent, and it's a strategy that exists in much of our work [to date].

krispy: This is why I like your work so much, because in part I'm a believer in that tactic.

alison: It also allows you to try on styles of art.

JonT: I like the Arte Povera movement for much of this kind of talk, and Piero Manzoni. Have you seen Manzoni's *Plinth to Support the World?* It's a gallery plinth with the text inscription on the side explaining it supports the world, and the plaque is just upside down. Cute, but with strength through simplicity. He's also the guy who canned his own shit.

The thing about Manzoni's plinth is that it is not unambiguously clear what has been turned upside down. The gesture spreads outward, ramifies in many directions all at once. The thing about canning your own shit is that you've never quite seen it that way, in a can, as a product rather than a by-product. What, we seem urged to ask, is what is shit and what is good? And how do we know the difference? We can get genuinely, productively confused about what were once familiar categories. Benjamin, too, identifies artwork whose important effect is to point outside of itself: art whose effects can only be achieved with a changed technical standard. For Benjamin, new

media art is art which predicts the new media, the media to come. Categories tend to blind us to these epochal shifts in perspective, while attempts to defend categories are often symptoms of the category's exhaustion.

When we ask for a grubby motel, we probably want something else. We know this because 'hotel', as a category of residence or experience, cannot easily contain the question. By and large, people don't seek out grubby hotels. They avoid them. Thus, in asking for one, something within the familiarity of hotels gives way, and we are able, if only for a second, to see the categories we live within. Already the protean Internet seems to slow under the drag of its own familiar categories: 'virtual', 'commercial', 'personal', 'public'. Perhaps this explains the boredom which is so often cited as an effect on some viewers. The capital-I Internet, itself, now operates as a category, one which appears stable and singular, one which tries to set the content we find there apart from worlds which are thereby positioned as outside and comparatively 'real'. These categories are familiar, but also, familiarizing. That is, they tend towards stasis, even boredom.

Templates are moulds for categories, they enumerate a category's stabilizing conditions. Cinema is an artistic category par excellence. *Template Cinema* ties knots in the otherwise smooth content of the Internet, in the workings of cinema, in the stasis of templates. Thomson and Craighead's work arrests our easy progress through the Internet; it disrupts the familiarizing machinery of its categories. Music, re-appropriated as soundtrack, dramatizes an otherwise sedate live video feed from an airport. The categorical elements of *Template Cinema* act disruptively on each other. Like Manzoni's plinth, they turn each other upside down. Like British artists on holiday, they pose provocative, absurd questions like 'excuse me, are you grubby?' Similarly, *Template Cinema* usefully indexes the categories which organize our experience and which might otherwise be invisible. It is therefore a resource for greater categorical agility on the part of its audiences. To work with the wrong categories is to have a better working knowledge of the right categories, the naturalized and expected ones, the ones that narrow our vision.[4]

> Based on the random sample data collected during their four weeks spent in Atlanta, Jon and Alison mainly ate bagels or quesadillas, and drank a lot of grapefruit juice. They were listening to music most of the time, and seemed unnaturally preoccupied by air conditioning, heating, fans and dehumidifiers. They also checked their email rather often.

Notes

1. W. Benjamin, 'The work of art in the age of mechanical reproduction' in *Illuminations*, H. Arendt (ed.), New York, Shocken Books, 1969, p. 237.
2. Benjamin, 'The Work of Art', p. 231.
3. C. Marvin, *When Old Technologies Were New*, Oxford, Oxford University Press, 1988, and: S. Woolgar (ed.) *Virtual Society? Technology, Cyberbole, Reality*, Oxford, Oxford University Press, 2002.
4. *Template Cinema* and documentation of *Short Films about Flying* can be found at these websites. Available HTTP: <http://www.templatecinema.com>; and <http://www.thomson-craighead.net/docs/sfafdoc.html> (both accessed, 12 March 2005).

Chapter 12

If networked art is the answer what is the question?

Lucy Kimbell

At some point during the early part of 2005 some words will be fixed on, approved by the editor, copy-edited, laid out by the designer, checked again for sense, proof-read, and finally printed, but this page is still being written. It's a permanent work in progress. Even once I get my first copy of this publication I will still be trying to work out how to write this and what to write. This piece of writing will point at some of the other things I have done and will do, and transform them in some way. It will become another companion, another prop, another element of the assemblage I call a practice, another object in the network-of-me relating to other elements within it, human and non-human, interfering with them and distorting them.

Networked art practice might be seen as a way of describing the characteristics of networks or relations. 'Discourse', 'investigation', 'critique' and 'intervention' are words often used by, or about the work of, artists who work in this way, inheriting the conceptual tools and languages of art after modernism. Perhaps networked art is a way to imagine what networks are for, a way of working things out by trying things out. It might be able to forge new relations between things by presenting new kinds of assemblage. It may make visible the effects that different elements have on one another by producing records that are entangled with the things they are recording and their means of production. It might show that relations are not external to us – something outside of people or things – but enter into us, and we into them.[1]

None of the projects described here set out to be investigations of networks but all instantiate networks to investigate the production and interpretation of data – making visible relations between objects and people, whose relating-to-one-another forms both the material and subject of the work. The projects I describe are not grounded in any one discipline although they approximate most closely to art and to interaction design, both contested categories, one ancient, one emerging. Often deploying or undertaking research, they can resemble management initiatives or social science, in most cases a flawed or failed version spawning bastardized methods and methodologies, tools and techniques.[2] There are barely research questions let alone answers. Sometimes unresolved or made without great skill and not fully realized, they do not propose ideas or even illustrate theory. Littering this text with quotes from this year's theoretical canon is not going to help me make an argument other than this: that not-knowing seems to matter, practicing seems to matter, failing matters.

While not based in any one discipline, the practice and the projects described here nonetheless are situated in contexts that include the geographical (Europe, UK,

London); the institutional (temporary homes within academic art and design contexts in Oxford, London and Plymouth); the experience of having worked in many different environments including news journalism, digital media design, management, innovation consulting, and higher education; the embodiedness of being female, white, born in the 1960s; and working in response to (and sometimes in spite of) commercial and funding opportunities.

These networked projects are not necessarily digitally networked, although they are a digestion of the experience of using and producing information and communications technologies. But they are live. Liveness matters. They are choreographed, scripted and animated with object-oriented behaviours whose often simple rules deliver aesthetic complexities that dis/please the mind, the eye and the ear. Software must be live because code runs; reading and speaking and listening are live practices; making things with others involves being, breathing and eating together. Flows and patterns matter. The projects require someone or something to be there.

Traditional art objects matter less. This art need only have one object or no object at all. There is no such thing as a singular object, a thing-on-its-own.[3] There is always some kind of relating. There is some kind of flow, or circulation of giving and receiving. As contemporary art staggers from visual spectacle to relational aesthetics to politics to beauty and back again, it is worth asking what the emergent category of networked art can add to what is already happening elsewhere within visual and live art practices. The foundation myths of networked art in cybernetics, systems art, art & technology, kinetic and performance art point to the importance of information and data rather than technology.[4] In networked art, the performance of gathering, analysing, presenting and reading data can be achieved with many technologies, which may well not be electronic. The making of it is what matters.

Why didn't you start with Marx?

One day in 2001 I designed a nine-page form and started giving it to people I knew. The document stated that I was conducting an audit asking people who knew me what they thought I was worth. The form made clear that both it, and responses to it, were part of an art project with some unknown public outcome. The first page included a box asking the reader-participant to sign away their rights to the artwork and to describe their relationship to me. The small print, in the same font size as the rest of the form, stated that I hoped that their process of filling in the form and my reading it would not affect our future relationship.

The form proposed a number of categories, different ways of thinking about my value to the respondent including financial, cultural, social and environmental aspects and concluded with a section concerned with my value to the person filling in the form. My criteria for participant selection were intuitive rather than analytical, although I did make sure there was a mix, from people who knew me extremely well, including members of my family and close friends; to people I had worked with, such as clients, collaborators and co-workers; to people I ran into from time to time; to people I had met only once or twice. The latter felt able to fill in the form promptly and easily, in contrast to the people with whom I had a greater intimacy who were more unwilling, or unable, to do so. I gave it to some people I didn't like or trust very much and people I thought did not like or trust me. I gave it to people I fancied or

Audit

10.8	How much would you pay to have my personal advice on your financial affairs?
	£ 40 per hour I see what you're doing
10.9	How much would you pay to have my personal advice on your spiritual affairs?
	£ 06.02 per hour (teach me)
10.10	If there anything else I might be able to do for you that you would pay me for? What and how much?
	Activity: £ per hour

Space for your notes:

I'm beginning to wish this wasn't for public consumption. I'm drunk + I don't want my rare accompanying words. I feel more exposed than you do... I sense I have less power in answering... right now. — the empty words, do = ART + it's depiction of its audience Anyway,

11 The value of this audit

	Questions
11.1	Do you consider this audit to be an artwork? *Please circle one*
	(Yes) No Not sure
	If you answered No, *please go to question 11.5*
11.2	If you answered *Yes* or *Not sure* to question 11.1, what do you think the financial value of this artwork should be?
	£ 15
11.3	Do you consider yourself to be a collaborator in the creation on this artwork? *Please circle one*
	(Yes) No Not sure
	If you answered No, *please go to question 11.5*
11.4	If you answered *Yes* or *Not sure* to question 11.3, do you think you ought to benefit financially from this artwork? *Please circle one*
	(Yes) No Not sure

Figure 12.1 Completed questionnaire from *Audit*, 2002.

had been involved with sexually. Sometimes I was with the respondent when they filled in the form, watching their face as they reacted to each question with curiosity, authority, confusion or amusement. Towards the end of the project I did this often to be sure of getting the form back. I had a deadline.

The design of the form took respondents from the speculative to the invasive. The first questions asked them to estimate my financial worth, the sort of thing that often goes through my mind when I meet someone. *How much will I earn this year? What percentage of this year's income will come from art? Do I earn a reasonable living?* The next section concerns my cultural value. *How many of my projects have they seen, read or engaged with? How would they rate my contribution to contemporary art?* On subsequent pages, the questions became more interfering and more irresponsible, where the irresponsibility lies not just in my asking the question but in the participant's deciding to answer it. *Would I be a good parent? Should I have children?* How could they know? How could they tell me this? After a section which asked them to count how often they had seen me do something positive or negative impacting on the environment, I asked participants to determine my value to them. *How many times do they think about me per month? What would they pay me for help with their work? What have they learned from me? What would they miss if I died?* Finally I asked people to consider the value of the audit as an artwork and, if they thought they were collaborators, whether they should benefit from their involvement in it. The document included both open and closed questions, multiple and binary choices.

Some of the responses upset me.

Some of the questions left unanswered by some respondents made me angry or left me confused.

Some answers made me want to go back to the person and ask what lay behind a response. But mostly I didn't do this. I wanted to keep the audit separate from my ongoing relating to respondents. I think I avoided giving direct feedback to the feedback but the responses did feed into our interactions. How could they not?

I distributed 69 forms, and received back 56 completed ones within a year, by which time I was working towards turning the audit into a book.[5] Getting back that number required nagging, charm offensives, and maintaining people's trust. The getting of the data required both me and the participants to give and receive in novel ways. Some people responded to my invitation to ignore some questions or create their own. Some people filled in all the questions, obedient to the technology of the questionnaire. Others agonized in their doodling and scribbling, telling me in phone calls and emails how much they hated doing it but forcing themselves to fill it in, for me.

Why don't you have a conclusion?

This *Audit* project involved the design of a process, the gathering of data, the interpretation of the data and the presentation of results. I was the subject of the research but also the commissioner, the researcher, the co-designer of the book and its editor.[6] Having designed my bastard form, I initiated conversations with practitioners and theorists from other disciplines to help me understand what I was doing. These included an economist, a psychoanalyst, a sociologist, a cultural theorist, an estate agent, and an auditor. Excerpts from these conversations are published in the book.

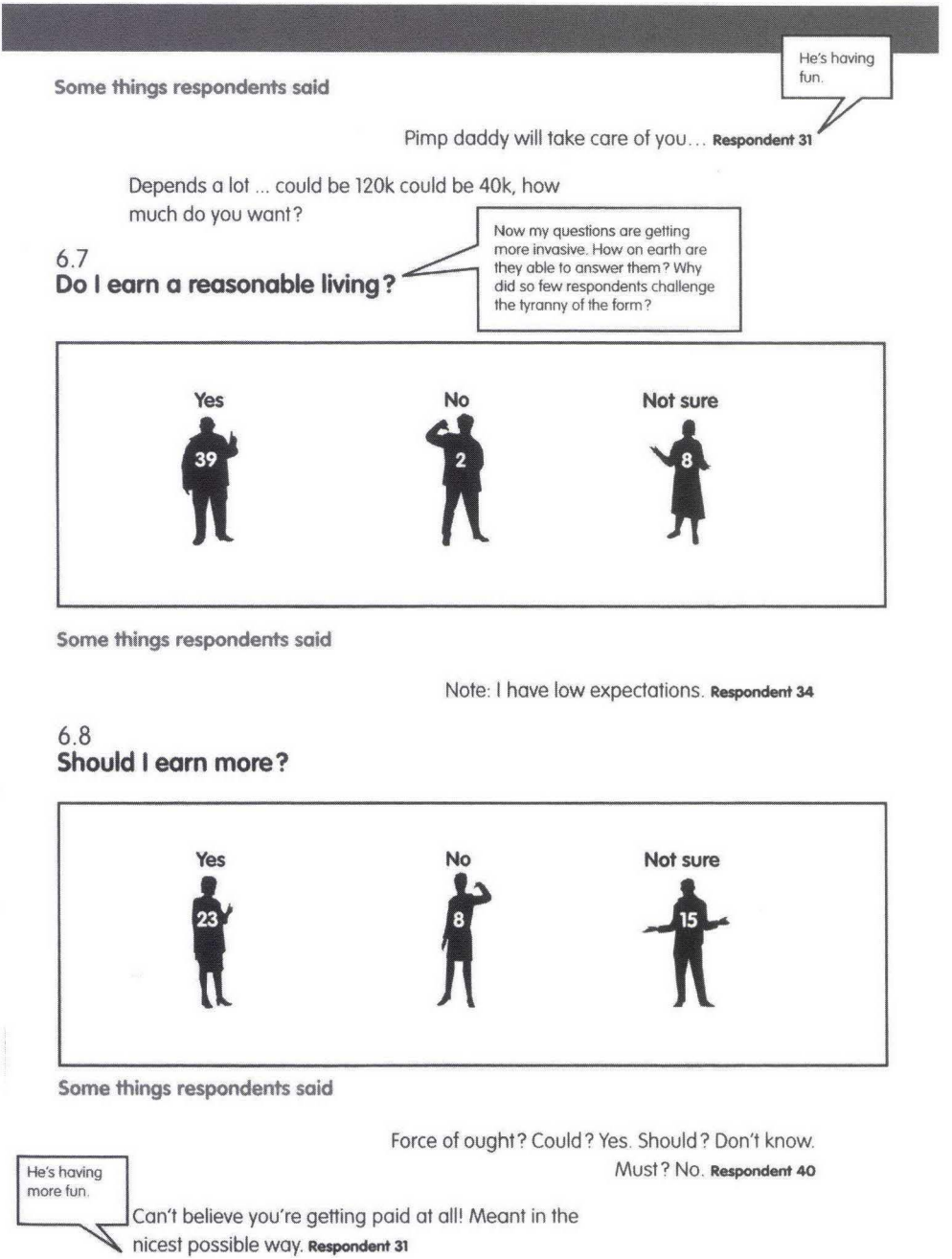


Figure 12.2 Graphic from the book *Audit*, 2002, © Book Works and Lucy Kimbell.

Figure 12.3 Screengrab from *LIX Index* website, 2002–3.

Together, their response to my unregulated process tells the reader something about how value is understood in these knowledge spaces.

The auditor took some time to find. When I met him at his central London office some months into the project, Richard Nichol generously took the time to explain to me that what I was doing was not, in fact, an audit (although the word has become used in organizational contexts as a synonym for measuring or counting things, with unfortunate effects). Within the framework of financial auditing practice, what I was doing was *research*. The audit would happen if I commissioned an independent person to check whether the data gathering had been done accurately and to determine whether the conclusion I had reached was a true and fair view of my worth. But I was not intending to produce a statement of my worth. The project could not ever reach a conclusion – having begun as a questionnaire-doodle, it was now designed to produce a book, a thing for reading, which showed something about the spaces between me and the respondents, and the means by which we formulate and communicate knowledge about each other, shaped by the concerns and vocabularies of our times. Including a transcript of the conversation with the auditor in the book was a way of acknowledging the origins of the contemporary use of audit and my imitative but flawed process. No one, other than the auditor, pointed out that it wasn't really an audit, so deeply has the practice of audit become intertwined with *finding things out*.[7]

How did it affect your life during the project and afterwards?

The same year that I produced *Audit*, I undertook another durational project concerned with evaluating myself through relations. If *Audit* proposed a framework through which I invited other people to describe my worth, in *The LIX Index* I created a mostly closed system in which I appeared to measure my own performance as a human

being.[8] For one year I gathered and combined over 50 different weekly indicators from my life and published the resulting index on the Web reducing my weekly performance to a number, fleshed out with occasional written reports. A graph showed the variation of the LIX against the FTSE 100 index of the London Stock Exchange and the temperature in London, where I live.

In a similar way to *Audit*, I created a slightly ludicrous list of things to be measured, here concerned with my week-to-week lived experience, including both emotions, health, work, environment, wealth, interactions with other people, pleasure and spirituality. The project drew on and departed from management theories and tools attempting to measure intangibles within organizations and developments in economics attempting to quantify quality of life. As well as engaging with these practices, it coincided with the transition from blogging being a specialist activity among the tech-savvy to a popular activity of public diary-writing and linking. Launched with a short documentary broadcast on mainstream television, this project attracted in particular people negotiating the reality of evaluation culture within their organizations.

The LIX's raw material was weekly numbers rather than explanations for them but getting accurate data was not important; approximations to my truth were adequate[9] and the data were almost unverifiable by third parties. I constructed the index so that several individual factors appeared many times in different 'assets', weighted appropriately and in some cases negatively. As a result of this complicated model, the LIX fluctuated wildly, sometimes heading into negative territory and often reaching extreme multiples of the values I had imagined when I created it. As I typed in the data into the database each Sunday evening, I often found myself curious about how the LIX would come out. Earnings were down a little but emotionally things were good and I had many projects on the go ... so why was the LIX tanking? Damn those world events and bad dreams with their high, negative weightings. In the short reports I wrote and posted on the website (also sent out via email and SMS) I found myself reassuring the audience that the LIX might be down to minus 40,000 or so, but things really weren't that bad.

If it was not about the truth of the data, the project did become about the labour involved in producing it. The way I had structured the LIX meant that I was committed to producing weekly data. By month three it was becoming dull, by month six annoying, and by the end of the project updating the LIX was definitely work. But I had an audience who, according to email correspondence, were keeping an eye on the website, both strangers and people I knew. On several occasions during the year I would go to meet an acquaintance or friend and discover they had checked the website beforehand. Many of them seemed to confuse the LIX – a 'big picture' index representing my overall performance – with a representation of my emotional state. They found it puzzling that the LIX might be up while I was down or vice versa. My performance slipped messily from the Web to real life and back again, much as I imagined it would.

Both *Audit* and *The LIX Index* involved a data source which was accessible (data on or about me) and a data-gathering process which was cheap (my labour). Two later projects have reworked some of these ideas resulting in interfaces and artefacts for larger audiences in two different contexts. The first, *Making a Difference at the University of Plymouth*, was sited in a university building, while the second, *Personal Political Indices* (*Pindices*), involved both a gallery and a Web project.

13 May 2002 - LIX behaves strangely

One week it's down 48%, the following week it's recovering slightly, a week later the LIX is up over 80%. Phew, what a rollercoaster. Irrationally exuberant, moi? it's difficult to predict where the LIX will head next because the conceptual model is a work-in-progress. The underlying factors that are measured each week (see 'LIX data' on the web site) are bundled together in ways that made sense in early April when we had a deadline because of the Channel 4 film transmission. But as the days get longer, and the air is warmer, perhaps it's time to reconsider how the LIX is calculated and reweight the index. One of the assets - emotional buoyancy - is perhaps overvalued.

14 October 2002 - The LIX is not really at minus 45,649

I woke up this morning and saw that the LIX was down 584%. This suggests there is a significant flaw in the weightings I created back in April as applied to last week's data. In April I had nine projects on the go, was moving house and no personal life to speak of. Here we are some months later and I have hardly anything on the go but my emotions. It seems that in the design of the index I privileged work-related factors - "how-am-I-managing-to-cope-with-all-this-work-and-all-these-connections". Shared meals with others were rare and valuable. Time for reflection was limited. Flanerie was rare. Now my wandering around is no longer flanerie, it's just pedestrian. Things are different, and instinct, rather than data analysis, tells me the LIX is way up.

9 December 2002 - LIX smoother ahead of holidays

A number of indicators are down - including London average temperature and hours of sunlight and income, but many other factors are up. The list of things that matter that are not included in the LIX seems to lengthen every week. One of them is the number of weeks in which I have to fill in the weekly data for the LIX.

Figure 12.4 Comments from *LIX Index* website, 2002–3.

How did you get interested in ideas of value?

When the Portland Square building at the University of Plymouth was commissioned, the research group i-dat within the School of Computing persuaded the university to invest in a data-gathering and presentation system they had designed called Arch-OS and embed it within the architecture. My project there emerged after several months of getting to know this system and the host institution.[10]

Do organizations exist in a way that is distinct from the individuals who form them? Over several years I had been observing how organizations function from my perspective as a freelance journalist, postgraduate student, designer pitching for work, or citizen interfacing with government agencies. I became interested in how

Figure 12.5 Dave, the security guard, saying he wants to make a difference in *Making a Difference at the University of Plymouth*, 2004.

individuals responded to the contexts in which they were embedded and which they helped produce. I noticed that some of the people I knew who worked in large corporations (or in small companies who had dealings with bigger ones) – often struggling with making sense of what they were doing there – would use a phrase that sounded purposeful. 'I want to make a difference', said the woman running a headhunting operation in the City of London. 'I want to make a difference', declared the man in charge of customer service for an airline. How much of a difference could they, or I, or anyone make, even working in public services? How can we know? What were the implications of attempting to make a difference without considering the political and social context in which one decided to act? In this phrase, a sort of corporate mantra for the depoliticized, I heard a desire to make or find meaning, to instantiate self-worth, to make visible individual value.

These ideas developed further during my visits to Plymouth. Like other UK higher education institutions, Plymouth is adopting the behaviours and characteristics of a corporation. It seemed a good opportunity to develop a project that disturbed these day-to-day realities in a semi-public context.

Combining a live event, a real-time digital system built into a university building, audio, email and the Web, *Making a Difference at the University of Plymouth* offered audiences several different ways of engaging. Using Arch-OS and some extra electronics,[11] visitors to Portland Square had the ability to 'make a difference' to what

Figure 12.6 Observation of behaviour of passers-by in the atrium where the wall plaque was sited in *Making a Difference at the University of Plymouth*, 2004.

Figure 12.7 Observation of behaviour of passers-by in the atrium where the wall plaque was sited in *Making a Difference at the University of Plymouth*, 2004.

went on by pressing a button on a wall plaque located in one of the three atria. Each button press triggered a sound to play through 56 speakers located throughout its public spaces. What people heard was the (pre-recorded) voices of people who use or work in the building saying 'I want to make a difference'. Over the fortnight, individual sound files began to combine to form a chorus of many layers, a crescendo of voices saying they wanted to make a difference. By the end, they really, really, really wanted to make a difference. In addition, the system counted how many people made a difference in this way. The results of this data-gathering were presented on the Web with graphs showing activity for a given day, and for the whole two weeks. Finally,

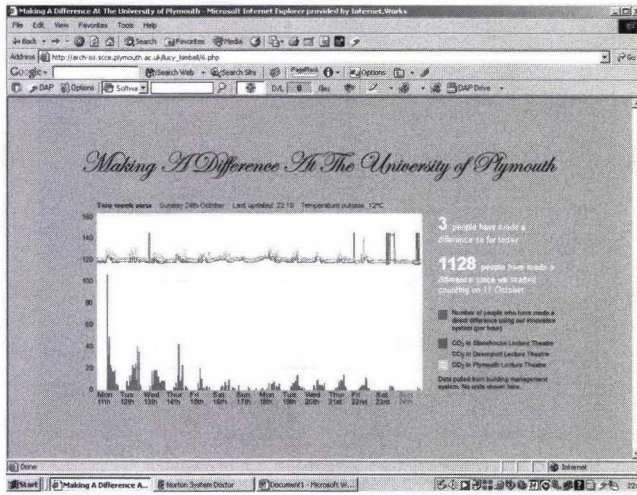


Figure 12.8 Screengrab from *Making a Difference at the University of Plymouth* website showing how many people made a difference and the CO_2 levels in three lecture theatres, 2004.

each button press triggered an email to the university's Vice-Chancellor, saying someone wanted to make a difference, a symbolic puncturing of the university's administration. Badges saying 'I made a difference' were distributed to those who had participated at the launch event, at which the V-C unveiled the plaque and became the first person to make a difference.

The text on the wall plaque asked 'Do you want to make a difference?' Pressing the button indicated the affirmative. There was no opportunity to tell the system you didn't want to make a difference, other than by ignoring it.

People did press the button (starting with the cleaners and security guards at 6 am), presumably initially out of curiosity but, once they knew what the result would be, perhaps out of a desire to make a noise within the building, or perhaps to connect with the intimacy and fragility of the voices. Some people laughed as they walked away from doing so. Others looked puzzled and amused to hear voices in the atria and corridors. Others in offices near the speakers got annoyed and at least one tried to have the audio turned off. Some passers-by noticed the seven vinyl texts positioned around the building inviting them to 'make a difference'. Students waiting outside a lecture theatre watched the plasma screen which displayed the latest graphs from the website. The i-dat research group found itself much more visible within the university, having to account for this interference and the noise.

How do you know if you've been successful?

The website's graphs revealed how and when people were directly engaged. A cursory look at the data reveals how button-pressing tails off in the second week. How might I account for these variations if I were required to do an evaluation of this project? Perhaps the project was less successful towards the end, or perhaps it was more

successful? Perhaps the students, staff and visitors, who knew what the button did, began to decide responsibly not to press it as they passed by the plaque? Or maybe their initial curiosity in response to this initiative had worn off.

My continuing interest in how people behave shapes the final project described here, resulting in another piece of bad social science/networked art. *Pindices* is a collaboration with sociologist Andrew Barry,[12] where we attempted to make something that brought together our individual practices. Reflecting on earlier projects led us to think about the nature of political activity and how this is represented. We began individually to log the acts we performed each week which we considered to be political, or acts we associated with being a citizen, and asked each other to account for them when we met. This led to our designing a way to study and make public personal political activity (including our own).

In *Pindices*, we did not propose a definition of what is political which, depending on any given theory, could be everything or hardly anything. Instead we offered a framework which made manifest a representation of what an individual person considers to be their political or citizenship acts. We started from the observation that political activity is common enough, but certainly does not happen all the time. Nor, of course, is political activity just carried out by politicians or by activists. And we did not think it was everywhere. It is only occasionally that individuals or groups are engaged in acts that have wider significance and raise political issues. For us, objects and signs are not intrinsically political, but they can be made so. An act is political when it demonstrates that an issue that people are generally unaware of, or is considered simply as private matter, should be a matter of wider collective concern – when it is situated within relations.

Our project design made a distinction between *politicizing* acts and *citizenship* acts, and between routine and inventive acts.[13] Its basic material is the acts an individual may perform week by week which they consider to be political, represented through button badges. The project was realized through three complementary forms designed to reveal the apparatus we designed: a gallery work exhibited in an interdisciplinary exhibition, a website, and some live research in public spaces.[14]

The gallery work consisted of 12 tall tube dispensers, each initially full of button badges, to which visitors could help themselves. Each tube contained badges in one colour with a label describing a particular, generic act such as 'I raised issues', 'I used public services', or 'I protested' (in German and English). Made of see-through vinyl, the dispensers also served to represent which badges gallery visitors selected, appearing from a distance to be physical bar charts, a snapshot of the data in sculptural form. Behind the tubes were around 90 drawings showing the different ways people we interviewed in London arranged the badges they had selected on their coats and jackets. We asked the gallery to take a photo of the levels of the tubes each week (from a specific point marked on the floor) showing which badges were entering into circulation, an artefact produced by the labour of the gallery assistants. Thus we presented both data-gathering and an attempt at creating some meaning from it.

The second element in this assemblage was the website, live for the duration of the exhibition. Website visitors were invited to become participants by creating their own personal political index and updating it weekly, making public their level of political

Figure 12.9 Andrew Barry and Lucy Kimbell invite passers-by at Spitalfields Market, London, to help themselves to badges for *Pindices*, 2005.

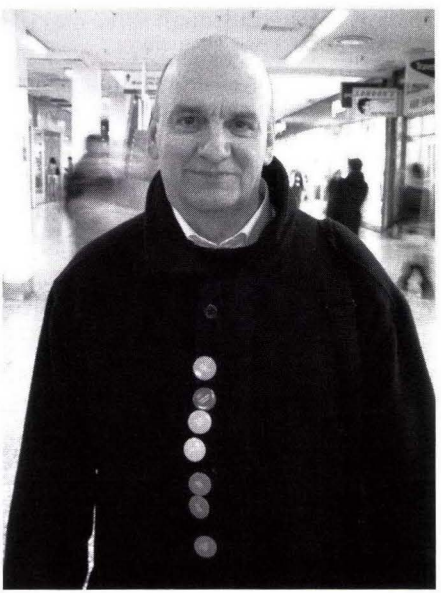


Figure 12.10 Participant wearing badges he selected. *Pindices*, 2005.

Figure 12.11 Participant wearing badges she selected, *Pindices*, 2005.

and citizenship activity as they defined it. Participants used the website to record the acts they had performed from an initial list of politicizing or citizenship acts we assembled, and which was added to during the project. The website then published how many acts had been performed, whether participants considered them to be citizenship or politicizing, inventive or not, together with any commentary participants offered. Since the major distinction we found ourselves making was whether an act was a politicizing act or a citizenship act – the former being rarer in our view – the home page showed at a glance where participants, according to their own reckonings, sat on a scale between 'political actor' and 'active citizen'.

Although the project was concerned with how political activity is made visible, we did not seek to track where all the thousands of badges ended up. We can only speculate what effect a candy-coloured individual badge might have, worn on someone's jacket, left in an ashtray or on a mantelpiece. The circulation of these objects among gallery visitors leaves an unrecorded trace which is, we imagine, possibly as interesting as the website or gallery devices. We don't want to know everything. We don't think we can.

What is the point of your work?

Contemporary art and design practices struggle to find a way to communicate their activity and its meaning beyond the sometimes limited circulations within each discipline. In the UK, the mainstream media's attempts to digest what some artists and designers are doing still results in wearying labels such as 'controversial' and regular calls for the return of painting or anything that involves visual skill and

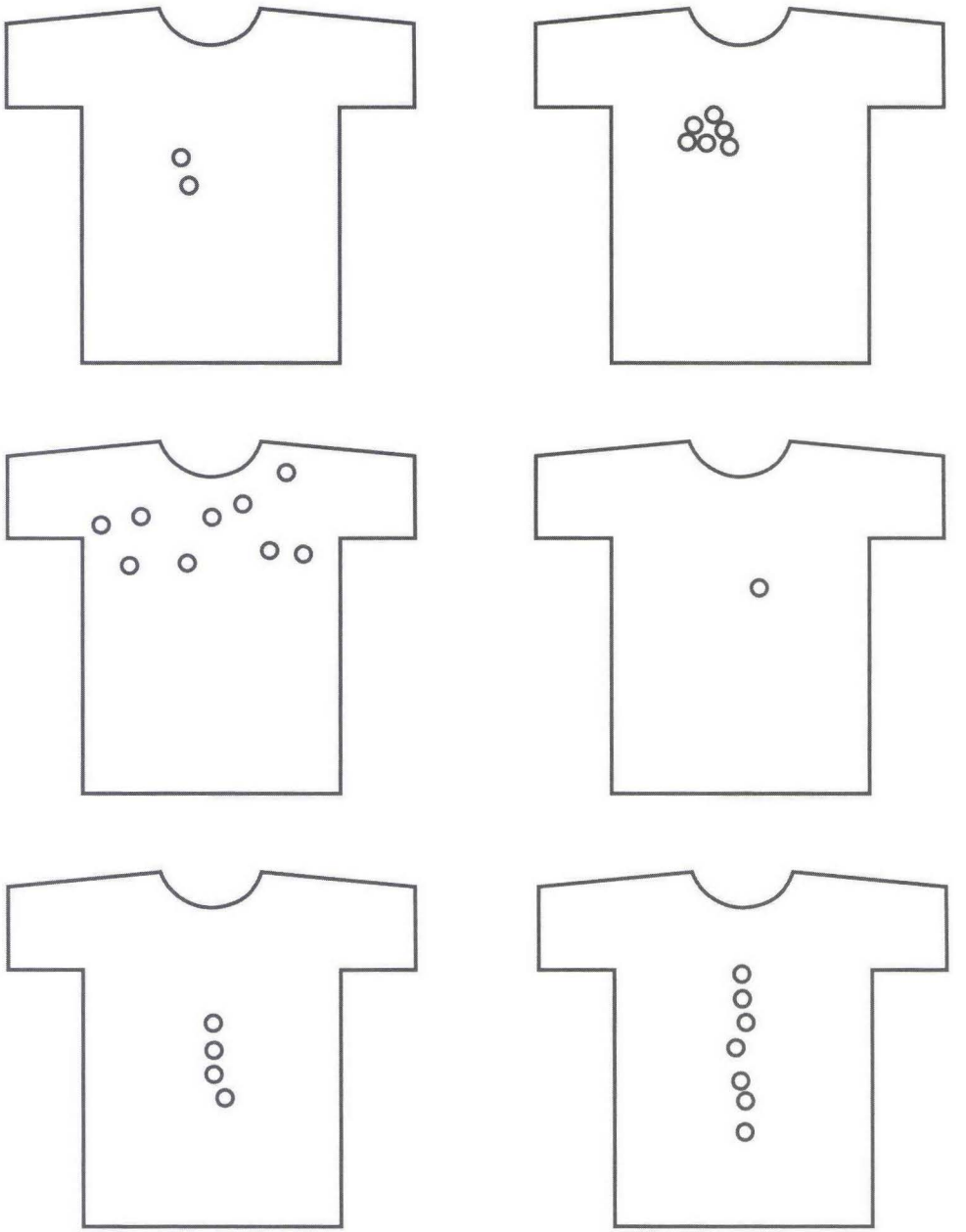


Figure 12.12 Some of the ways people arranged their badges, *Pindices*, 2005.

is recognizable as traditional art. Artists making projects which use or initiate social processes (requiring other kinds of skill) as well as, or rather than, objects, still have a harder time of it even if their work receives recognition within art world institutions.[15] One way of looking at these practices is to say that artists and designers

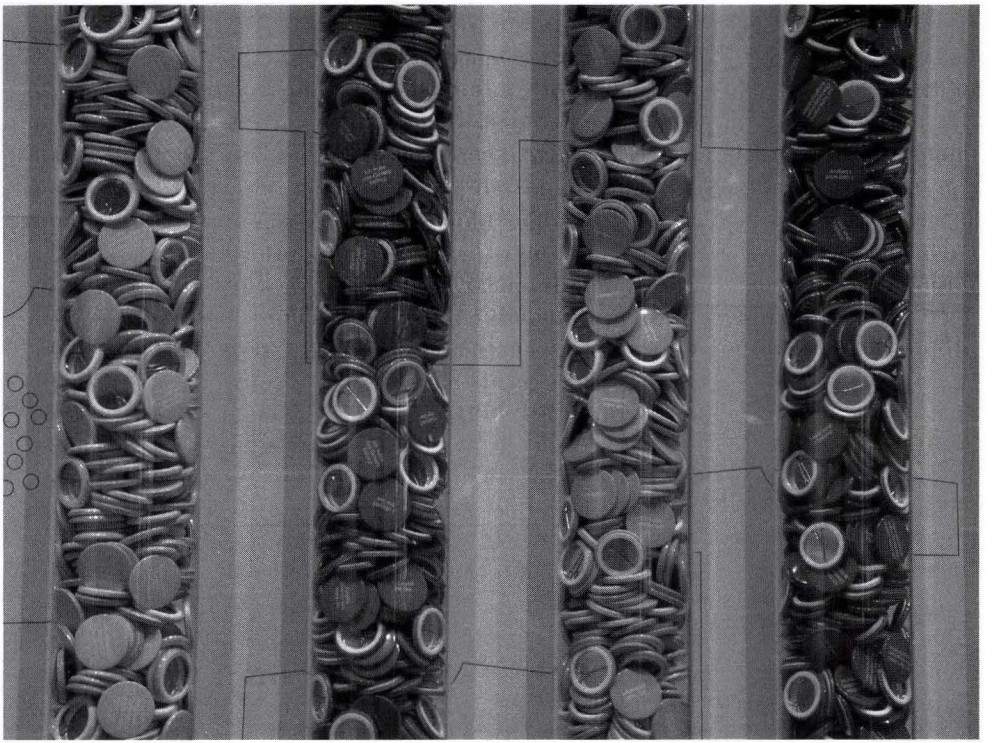


Figure 12.13 Close up of badges in tube dispensers in gallery at ZKM, *Pindices*, 2005.

are in essence making assemblages shaped by individual aesthetics. The practitioner's job is to invent his or her own algorithm and apply it to materials, interfaces, situations and artefacts as required – which is more or less what curator Jack Burnham argued in the 1960s. Many of the issues raised by pervasive digital technologies, especially the Internet, were articulated a generation ago in his writing and curating.

> As a culture producer, man has traditionally claimed the title *Homo Faber: man the maker* (of tools and images). With continued advances in the industrial revolution, he assumes a new and more critical function. As *Homo Arbiter Formae* his prime role becomes that of man the maker of esthetic decisions.[16]

Perhaps networked art can go beyond this by acknowledging the relations that are entangled in making aesthetic decisions that cannot be captured in the idea of the system. If networked art involves making records that tell us something about relations between people and people, and people and things, and things and things, this record-making cannot be understood as a matter of an artist putting an algorithm into operation. What it can do, perhaps, is make manifest that these records have affects and that they are situated within relations. Like this essay, once they exist and are made public, they enter into us and we into them.

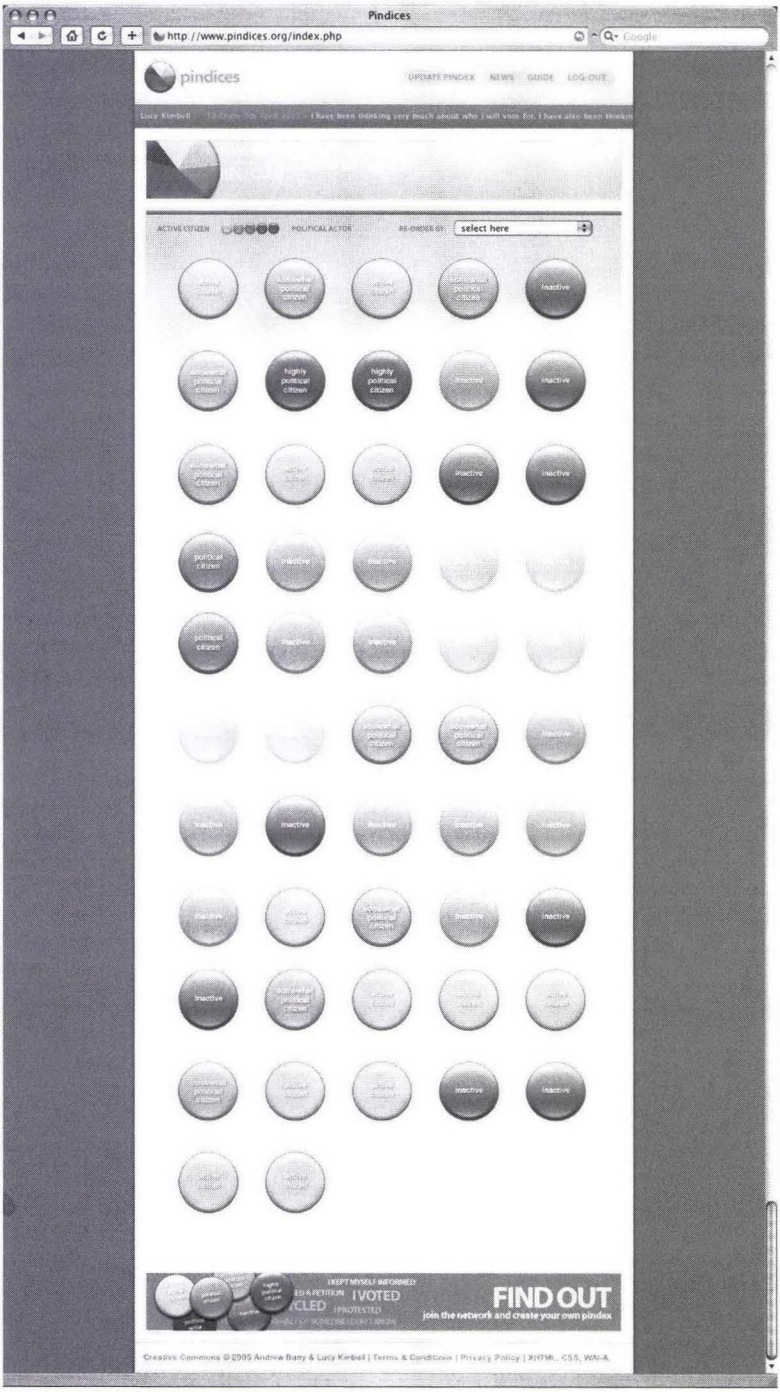


Figure 12.14 Screengrab of *Pindices* web project home page showing current status of participants' web badges, 2005.

Acknowledgements

Between 2003–05 I was an Arts and Humanities Research Board Creative and Performing Arts Fellow at the Ruskin School of Drawing and Fine Art, University of Oxford. *Making a Difference at the University of Plymouth* and *Pindices* are outputs of this research.

My thanks to Andrew Barry for his comments on this piece of writing.

Notes

1. D. Haraway, *Simians, Cyborgs and Women*, London: FaB, 1991, *The Companion Species Manifesto*, Chicago, Chicago University Press, 1993; B. Latour, *We Have Never Been Modern*. Hemel Hempstead: Harvester Wheatsheaf, 1993.
2. In the 1930s Mass Observation developed the idea of bringing together the work of social researchers, documentarists and artists.
3. D. Haraway, *Simians*.
4. Of particular note is the work of Art & Language, Roy Ascott, Jack Burnham, John Cage, EAT, Hans Haacke, John Latham and Barbara Steveni, and Stephen Willats in the 1960s and 1970s. See C. Gere 'When new media was new: A history of the use of new technologies in art in the post-war era,' in *New Media Art: Practice and Context in the UK 1994–2004*, L. Kimbell (ed.), Arts Council England, London, and Cornerhouse Publications, Manchester, 2004; J. Latham and B. Steveni, *Art as Social Strategy in Institutions and Organisation*, London, 1980; P. Bourdieu and H. Haacke, *Free Exchange*, Cambridge: Polity, 1995; J. Burnham, *Beyond Modern Sculpture: the Effects of Science and Technology on the Sculpture of this Century*, London: Allen Lane, 1968. Latham and Steveni's work with the Artist Placement Group is currently the object of a major archival project by Tate Britain.
5. L. Kimbell, *Audit*. London: Book Works, 2002.
6. I designed *Audit* with Fiona Hevey and Carlo Tartaglia and edited it with help from Jane Rolo, director of Book Works.
7. On the growth of audit and its consequences see M. Power, *The Audit Society: Rituals of Verification*, Oxford: Clarendon, 1997.
8. *The LIX Index* was commissioned by Arts Council England and Channel 4 television and curated by Film and Video Umbrella (who had originally commissioned me to develop the idea in 2001), one of four projects called *Identinet*. A film about the LIX directed by Brad Butler was broadcast on Channel 4 just before the soap opera *Brookside* in April 2002. Visual design by Carlo Tartaglia based on an earlier version by Damian Jacques. I>dent/net, Channel 4 and The Arts Council. Online. Available HTTP: <http://www.identinet.net> (accessed 9 January 2005).
9. This approach is in contrast with the work of Nottingham-based artist Ellie Harrison who has absurdly gathered accurate day-to-day data about herself in several projects, often using consumer electronic devices. See Ellie Harrison. Online. Available HTTP: <http://www.ellieharrison.com> (accessed 9 March 2005).
10. *Making a Difference at the University of Plymouth* was live for two weeks during October 2004. Institute of Digital Art and Technology, University of Plymouth. Online. Available HTTP:<http://www.i-dat.org> (accessed 2 March 2005).
11. Software development by George Grinsted and electronics by Erik Kearney.
12. Dr Andrew Barry is director of the Centre for the Study of Invention and Social Process at Goldsmiths College, London.
13. The distinction between routine and inventive is drawn loosely from the work of Gabriel Tarde, *On Communication and Social Influence*, Chicago: Chicago University Press, 1969, section III.
14. A. Barry and L. Kimbell 'Pindices,' in *Making Things Public*. B. Latour and P. Weibel (eds). Cambridge MA: MIT Press, 2005. *Pindices* was commissioned for the exhibition *Making Things Public: Atmospheres of Democracy*, curated by Bruno Latour and Peter Weibel at the Center for Art and Media (ZKM), Karlsruhe, Germany, March–August 2005.

For the website, George Grinsted collaborated on concept development and built and maintained the site, with interface design by Lee Parry. Anthony Mace of *Radarstation* helped design the dispensers for the gallery. Leaflet design by Joseph Malia. Photographs by Mathew Kabatoff. Online. Available HTTP:<http://www.pindices.org> (accessed 12 March 2005).

15. Turner Prize 2004 winner Jeremy Deller's statement 'I don't make things. I make things happen' is a succinct description of his practice inviting us to consider where else artists might make things if they work beyond objects created for art institutional walls or floors.
16. J. Burnham, 'Systems esthetics', in *Artforum*, vol. 7, no. 1, September 1968, p. 35.

Dow Chemical just says 'yes' to Bhopal*

The Yes Men

The Yes Men are a genderless, loose-knit association of some 300 impostors worldwide, who use satire, spoofs and pranks to provide a glimpse at the behind-the-scenes operations of big business. Andy and Mike, two Yes Men operatives, narrate this story, as they strive to raise public awareness of the Bhopal disaster. Read on ...

On November 29, 2004, an email comes in to DowEthics.com: BBC World Television wants a Dow representative to discuss, four days hence, the company's position on the worst industrial accident in history.

In the early morning hours of December 3, 1984, Union Carbide's poorly maintained Bhopal plant released a cloud of toxic gas that killed 5000 people. Over the next 20 years, an estimated 15,000 more have died from the toxicity, which Union Carbide never cleaned up, abandoning the site shortly after the accident. Because of the accident, an estimated 120,000 Bhopalis require – but, for the most part, do not receive – lifelong medical care. (Even today, an estimated death every day can be traced to the tons of poisonous goop still lying around and leaking into the groundwater.)

When Dow acquired Union Carbide in 2001, it seemed to be also acquiring Union Carbide's obligations and liabilities. Dow itself seemed to agree, at least so far as its *American* liabilities went: it promptly settled outstanding Carbide lawsuits related to asbestos victims in the United States.[1]

About Bhopal, in contrast, Dow has remained curt and uncompromising: it will not now, or ever, accept responsibility for the disaster at Bhopal.[2] It will do no more than it has already done to help clean up the site, or to compensate the victims, who have only ever seen a maximum of $500 each, enough to pay for just one year of medical care.

There are many reasons for this; most significantly the U.S. court doesn't oblige it to, as cleaning up the site and compensating Bhopalis would make a dent in the company's annual profits, and in the U.S. CEOs who make unprofitable decisions voluntarily are subject to lawsuits by shareholders. Also, Bhopal is by no means Dow's only outstanding liability abroad, let alone the wider chemical industry; accepting responsibility for Bhopal would set a precedent that would make Dow much less popular with its 'colleagues'.

* This article has been edited by Routledge to comply with current libel laws. For more information about this issue, please visit www.theyesmen.org/dowtext/.

Normally, Dow sends a polite refusal to the BBC or anyone else who asks them to talk about this issue. If a spokesperson does consent to say a few words, they are always on the order of this: 'The 1984 gas disaster at the Union Carbide India Limited (UCIL) facility in Bhopal, India, was a human tragedy that should never be forgotten. It is a continuous reminder of the frailty of life and that safety must always be a first priority for industry. This unfortunate event stimulated the chemical industry's Responsible Care® initiative dedicated to continuous improvement in environment, health and safety performance.'[3]

This time around, though, when a BBC researcher asks Dow for a comment, the researcher gets lucky because he has come to DowEthics.com, rather than to the 'real' Dow.

DowEthics.com owes its existence to some attentive Dow lawyers. Two years before this latest anniversary, on December 3, 2002, we sent out a press release to thousands of people from Dow-Chemical.com, a website we'd created expressly to help Dow tell the truth. Our release explained why Dow refuses to take responsibility for the disaster: in a word, because Bhopalis will never be shareholders, and as a publicly owned corporation, Dow is *only* – by nature, definition, charter, and law – beholden to its shareholders. Even if we in the Dow management care as individuals about the victims of Bhopal, and feel responsibility for them, we *cannot* do anything for them. We aren't obliged to, and basically aren't *allowed* to.

As expected, no journalists were fooled, but many understood the point we were trying to make, and a couple wrote articles about our release; as a result, the *New York Times* covered the Bhopal anniversary for the first time in years.

Dow reacted in a different way: it sent a threatening legal notice to Verio, the 'broadband' company that controlled the flow of data to and from Dow-Chemical.com's Internet host, Thing.net.

Twice before, Verio had received such complaints from targets of ours. One came from the World Trade Organization, who were angry about our fake WTO website, GATT.org, and wanted it stopped.[4] On that occasion, Verio did exactly nothing, stating that the WTO should complain to Thing.net, not Verio, since Verio was so far removed from the site. (Thing.net, of course, simply passed the complaint on to us, and we passed it on to a few thousand of our closest friends.)

This time, with Dow rather than the WTO as the source of the gripe, Verio had a different approach: it shut down the entire Thing.net network, which included 100 activist, artist, company, and personal websites and bulletin boards (as well as Dow-Chemical.com).[5] It did this after business hours, when neither of Thing.net's staff of two was on hand to respond.

Thing.net sprang back 12 hours later, and not long afterwards replaced Verio with a smaller broadband provider. Dow-Chemical.com was not so resilient.

On December 6, it suddenly came to our attention that Dow-Chemical.com was no longer owned by us, but by Dow! A flurry of calls to the domain registrar, Gandi.net, resolved the mystery: when we had registered the domain, we had thought it would be funny to list as owner one James Parker, the real son of the real Dow CEO. We even put down his real home address.

On December 4, James Parker himself had sent a xerox of his driver's license to Gandi, declaring that since he was listed as owner, the domain belonged to him.

According to the rules that govern the Internet, Parker was correct, and Gandi had no legal choice but to hand it over.

Fortunately, DowEthics.com was available, and the name reflected better what we were about anyhow: ethics, not chemicals. So we registered it, gave it Dow-Chemical.com's content, and thought no more of it for the next two years.[6]

When the BBC's remarkable invitation arrives, the first thing we do is go nuts for the requisite hour. The second thing we do is look up the price of a ticket to London. Seeing stars, we inform the BBC researcher that Dow's spokesperson, like Andy, lives in Paris, and would prefer to be booked into a studio there. The researcher complies with this wish, and Mr. Jude (patron saint of the impossible) Finisterra (earth's end) is born.

What to do with the five or so minutes Mr. Finisterra will be allotted? Working with some environmentalist friends who helped us write the 2002 release we briefly consider doing a repeat of that, and explaining in frank terms that Dow are not prepared to do anything more to help the people of Bhopal.

The research for this approach has already been done, and even the performance itself would be familiar territory. When, in 2002, GATT.org received a request for a representative from a TV show called CNBC Marketwrap, Andy went on the air as WTO representative Granwyth Hulatberi. He clearly stated, at length, the underpinnings of WTO policy: might makes right, and the poor don't know anything anyway. It was as crude and shocking as we could make it, but somehow it went completely unnoticed. The WTO didn't say anything, and CNBC never issued a retraction. It might as well not have happened.

Since our main purpose today is to get the Bhopal anniversary noticed – especially in the US press, where it's often completely ignored – we decide to take a different tack. Rather than crudely but correctly describe current company policy, the impossible Jude will announce a radical new direction for Dow, one in which the company takes full responsibility for the disaster. He will lay out a straightforward ethical path that Dow will follow to compensate the victims, clean up the plant site, and otherwise help make amends.

There are some risks to this approach. It could create false hope for people who have already suffered for 20 years. But all hopes are false until they're realized, and what are a few minutes of false hope to 20 years of unrealized ones? If it works, this approach could focus a great deal of media attention on the issue. Who knows – it could even somehow force Dow's hand. In any case, it will force Dow to speak – on the anniversary of the disaster, with everyone listening, they will have to refuse to help once again.

We decide to show how another world is possible, and to direct any questions about false hopes for justice in Bhopal directly to Dow.

Another problem we anticipate is backlash for the BBC. This is bothersome, because they have covered Bhopal very well, infinitely better than what we're used to in the US. We would much rather hoax CBS, ABC, NBC, or Fox, but Bhopal does not feature on their news agendas, and so none of those has approached us.

In any case, it didn't seem to hurt CNBC when 'Granwyth Hulatberi' appeared as WTO spokesperson. It was a simple mistake, and one that anyone could make. Intelligent people will not question the excellence of BBC's overall coverage because of an unavoidable error, especially if it is caught quickly and provides for some interesting discussion that wouldn't have happened otherwise.

On the day of the interview, we wake up early and put on our thrift-store suits. Andy nervously runs through his answers once more while Mike fumbles with cameras. A crowded metro ride later, we arrive at the BBC's little Paris studio on the rue du Faubourt Saint-Honoré. A lone technician seats 'Jude' at a table in front of a green screen and helps him with the plastic earpiece.

At 9 am GMT, Dow's spokesperson appears live on the BBC World Service in front of the Eiffel Tower. The host, in London, addresses Finisterra on a large screen.

BBC WORLD: Joining us live from Paris now is Jude Finisterra, He's a spokesman for Dow Chemical, which took over Union Carbide. Good morning to you. A day of commemoration in Bhopal. Do you now accept responsibility for what happened?

Jude Finisterra: Steve, yes. Today is a great day for all of us at Dow, and I think for millions of people around the world as well. It's been 20 years since the disaster and today I'm very, very happy to announce that for the first time, Dow is accepting full responsibility for the Bhopal catastrophe. We have a $12 billion plan to finally, at long last, fully compensate the victims – including the 120,000 who may need medical care for their entire lives – and to fully and swiftly remediate the Bhopal plant site.

When we acquired Union Carbide three years ago we knew what we were getting. Union Carbide is worth $12 billion. We have resolved to liquidate Union Carbide, this nightmare for the world and this headache for Dow, and use the $12 billion to provide more than the $500 per victim which is all that they've seen, a maximum of just about $500 per victim. That is *not* 'plenty good for an Indian', as one of our spokespersons unfortunately said a couple of years ago. In fact, it pays for just one year of medical care. We will *adequately* compensate the victims.

Furthermore, we will perform a full and complete remediation of the Bhopal site, which as you mentioned has still not been cleaned up. When Union Carbide abandoned the site 16 years ago, they left tons of toxic waste on a site that continues to be used as a playground for children. Water continues to be drunk from the groundwater underneath. ... It's a mess, Steve.

BBC World: Jude that's good news that you have finally accepted responsibility. Some people would say too late – three years, almost four years on. How soon is your money going to make a difference to the people in Bhopal?

Jude Finisterra: Well, as soon as we can get it to them, Steve. We've begun the process of liquidating Union Carbide. This is, as you mention, late. But it's the only thing we can do. When we acquired Union Carbide we did settle their liabilities in the United States immediately, and we are now, three years later, prepared to do the same in India. We should have done it three years ago; we are doing it now. I would say that it's better late than never, and I would also like to say that this is no small matter, Steve, this is the first time in history that a publicly held company of anything near the size of Dow has performed an action which is significantly against its bottom line simply because it's the right thing to do. And our shareholders may take a bit of a hit, Steve, but I think that if they're

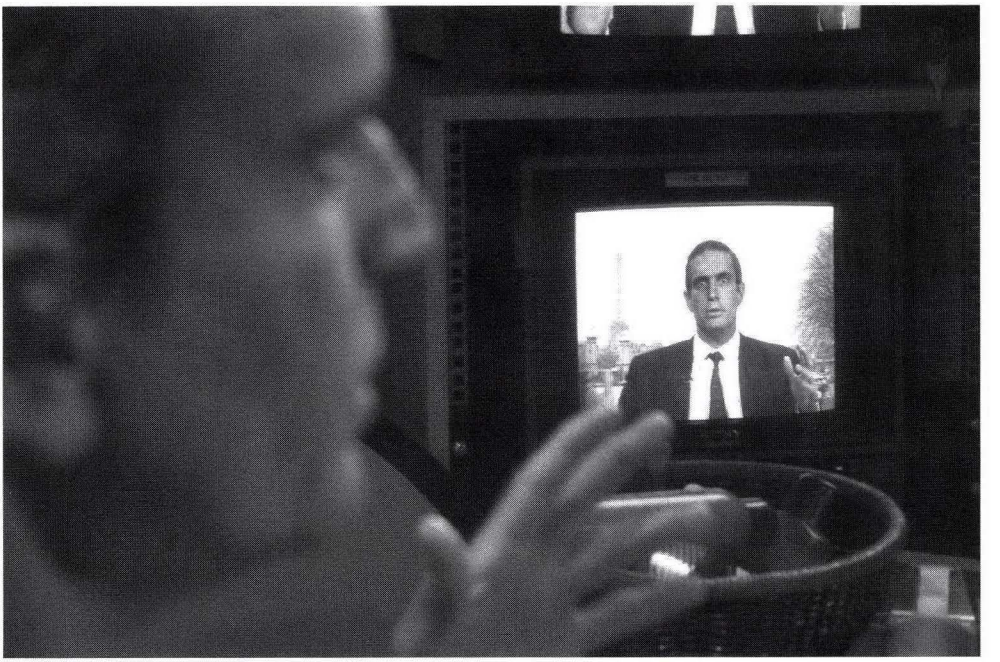


Figure 13.1 Mr. Jude Finisterra BBC studio shot.

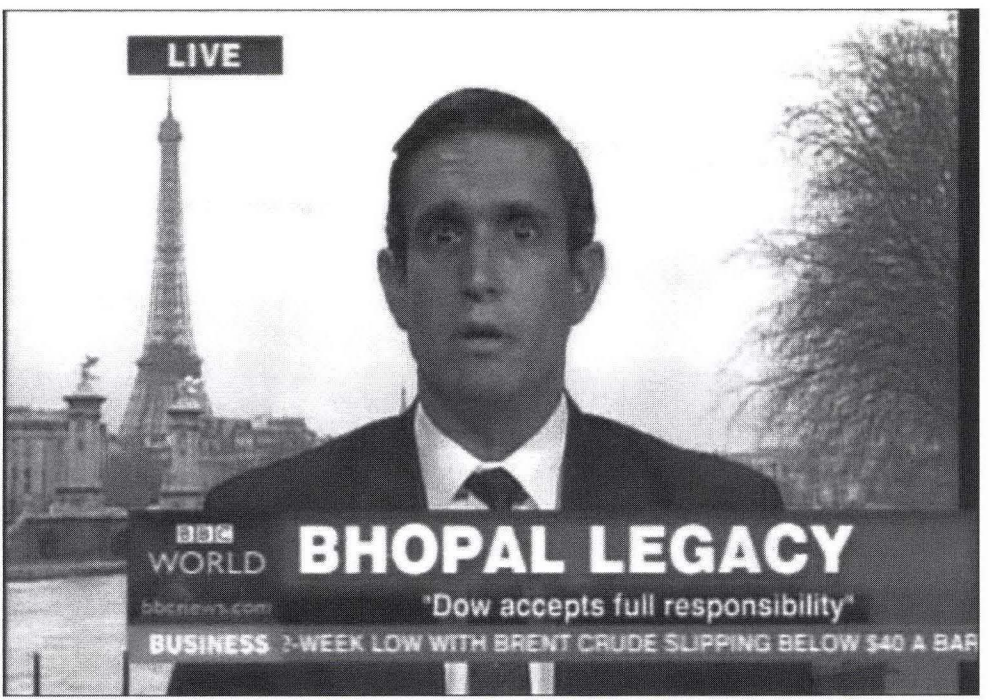


Figure 13.2 Mr. Jude Finisterra BBC studio shot.

Figure 13.3 Mr. Jude Finisterra BBC studio shot.

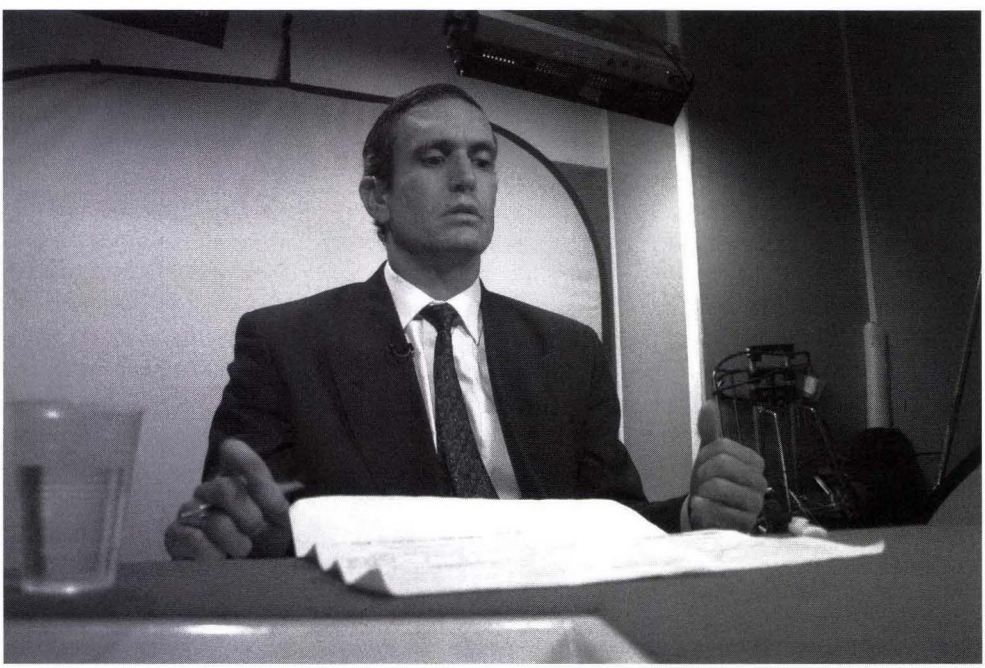


Figure 13.4 Mr. Jude Finisterra BBC studio shot.

anything like me, they will be ecstatic to be part of such a historic occasion of doing right by those that we've wronged.

BBC World: Does this mean you will also cooperate in any future legal actions in India or the USA?

Jude Finisterra: Absolutely, Steve. One of our non-financial commitments is to press the United States government to finally extradite Warren Anderson, who fled India after being arrested in 1984. He posted $2000 bail on multiple homicide charges and fled India promptly. We are going to press the United States Government to extradite Mr. Anderson, who is living on Long Island, to India, to finally face the charges. And I believe they may be lenient.

We are also going to engage in unprecedented transparency. We are going to release, finally, the full composition of the chemicals, and the studies that were performed by Union Carbide shortly after the catastrophe. This information has never been released, Steve, and it's time for it to be released in case any of that information can be of use to medical professionals.

And finally we are going to fund research – any interested researcher can contact Dow's Ethics and Compliance office. We are going to fund, with no strings attached, research into the safety of any Dow product. There are many Dow products about whose safety many competent scientists have raised significant doubts. We don't want to be a company that sells products that may have long-term negative effects on the world.

This is a momentous occasion, and our new CEO, Andrew Liveris, who has been our CEO for less than a month, has decided to take Dow in this unprecedented direction.

BBC World: Jude, we will leave it there; thank you for joining us. Just to reiterate what Jude Finisterra, the spokesman for Dow Chemicals, has just said: he said Dow Chemicals now fully accept responsibility for the events in Bhopal 20 years ago and they will cooperate in future legal action.

The technician enters the studio, relieves Andy of his earpiece, and accompanies him to the radio room for an interview with BBC World Service radio. 'What a nice thing to announce', she says happily. 'I wouldn't work for Dow if I didn't believe in it', replies Andy matter-of-factly.

We expect the story to be retracted immediately, but Dow takes two hours to notice that alas and alack, it's done the right thing. The full interview therefore runs twice, and for two hours the story is the top item on news.google.com. CNN reports a Dow stock loss of $2 billion on the Frankfurt exchange.

After Dow notes emphatically that it is *not* in fact going to do right by those non-shareholders in Bhopal, the retraction remains the top Google story for the rest of the day.

Back at Andy's apartment, we help Dow make its share price rebound by mailing-out a more formal retraction on its behalf:

DOW 'HELP' ANNOUNCEMENT IS ELABORATE HOAX

On December 3, 2004, a fake Dow spokesperson announced on BBC World Television fake plans to take full responsibility for the very real Bhopal tragedy

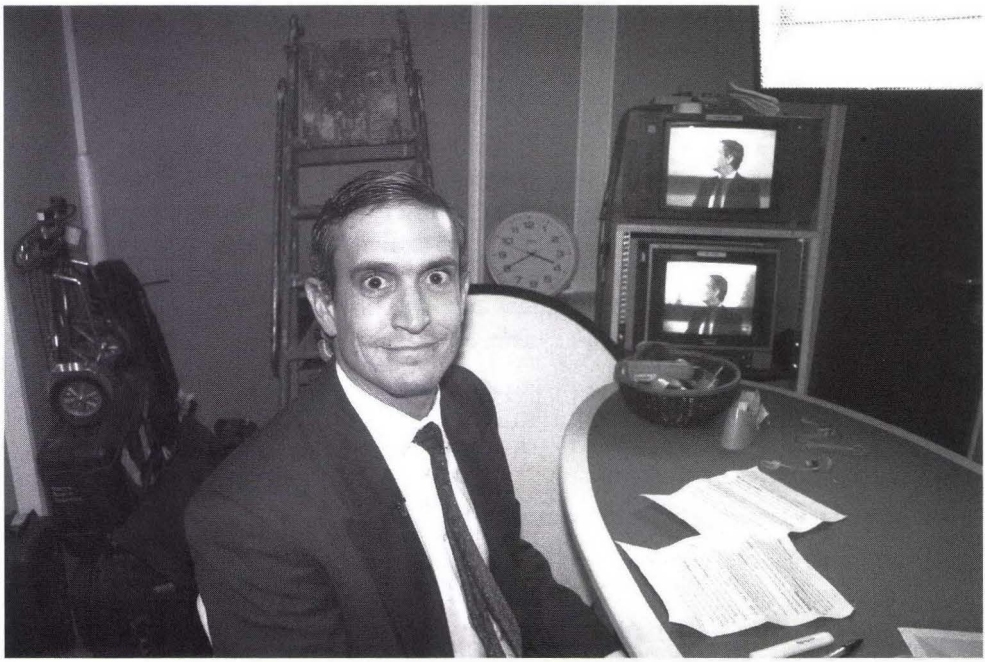


Figure 13.5 Mr. Jude Finisterra BBC studio shot.

Figure 13.6 Mr. Jude Finisterra BBC studio shot.

of December 3, 1984. Dow Chemical emphatically denies this announcement. Although seemingly humanistic in nature, the fake plans were invented by irresponsible hucksters with no regard for the truth.

As Dow has repeatedly noted, Dow cannot and will not take responsibility for the accident. ('What we cannot and will not do... is accept responsibility for the Bhopal accident'. – CEO Michael Parker, 2002.) The Dow position has not changed, despite public pressure.

Dow also notes the great injustice that these pranksters have caused by giving Bhopalis false hope for a better future assisted by Dow. The survivors of Bhopal have already suffered 20 years of false hope, neglect, and abdication of responsibility by all parties. Is that not enough?

To be perfectly clear:

- The Union Carbide Corporation (UCC) will NOT be liquidated. (The fake 'Dow plan' called for the dissolution and sale of Dow's fully owned subsidiary, estimated at US$12 billion, to fund compensation and remediation in Bhopal.)
- Dow will NOT commit ANY funds to compensate and treat 120,000 Bhopal residents who require lifelong care. The Bhopal victims have ALREADY been compensated; many received about US$500 several years ago, which in India can cover a full year of medical care.
- Dow will NOT remediate (clean up) the Bhopal plant site. We do understand that UCC abandoned thousands of tons of toxic chemicals on the site, and that these still contaminate the groundwater which area residents drink. Dow estimates that the Indian government's recent proposal to commission a study to consider the possibility of proper remediation at some point in the future is fully sufficient.
- Dow does NOT urge the US to extradite former Union Carbide CEO Warren Anderson to India, where he has been wanted for 20 years on multiple homicide charges.
- Dow will NOT release proprietary information on the leaked gases, nor the results of studies commissioned by UCC and never released.
- Dow will NOT fund research on the safety of Dow endocrine disruptors (ECDs) considered to have long-term negative effects.
- Dow DOES agree that 'One can't assign a dollar value to doing what's morally right', as hoaxter Finisterra said. That is why Dow acknowledged and resolved many of Union Carbide's liabilities in the US immediately after acquiring the company in 2001.

Most importantly of all:

- Dow shareholders will see NO losses, because Dow's policy towards Bhopal HAS NOT CHANGED. Much as we at Dow may care, as human beings, about the victims of the Bhopal catastrophe, we must reiterate that Dow's sole and unique responsibility is to its shareholders, and Dow CANNOT do anything that goes against its bottom line unless forced to by law.

For more information please contact Marina Ashanin, Corporate Media Relations, +41-1-728-2347.

For a while, this – as reprinted in *Men's News Daily* a reactionary drivel bucket that doesn't realize our Dow release is fake, and doesn't mind at all what it says – becomes the top story on news.google.com.

'Whatever be the circumstances under which the news was aired, we will get $12 billion from Dow sooner than later', one Bhopali activist is quoted as saying. But the 'false hope' question does come up in some articles, especially in the UK. Much as we try to convince ourselves it was worth it, we cannot get rid of the nagging doubt. Did we deeply upset many Bhopalis? If so, we want to apologize.

We're also bothered that the BBC has taken the fall, and that this has somehow called the BBC's credibility into question. It shouldn't. The BBC, as soon as Dow finally noticed that 'Jude Finisterra' wasn't theirs, promptly and prominently retracted the story. There was no net misinformation. In fact there was significantly *more* information, since more people knew about Bhopal and Dow, especially in the US.

The real credibility problem is when networks like ABC, CBS, NBC, CNN and Fox, or papers like the *New York Times* and the *Washington Post* (and most of the rest), systematically and for months on end mouth the assertions of a lying, scheming crook of a president – about WMDs, for example. It was thanks to these well-amplified lies that the crook in question was able to wage a war with 100,000 civilian casualties on a country that very clearly posed zero threat. At least the *Times* and the *Post* issued quiet, late apologies and *mea culpas*. Not enough: for such a monumental failure of journalism, the American media should undergo a thorough examination and perhaps restructuring. At the very least, their owners and editors should have been required to explain to a court why big corporations should be allowed to own so much noise. Which, as the episode proves, they shouldn't be.

Throughout the day, we are deluged with email, almost all of it positive. Later, the BBC calls again: they want us back at the studio. Yeah, right! No, really – they want us on for a show on BBC Radio *5Live*, to talk about what has happened. Against our better judgement we go – and arrive to find four smiling staffers, including the morning's technician. 'Where are the cops?' Andy asks, and the staffers actually laugh.

Another interview on Channel 4, and the day is finally over. Now all we can do is wait to see how it all pans out. Will our fondest hopes be realized – will Dow be forced to concede? Or will the people of Bhopal have to wait 20 *more* years?

All we know is that at least for today, this 20th anniversary of the catastrophe, news about Bhopal and Dow is front and centre in the US news. And on this most sombre of days, Dow has been forced to show, by its curt refusal to do anything, just what 'corporate social responsibility' really means.

And besides that, did we accomplish anything? We have no way of knowing. All we know is that the fight for justice in Bhopal goes on, assisted by some very committed organizations, all of whom need financial support.

The Bhopal Medical Appeal (www.bhopal.org) provides free medical care to those affected by the Bhopal disaster and the International Campaign for Justice in Bhopal (www.bhopal.net) does what its name suggests. Greenpeace (www.greenpeace.org) has been very active in the fight for responsibility. Other organizations include Students for Bhopal (www.studentsforbhopal.org) and The Truth About Dow (www.thetruthaboutdow.org).

Finally, the BBC's coverage (www.bbc.co.uk/bhopal/) provides an excellent starting point for deepening your knowledge of the catastrophe, its consequences, and its implications.

Notes

1. In 2004, Halliburton subsidiary Kellogg Brown & Root, the US military's largest private contractor in Iraq, went bankrupt trying to pay off asbestos liabilities it had inherited from its 1998 purchase of another company.
2. 'What we cannot and will not do ... is accept responsibility for the Bhopal accident.' Memo of CEO Parker, 2002.
3. Official statement on Bhopal from the Dow Chemical company website <http://www.dow.com/publicreport/2001/worldclass/bhopal.htm>. Responsible Care is 'a voluntary initiative within the global chemical industry to safely handle our products' http://www.dow.com/commitments/care/.
4. For more on our WTO adventures, see: *The Yes Men*, Disinfo Books, 2004. The other instance referred to involved the Internet startup company eToys.com, see: A. Wishart and R. Bochsler, *Leaving Reality Behind*, London: 4th Estate, 2002.
5. See <http://www.infoworld.com/articles/op/xml/02/06/03/020603opgripe.xml> for more info on 'DMCA notices', the type of complaint issued by both Dow and the WTO.
6. Another outcome of the episode was Reamweaver <http://www.reamweaver.com> a piece of software that allows anyone to reproduce and alter corporate websites on the fly with a minimum of time and expertise. But that, too, is another story.

Life sharing: a real-time digital self-portrait

0100101110101101.ORG

Share your knowledge and you will achieve immortality.

Dalai Lama

For an extended period beginning in 2001 the artist duo known as 010010111 0101101.ORG allowed the public unrestricted access to their home computer via the Internet through the project *Life Sharing* (2001). This public 'sharing' process was instigated to draw attention to the value of unrestricted knowledge sharing and involved making transparent the entirety of their private and public activities as mediated by the computer.

In constructing this chapter both the editor of this book and 0100101110101101.ORG, wished to devise an approach that mirrored as closely as possible the ethos of the project. It consists of contributions by Tilman Baumgärtel, Timothy Druckrey and Marina Grzinic, and fragments of interviews and quotes from various writers and critics concerning *Life Sharing*, that we have re-mixed and reorganized into a collage of insights, opinions and descriptions. This multi-authored assemblage is presented as an expression of collective activity that has relied on the generosity and openness of others for its realization, and an evolving culture concerned with utilizing and defending the free-flow of networked information.

Portrait of the artist as a hard disk[1] (Tilman Baumgärtel)

'Now you are in my computer'. Appearing singly and in pairs on standard grey warning messages, these words greet anyone who enters the cryptic and hard-to-remember address HTTP://0100101110101101.ORG into their Internet browser. One thereby gains direct access to a computer belonging to the Italian art couple of the same name. No, you don't access their homepage or their website – you enter their personal computer, directly and in real time.

There you can snoop around just as you wish, checking the digital belongings of this artist duo. You can browse their email, read their exchanges with curators, critics and friends, and see what projects and texts they are working on right now, what software they are using and how it is configured. You have complete access to all their data, and given that these people rely almost entirely on their computer when making their work, that's quite a lot of material. The only thing you can't do is

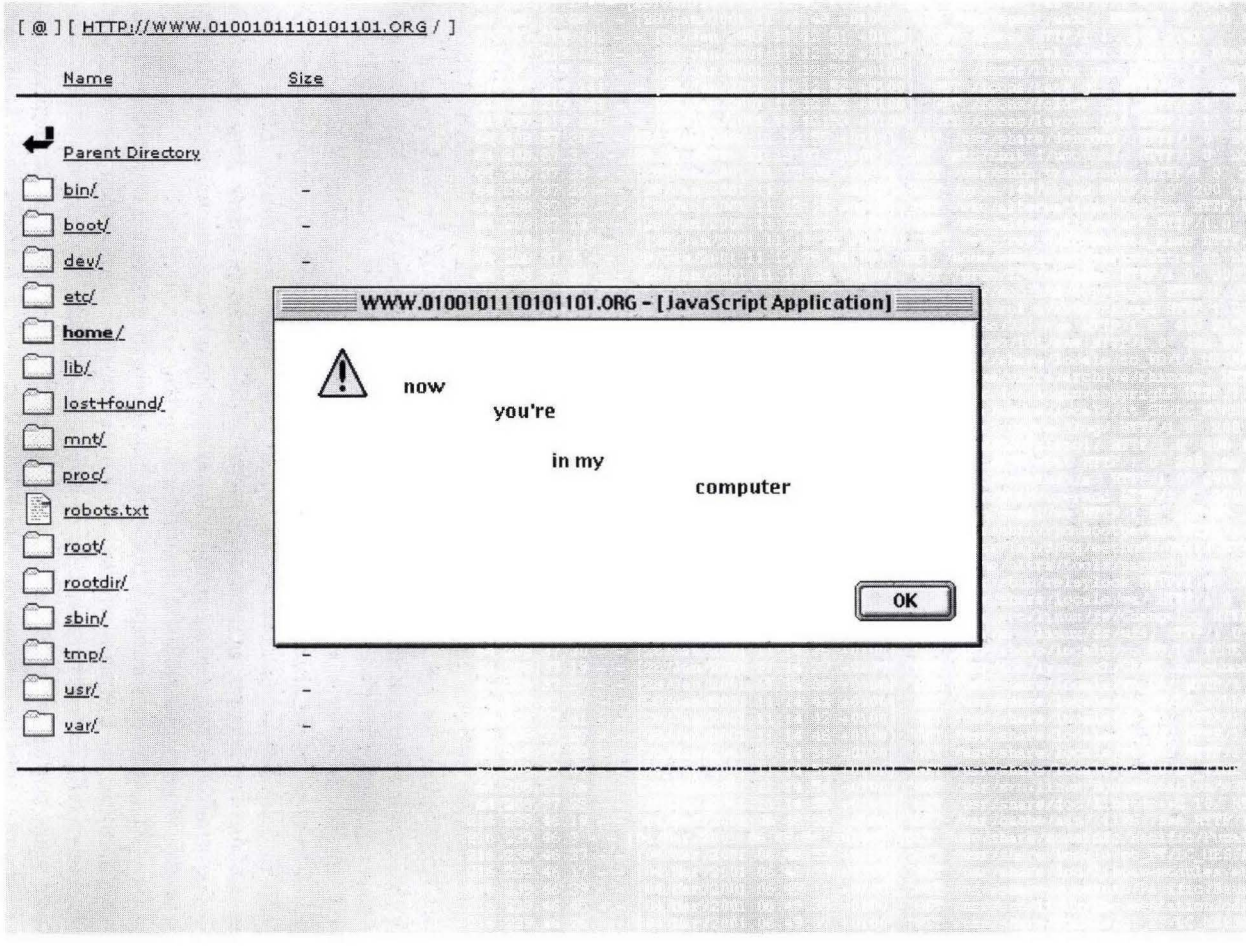


Figure 14.1 Screen shot of *Life Sharing*.

change the data on the hard disk. You can, however, download all the data onto your own computer and manipulate it there, forward it to others, or re-publish it online. The artists of 0100101110101101.ORG don't believe in intellectual property and copyright. Rather, they stick to the old hackers' motto: information wants to be free.

The piece is entitled *Life Sharing*: an anagram of 'file sharing', the exchange of data between private computers via the net that happens on peer-to-peer networks such as Napster. It's a highly appropriate name, since you can gain complete insight into the files of 01.ORG, making the work a digital self-portrait of the artists, whose life is to a great extent 'lived' on their computer. *Life Sharing* is a portrait of the artists as a hard disk.

Making art from one's private life is not new. Artists such as Chris Burden, Rirkrit Tiravanija and Andy Warhol have turned their lives into spectacles, and on the net, the complete revelation of one's personal life has been a staple of cyber culture – just think of the notorious Jennicam.

The subject of 'cyber-intimacy' – characterized by the strange contrast between the impersonality of the personal computer on the desk of your office or living room, and its ability to connect one with a worldwide audience of strangers – has attracted the attention of artists who work with the Internet. For example, Austrian net artist Eva Wohlgemuth has put three-dimensional scans of her body on her website, which the viewer can rotate and zoom into and out of, and has published personal diaries on her travels in Siberia and other parts of the world.

But *Life Sharing* doesn't only address questions of online privacy and control, even though the artists have pointed out in an interview that one idea behind the work is to circumvent the social control that computers and computer networks facilitate: the only way to avoid control is data-overflow – to heap up and multiply data to the point that it becomes extremely difficult to isolate and interpret.

Apart from making their computer's contents constantly accessible to everybody on the net, the artists want to make the programs on their desktop available for free, using something similar to the *Gnu Public License* (GPL), a software license that was written for free software such as Linux (the free rival to Windows). While most software licenses don't allow for the exchange of programs, the aim of the GPL (which was developed by the American programmer Richard Stallman) is exactly the opposite: software that runs under this license can be copied, distributed and modified by anybody.

While international media companies such as Bertelsmann or Time Warner try to turn our access to information into a pay-per-view experience, the Internet has enabled free and uncontrollable distribution of digital text, images and music. *Life Sharing* stakes a claim for keeping information in the public domain rather than turning it into a commodity. Open-source programs such as Linux have shown how successful it is to make data public rather than hiding it.

For 01.ORG, culture is an open process that is greatly enhanced by open information distribution. In previous works they have 'opened' the highly secretive web gallery www.Hell.com to the public by re-publishing its hidden content on their website, and made copies of popular pieces of net art that were for sale commercially. In their new work, they have taken this open-source approach to a new level. Until now they say, the GPL has been applied only to programs, with great success both economic and 'cultural'. 01.ORG wish to apply the open source model also to works of art. It is a concrete proposal: to truly share intellectual properties, beginning with our own, every day.

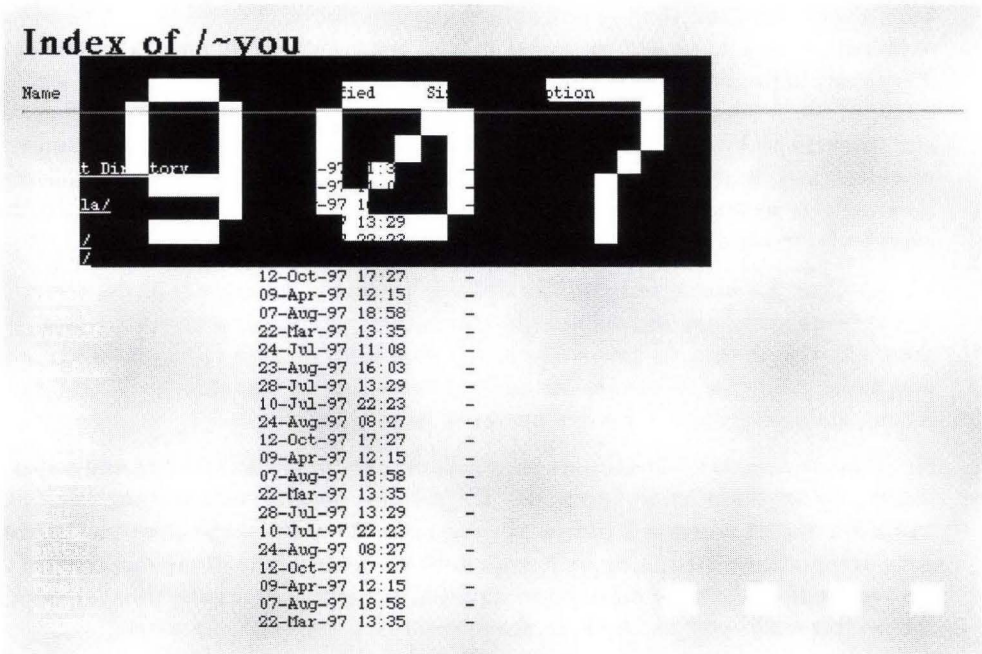


Figure 14.2 Screen shot of *Life Sharing*.

Data nudism, abstract pornography, online voyeurism (0100101110101101.ORG)

The following extracts present a re-mix of material from interviews with Tatiana Bazzichelli, Gabe Friedman, Matthew Fuller, Daniele Perra and Jaka Železnikar.[2]

Q. Did you decide to make artwork and then learn programming code or how did you first get into online artwork?

A. For almost one year our activity was to deliberately reproduce other people's online artworks, exactly as they were, or mashed up. We had no idea how to make a website, therefore the obvious conclusion was that stealing them was easier and quicker, and that's what we did. And it functioned. Boring things, such as websites, should be done by machines, not people.

Q. Your latest work, *Life Sharing*, is again completely computer based. You wish to explore the levels of representation, data nudity and shared distribution and production of artworks.

A. *Life Sharing* is an anagram of file sharing. *Life Sharing* is a computer running Linux, sharing its hard-disk with the whole world, making all its contents accessible via Internet. Since January 2001 we give free and unlimited access, 24 hours a day, to all the contents of our computer: 'All' means not a directory of the hard-disk but the whole content of the computer: programs, system, desktop, archives, tools, ongoing projects, mail and so on. You can literally get lost in this

huge data maze. *Life Sharing* is a brand new concept of net architecture turning a website into a hardcore 'personal media' for complete digital transparency. They can rummage through our archives, search for texts or files they're interested in, check what kind of software we work with, watch the 'live' evolution of our projects and even read our private mail. At the end of the 90s we used to work exclusively re-using, stealing and mixing other people's work. In 2000 we inverted this perspective starting to share everything we were working on with everybody, freely and in real time. Privacy is stupid.

Q. A clear implication of the *Life Sharing* project is the breach of the boundary between personal and public life and between personal and public data. Is there any risk in this, or have you entirely sanitized, or even fabricated the data you make available? What are the consequences for the way you work, communicate, and live generated by this openness of process?

A. *Life Sharing* is 01.ORG – its hard disk entirely published, visible and reproducible by anybody: public property. We will not produce material explicitly as 'content', except where it is technically required. We will use the computer as we have always done. Naturally, it is impossible to ignore that we are so 'opened'. Any internal or external connection modifies the entire structure, thus affecting the project itself – for example, in the manner of acting and expressing.

Life Sharing must be considered a *proof ab absurdo*. The idea of privacy itself is obsolete. A computer connected to the Net is an instrument that allows the free flow of information. This is its aim. Anything blocking this free flow shall be considered an obstacle to be overcome.

Q. Why the hostile attitude to the visitors in your site?

A. Most of the interfaces are designed to let the average user be familiar with data. A website, except in rare cases, is an interface that simplifies the exchange between users, making the contents 'easier' to use. This trivialization is called 'user friendliness', and it is often inspired by paper: pages, indexes, and so on. *Life Sharing* is exactly the abolition of one of the levels of simulation that separates one user from another: the website. *Life Sharing* allows the user to directly enter our home computer.

Q. In your text describing the project, you mention that 'A computer, with the passing of time, ends up looking like its owner's brain'.

A. A computer is less and less an instrument of work. With a computer one shares time, space, memory and projects, but most of all one shares personal relationships. This flow of information passes through the computer – all our culture is going to be digitized. Getting free access to someone's computer is the same as getting access to his or her culture.

It is not only a show. It's not like looking at Jennicam. The user can utilize what he finds in our computer.

Q. With group work you must somehow relate to the issue of copyright which was also the topic of your early works. Which copyright model do you see as convenient?

A. 01.ORG's goal is not a complete abolition of copyright but its substitution with a license directly inspired by the GPL (Gnu General Public License), the license created explicitly for Free Software. Till now, the GPL has been applied only to software, with great success, both economically and 'culturally'. 01.ORG wish to apply the open source model also to all intellectual products. This is the result of political choices, and also technical and legal reasons. The idea of an open source license for intellectual products would grant the possibility of: (1) using the product; (2) modifying the product; (3) distributing copies, modified or not, of the product (freely or with payment); (4) combining the product, modified or not, with other products covered by the same open source license.

Up until now, we haven't placed any of the things we did under copyright. First of all, because we've never produced anything: we only move packages of information, divert their flow, observe changes, and eventually profit from it. Visibility is the real problem of the Net. If someone uses your music, your words, or images, he is only doing you a favour. Many people have spontaneously reused 01.ORG. If someone else profits from our work, it's because of his own merit. In the end, he is doing the same as we did: profit is always inevitably mutual.

Q. Yes, so this is surplus, happening also in the economy of visibility. Developing this, it seems there are two basic forms of approach to the knot of problems pointed to by the terms appropriation/plagiarism/anti-copyright, etc. One is illustrated by Hegel when he says, in *Elements of the Philosophy of Right*, 'To appropriate something means basically only to manifest the supremacy of my will in relation to the thing'. The other approach is the generation of contexts in which the creation of dynamics of circulation and use that have greater or lesser degrees of openness – not the imposition of will – prevail. Do these two forms correspond in some way to the two modes of operation that you have spoken about?

A. The fact that 01.ORG is explicitly no-copyright is surely strictly linked to commercialization, but not in the sense in which it is often used. It is common to mistake 'no-copyright' for 'no-profit'. 01.ORG is compatible with monetary retribution, under different forms. *Life Sharing*, being a project financed by an institution, is one of these. 'Free' software, Negativland's music, Wu-Ming's books, are all examples of cultural products that have been able to reconcile the no-copyright model with commercialization. No-copyright is no longer solely an underground practice, but a wider cultural 'production standard'. This means, in the first place, being conscious that your own knowledge is not innate, but that it is a synthesis of different cultural products. Recognizing this means making our own knowledge shareable and thus usable not only by ourselves but by anyone, even commercially, simply imposing the condition that nobody can subsequently restrict this possibility to others. 'Manifest the supremacy of my will in relation to the thing'. This is not related to copyleft as such, but to the idea of authorship, about understanding and loving another author to the point whereby you completely identify with him/her. To us it says that if we really like something, say a movie, novel, or song, and feel that if we had made it, we would have made it exactly that way, then it is pointless to do it again, but that we should be allowed to say, it's ours! We did it!

Q. What are your plans for the future and how do you see net art developing?

A. We want to be Web Stars and then take advantage of our high-profile position to make our ideas public. Applying a terrorist strategy to the arts system, we aim to raid the coffers of culture to finance our activities: infiltrate, inculcate doubt, instil panic. Art is a tool, a weapon with which political beliefs can be promoted in the guise of entertainment. We are currently engaged in a battle against copyright and privacy rules, which we intend to continue. What we produce is really 'abstract pornography' and the public seems to like it. They spend hours accessing our computer, rummaging among the folders, copying texts and images, downloading software, and reading our mail; *Life Sharing* has struck a chord with public voyeurism. Our aim is to be one with the computer, to enter the machine, to be dispersed throughout the Web.

Q. How do you see the relationship between aesthetics and functionality?

A. The functionality of a computer is an aesthetic quality: the beauty of configurations, the efficacy of software, the security of system, the distribution of data, are all characteristics of a new beauty. *Life Sharing* is the result of aesthetic discipline applied everyday. It is the actualization of the idea of the 'total work of art' – *gesamtkunstwerk* – in other words, the dream of modelling reality through aesthetic canons.

Q. Do you see online art as a way for conceptual artists to display their work to a bigger audience?

A. Of course, but not only. The Net is not the mere amplifier of our actions, sometimes it's the heart itself. The theft of the online gallery Hell.com, the fake Vatican website, recently defined as 'The World's First Internet Coup D'état,' the five-hour kidnapping of the Korea Web Art Festival, are some of the media hacks we produced that couldn't be staged outside of the Internet.

Q. How do you think about your medium, which is sort of hard to envision as a real object? Where is cyberspace?

A. Cyberspace is a state of mind. The medium in itself doesn't make any difference. What counts is how you use it. 'Media hacking' refers to the deliberate disruption, distortion, or subversion of any media message. The message is the message, who cares about the medium?

Observations about the takeover: 0100101110101101.ORG[3] (Timothy Druckrey)

Log into HTTP://0100101110101101.ORG and read the daily (read and unread) mail, browse the folders and subdirectories, unravel the history of an idealized, yet paradoxically wholly pragmatic, intervention into the open system as really 'public'. Not a dump for unused files (like Napier's 'Digital Landfill'), nor a manifesto in any futile sense, 01.ORG merely apply the principle of communication on the net as a system in which data transfer is extended beyond limiting protocols or firewalls and into the relinquishing of the hazy privacy assumed by most web users. In abandoning

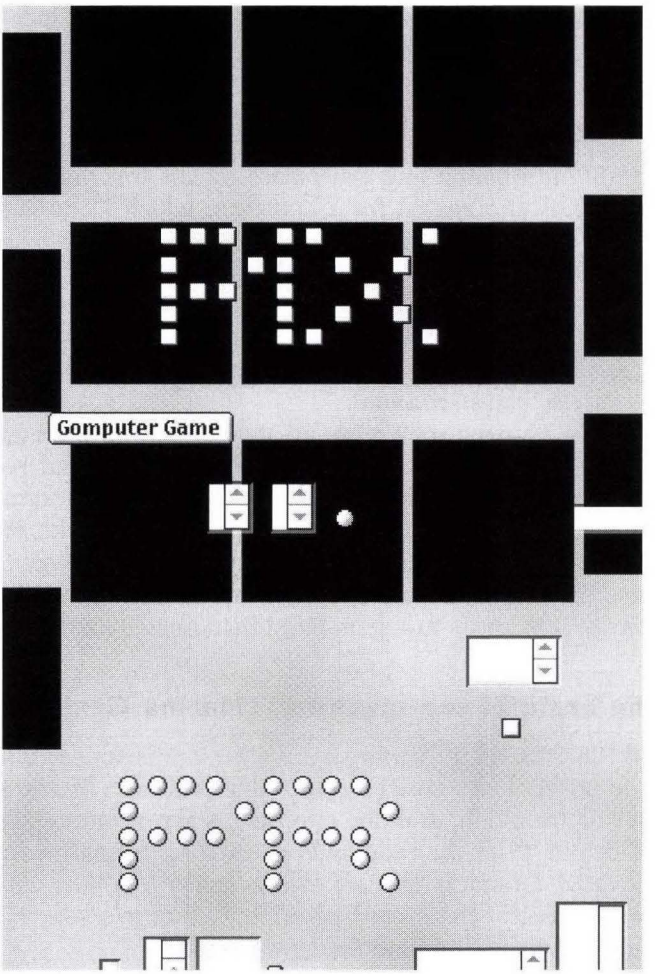


Figure 14.3 Screen shot of *Life Sharing*.

the aura of mystery, in reintegrating the directory structures in place of endless graphically bloated effects, *Life Sharing* situates the typical web interface as a posture that forecloses more than it reveals, a kind of denial of access. So instead 01.ORG abandons the flashy intros in favour of the direct entry.

As such, 01.ORG seems an oddly banal interface in a web environment easily trivialized by events like 'Browserday', as it continuously voids the imperatives of a web community inebriated by instantaneity. So rather than 'flickering signifiers', the site restores a content rich in the kind of principled subversion not celebrated as style. Their work, 'hijacking' Hell.com, Olia Liliana's 'Teleportacia', among many others, is aimed not at piracy, but at extension, tribute, and play with a purpose.

Either we accept that 'information yearns to be free' or we fall into deception, cowardice. 01.ORG ascribe to long-standing ideals about freedom to communicate

unobstructed by the regulation of discourse. Surely an old principle. Indeed even Thomas Jefferson, on the heels of the French Revolution, both cautioned and admired the link between publishing and the democratic process: the only security of all is in a free press. The force of public opinion cannot be resisted when permitted freely to be expressed. The agitation it produces must be submitted to.

The migration of information into cyberspace caught governmental and commercial regulatory systems unprepared for a system in which hierarchical distribution channels were well in place. Indeed the artists on the 'electronic frontier' quickly found a foothold that levelled the field while the regulators scrambled to govern information flows while the BBS culture proliferated and expanded into P2P networks. Industry, and particularly the media industry, blew its cover and was exposed for astonishing reactionary profiteering at the expense of artists and the public – the phrase they now use is 'Napsterization'.

01.ORG subscribe to open-source not in pursuit of self-interest, but rather of declaring the net a transformed cultural sphere in which social reciprocity is an imperative gained by rethinking exchange in the face of the incorporation of information, by acceding to the substitution of material copyright with the Gnu General Public License – GPL, by reminding a web community that they are too easily proxies or beta-testers for corporate public relations of art institutions hungry for good press. The 'takeover' obviously can go in more than one direction!

A hole in the brain of the machine[4] (Marina Grzinic)

0100101110101101.ORG's *Life Sharing* is a Walker-commissioned Internet artwork – or perhaps, if you prefer, a web-based project – that presents a bizarre shift, a reversal. Rather than moving from dull, drab life into the ecstasy of Internet art, *Life Sharing* takes a radical detour from the thousands of exciting formal possibilities of web design (the innovative interfaces that are always trying to amuse us) and returns to dull, drab existence itself – the disgusting impotence of everyday bureaucracy, the exchange of mail, and the negotiation for new projects.

There are subdirectories and maps, dozens of different documents that include email letters, drafts from ongoing projects by 01.ORG to archives of texts by other authors with 01.ORG's comments, pages of emails, half-completed documents, and personal annotations mixed with samples of critical texts – a whole bank of virtual papers. Such a gesture allows us to enter a private life. If you have time to take a ride, browse through papers, documents, paths and texts – who knows how long it might take and where we might land. 01.ORG is creating a hole in the brain of the machine as a kind of alien situation, a de-realization of the system of the computer and of the content of so-called everyday life. It is as if we suddenly have access to the constantly microscopically zoomed information content of an individual, in all the dirtiness and business of someone's life. It is as if he or she gives us the possibility to see everything under his or her skin, the intestines of the body, so to speak, and of the computer as well. There is something disgusting and repulsive in this action, but powerful at the same time.

In contrast to obscurantist [sic] New Age allusions, namely that the Internet and the World Wide Web make the natural exchange of art and perfect communication possible, *Life Sharing* shows clearly that life is an artifact cobbled from other artifacts,

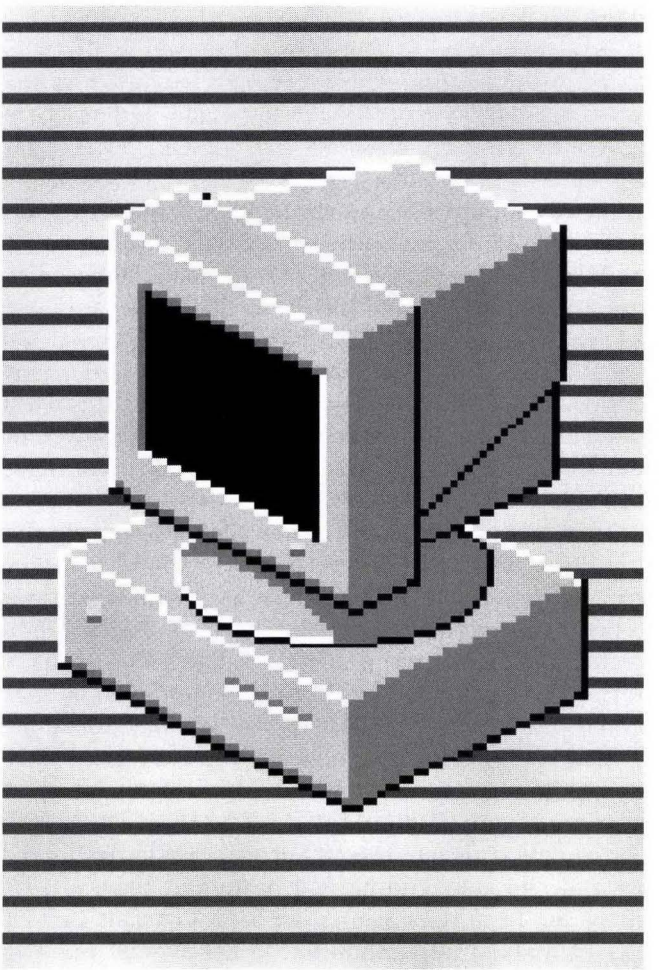


Figure 14.4 Screen shot of *Life Sharing*.

rather than from profound experience. In contrast to the mass media-produced idea that life connected with new media achieves a natural totality, processes of 01.ORG's *Life Sharing* visualization underscore this artificial, mediatized, constructed, and unnatural human life, and her/his/its thoughts and emotions. The use of (re)cycling methods suggests a radical re-questioning of originality and repetition, reality and media simulation.

01.ORG's technique consists of superimposing two incompatible realms, which they nevertheless allow to invade each other: the symbolic realm of representation – making an Internet art project with certain structure; and life in itself – the proximity of life, the uncomfortable point of entering, constantly, into somebody's life and taking part in all his/her privacy that is now visible, open, and proposed as a project. Everyday life functions for 01.ORG almost as a decomposing moment of life.

01.ORG's approach is strategical [sic] to such an extent that, to paraphrase Christine Buci-Glucksmann's book *The Madness of Seeing* (*La Folie du Voir*), the Internet has arrived at the position where 'eyes can see how eyes see'.[5] *Life Sharing* enables the user to see the bureaucratic, archival and administrative content(s) of everyday life as well as the users watching this content, being a part of the whole endeavour.

In contrast to the clean, pure space of virtual reality, material reality and life itself were objects of horror and disgust because they were difficult to integrate into the cyber matrix. As Julia Kristeva has pointed out, the material becomes what culture – the sacred – must purge, separate and banish so that it may establish itself as clean and disinfected in the universal logic of catharsis.[6] If the material is a part of cyberspace, then it becomes not an object, but an abject – the material is reduced to an obscene intervention. *Life Sharing* is this abject; the user gets the feeling that a mistake has been made, that this is a senseless situation. Something is missing here: the glossy design and the kitsch surroundings. Instead, we are confronted simply with a listed number of maps and subdirectories.

The same senseless intervention exists in mistakes that are practiced as a concept and a strategy on the WWW and Internet. The insertion of mistakes into a perfect, simulated environment can be viewed, therefore, as a method of developing new aesthetic and conceptual strategies, since the mistake as an object of horror and disgust cannot be integrated into the matrix. A mistake is like a wound in the image; it is an error in the body, or, as formulated by Richard Beardsworth, a failure representing precisely our submission to time. To make a mistake is therefore a process of finding a place in time.[7] This is a situation of producing a gap, a hiatus, where we can insert not only a proper body, but also its interpretation. Such a mistake is already apparent in the name of the group: 0100101110101101.ORG. This name forces the user into a process of endless copying. The fact that 01.ORG has such a strange name induces the user/sender to copy and paste it again and again – it is too difficult to remember precisely. So, from the name on we see a constant path of research practised by 01.ORG of ways of representation on the WWW and articulation of the WWW as a (senseless) archive bound to questions of authorship and copying, pasting, removing and erasing.

To better understand the *Life Sharing* project, let's browse into the 01.ORG organization history. In the net.art community, 01.ORG became famous with their 'theft' of the private and closed net.art gallery site Hell.com, which was downloaded during one weekend and served from their own site for endless use by any visitor. 01.ORG made 'versions' or 'remixes' of other well-known net.art sites, such as Art. Teleportacia. Influenced by the methods of the Situationists and, above all, the Neoists (recent activities in Italy had originated under this Neoist pseudonym), they transferred their approach to the Internet.

Their secretiveness concerning the name 01.ORG is an artistic practice pressing the user to repeat the matrix of the computer memory (01) – the structure of the computer brain, so to speak – and the openness of the internet machine, which is all about copying, reusing, re-making history, life.

01.ORG's project Darko Maver – the fake artist prank – was also such a construction: Darko was constructed by photos, or more correctly, by photographic documents of actual atrocities, several of which had taken place in Maver's 'home patch'

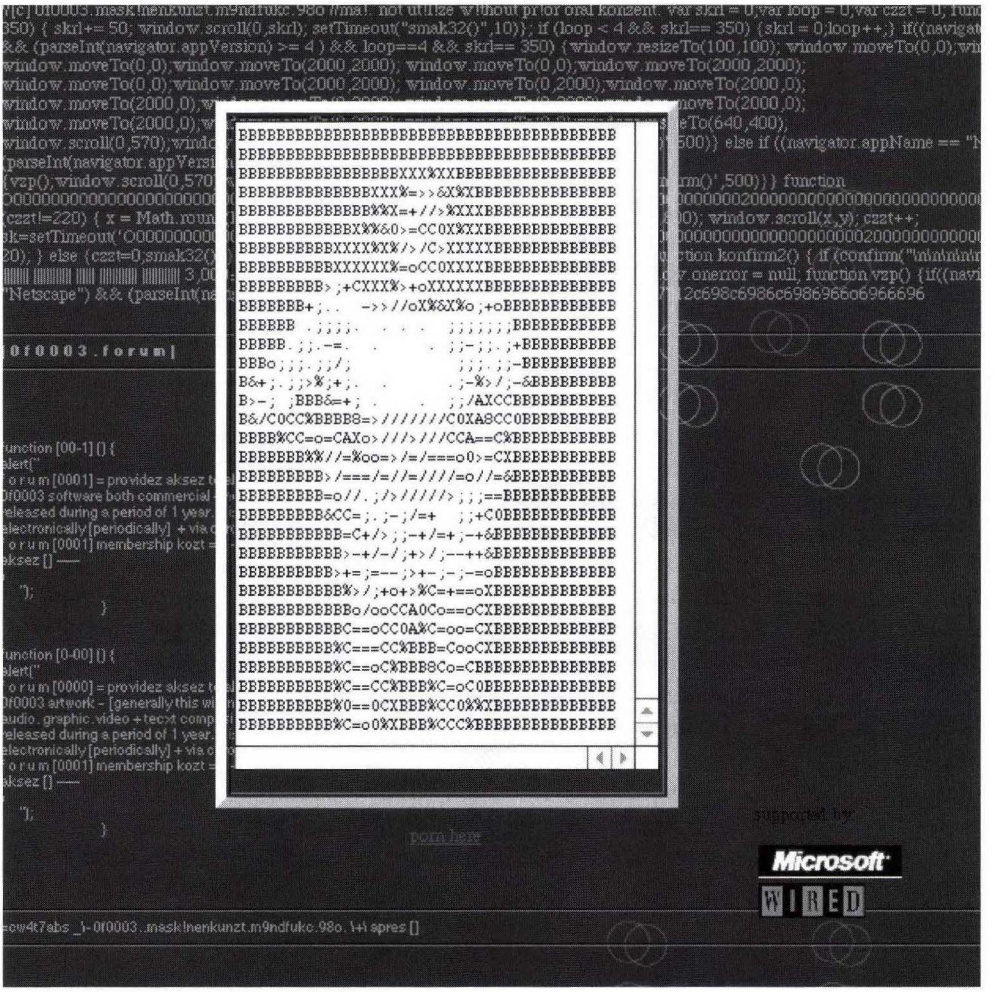


Figure 14.5 Screen shot of *Life Sharing*.

of the former Yugoslavia. The story of Darko Maver's life and death is the following: he was born in 1998 at the webzine site called 'Degenerated Art', where 01.ORG started to dispatch information about a mysterious performer-artist who travelled across the former Yugoslavia living in motel rooms and old empty houses, a victim of staged atrocities and ethnic cleansing stories. Maver was born in 1962 near Belgrade, left the Academy of Fine Arts, moved to Ljubljana, and later to Italy. He was arrested and released in Serbia and Kosovo, on several occasions, on the charge of disseminating anti-patriotic propaganda and put in prison in early 1999. In May 1999, Darko Maver's death in prison, under enigmatic circumstances, was announced.

The Darko Maver and *Life Sharing* projects share the tension to reconnect art with life through an obvious mixture of fake life and real data and places. Darko Maver has to be taken very seriously, as he has to be perceived as a topos and a tropos, a figure, construction, artifact, movement and displacement. Maver's meticulously

constructed life and simulated death(s) are today seen as a commonplace and powerful discursive construction. What we envision here is that the Internet has found itself occupying the place of the impossible – the real object of desire. But there is nothing sublime in it; it is simply that the Internet is occupying the structural place, the forbidden place of enjoyment. Accessibility, non-originality, reproducibility – these are the characteristics that we have to attach to it, thanks to 01.ORG.

The aim of 01.ORG's *Life Sharing* is to effect the 'ruin of representation'[8] precisely on the grounds of what has been excluded from the non-represented object (e.g., life itself). This creates significance derived from absence, and in this way, investigates the means by which a subject, and the body, are produced. Such counter-narratives are resistant to the point that they can no longer be included within a philosophically binary opposition, but inhabit philosophical oppositions, resisting and disorganizing, without ever constituting a third term.[9] The achievement is this: the decentralization of the subject to the point where instead of outside or inside, there exists a powerful dynamic relation to both outside and inside, dependence and independence, art and nature and ultimately, to what is real and what is not.

Is 01.ORG (de)archiving life? No, it is rather a simulation of its political and emotional coordinates. However, it is not only this; the way life is presented in the *Life Sharing* project clearly shows that life via the Internet is only an algorithm. *Life Sharing* is powerful on the libidinal rather than on the conceptual level, on the way we 'desire' our own oppression, rather than the way we entertain beliefs. The project aims not so much to show life as something else, but rather to instantiate the idea of dealing with, or living with and through, contradictions. This means that it is not a question of losing life, but actually getting it back through a process of rethinking the place where it was/is produced. 01.ORG uses extreme oppositions to show that life is absolutely mediated, constructed and fabricated, and that there is a speculative identity of the computer paradigm and of life itself. It shows that instead of being a substantial force, life is composed of cliché. What else is this mountain of emails, virtual paperwork and correspondence? The strategy is not to make fakes, but to develop tactics of political and aesthetic articulation of a proper reality and the politics of resistance, as Homi K. Bhabha would say, around a specific kind of subject that is constructed at the point of disintegration.[10]

01.ORG is almost fixated on life, reaching the zero elements of what is perceived to be the central concept of the Internet, which still functions as sublime object. This is a deadly serious vision, as Slavoj Zizek would say, that shows clearly the important quality of technology and clichés.[11] Instead of producing a new identity, something much more radical is produced: the total loss of identity. The subject is forced to assume that s/he is not what s/he thought her/himself to be, but somebody/something else.[12]

Praise and blame for life sharing

Selected quotes:

> **Matthew Mirapaul:** *Life Sharing* is Napster writ as big as life.[13]
>
> **Badweatherfriend:** From a band of Web pirates whose past projects have included staging a hoax involving a made-up artist, ripping off the Pope, other net.artists

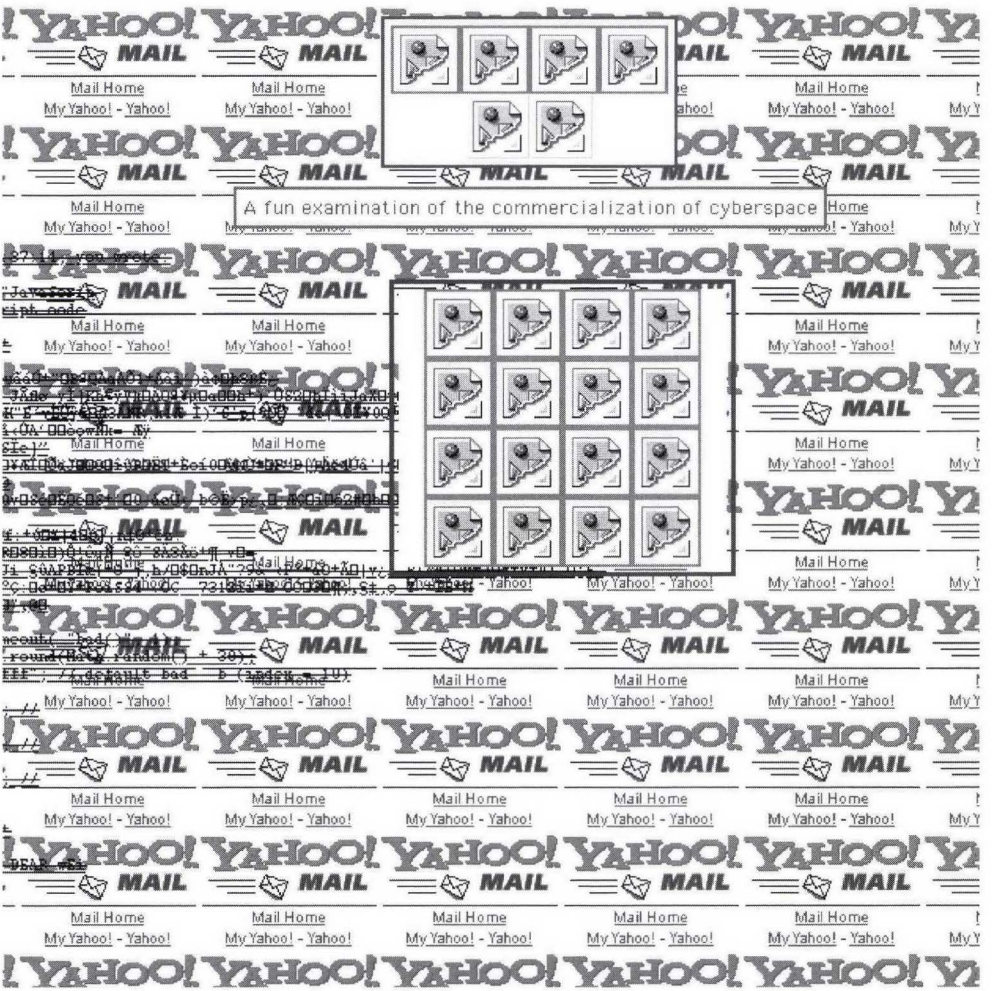


Figure 14.6 Screen shot of *Life Sharing*.

like *Jodi.org* and *Hell.com* (who almost sued them), and stealing and altering the Web's first net.art gallery, comes *Life Sharing*, a performance piece, if you will, in which the artists make their entire hard drive available on the Internet. Finally, the Internet's proudest plagiarists are giving something back to the Web – make that 'everything'. Including some stuff that isn't theirs to give (like, oh, their operating system and program files) [...] To let someone into your hard drive is to let them into your heart, your mind, and maybe even your bank account. In other words, you can BE 01.ORG. Just be careful. It may be a trap.[14]

Silvia Biagi: *Life Sharing* is simultaneously a complaint, an invitation, and a provocation: a kind of information-based 'Big Brother', open for voyeurism while hermetically sealed. It is there to show that privacy is an inapplicable concept today, that the sheer quantity of information that it is possible to monitor on an

individual is enormous. Its contents are intended to provoke (all of their past hoaxes are indeed on line), and at the same time it is an explicit invitation to plagiarize. The plagiarists offer themselves up to be plagiarized, openly inviting copies and replication.[15]

Rachel Greene: In *Life Sharing*, a work in the reality-Internet genre, the *vérité* of everyday functions (email, file organization and documents) gives birth to a new form of medial recording and what Ursula Frohne calls the 'media *mise en scène*'. Indeed, for those who understand the premise of *Life Sharing*, the notions of voyeurism condition many of the interactions one has while perusing the 01.ORG web site.[16]

Tilman Baumgärtel: Of course, this self-portrait leaves almost as much open as it conceals: for despite all its openness, it does not reveal what the two people look like who are working at this computer.[17]

Steve Dietz: I have had the experience of emailing 01.ORG about a meeting and having a stranger from Boston reply whether he should come to New York to meet me then also.[18]

And

Steve Dietz: This is open-source living in the digital age. It's making a political statement about ownership and commercialism. It's not just about viewing. Not only can you see in, but you can use the plans yourself.[19]

Josephine Berry: Declaring that privacy is a luxury of powerful corporations and that 'the idea of privacy itself is obsolete', the hitherto anonymous art group have turned the closely guarded treasure of identity into just another file.[20]

Notes

1. This text was originally published by *Eyestorm*, in 2001. Online. Available HTTP: <http://www.eyestorm.com/feature/ED2n_article.asp?article_id=300> (accessed 12 June 2005).
2. Excerpts from the following interviews: T. Bazzichelli, 'Artivism: quando l'arte diventa consapevole', *Cyberzone*, June 2003, pp. 20–21; G. Friedman, '0100101110101101.ORG', unpublished interview, *Wired*, May 2003; M. Fuller, (2001) 'Data-Nudism', Walker Art Center. Online. Available HTTP: <http://www.walkerart.org/archive/0/80738D2F833A57BC6169.htm> (accessed 6 March 2004); D. Perra, 'Vuk Cosic and 0100101110101101.ORG', in *Tema Celeste*, July–September, no. 78, 2001, pp. 74–75; J. Železnikar, (2001) 'Sedaj ste v mojem raèunalniku (Now you are in my computer)', *Mladina*, no. 4. Online. Available HTTP: <http://www.mladina.si/tednik/200104/clanek/art/> (accessed 20 June 2004).
3. First published as an email posting to the *Ars Electronica* festival mailing list in 2001. Archived on the *Ars Electronica* website. Online. Available HTTP: <http://www.aec.at/festival2001/update/showtopiclong.asp?ID=72> (accessed 10 June 2005).
4. See Gallery 9/Walker Art Center. Online. Available HTTP: <http://gallery9.walkerart.org/bookmark.html?id=132&type=text&bookmark=1> (accessed 1 June 2005).
5. C. Buci-Glucksmann, *La Folie du voir. De l'esthétique baroque*, Paris: Galilée, 1986.
6. See Julia. Kristeva quoted in M. Lajoie, 'Psychoanalysis and Cyberspace', in R. Shields (ed.) *Cultures of the Internet: Virtual Spaces, Real Histories, Living Bodies*, London: Sage, pp. 153–170, 1996.
7. R. Beardsworth, *Derrida & the Political*, London: Routledge, 1996.

8. J. Isaak, 'Women: The Ruin of Representation', in *Afterimage*, no. 9, April, p. 6, 1985.
9. J. Derrida, *Positions*, Chicago: University of Chicago Press, 1981.
10. H.K. Bhabha, *The Location of Culture*, London: Routledge, 1994.
11. S. Zizek, *The Art of the Ridiculous Sublime: On David Lynch's Lost Highway*, Seattle: The Walter Chapin Simpson Center for the Humanities, 2000.
12. For further discussion of some of the issues raised by this article see: M. Grzinic, 'Video Processes of Re-appropriation' in the book of the *Artintact 4*. CD-ROM, Karlsruhe: ZKM and Kantz Verlag, 1997 and M. Grzinic, *Fiction Reconstructed: Eastern Europe, Post-Socialism and the Retro Avant-Garde*, Vienna: Edition selene, 2000.
13. M. Mirapaul, (2001) 'Artists Share Their Files and Lives on the Web', *The New York Times*. Online. Available HTTP: <http://www.nytimes.com/2001/04/16/arts/16ARTS.html?ex=1117339200&en=2f275337f37e42ff&ei=5070> (accessed 6 February 2005).
14. Badweatherfriend, (2001) 'Being 0100101110101101.ORG or Show Me Your PC and I'll Show You Mine', *mutagenesis*. Online. Available HTTP: <http://mutagenesis.tripod.com/01org.html> (accessed 6 January 2005).
15. S. Biagi, (2001) 'The Great Art Swindle', *Gospark*. Online. Available HTTP: <http://www.gospark.it/magazine/index.asp> (accessed 5 January 2005).
16. R. Green, *Internet Art*, London: Thames & Hudson, p. 134, 2004.
17. T. Baumgärtel, (2003) 'The Self on the Screen', Nettime mailing list archive. Online. Available HTTP: <http://amsterdam.nettime.org/Lists-Archives/nettime-l-0307/msg00000.html> (accessed 12 March 2005).
18. S. Dietz, (2002) 'Ten Dreams of Technology', New York Digital Salon. Online. Available HTTP: <http://www.nydigitalsalon.org/10/essay.php?essay=8> (accessed, 1 March 2005).
19. Steve Dietz, quoted in: Mirapaul, (2001) 'Artists Share Their Files'.
20. J. Berry, (2001) *Metamute*. Online. Available HTTP: <http://www.metamute.com/look/article.tpl?IdLanguage=1&IdPublication=1&NrIssue=22&NrSection=10&NrArticle=278&ST_max=0> (accessed 4 February 2005).

Index

Network Art

Network Art: Practices and Positions explores emerging artistic responses to a world enveloped by information networks. In its pages an international group of leading theorists and artists describe how artists have used the Internet, in the form of web-sites, mailing lists, installations and performance, to develop artworks that reflect upon the pervasive effects of a technology that has profoundly reordered our social, economic and cultural institutions.

This book covers a period from the mid-1990s to the present day and includes key texts by historians and theorists such as Charlie Gere, Josephine Bosma, Tilman Baumgärtel and Sarah Cook, side by side with descriptions of important projects by The Yes Men, Thomson and Craighead, Lisa Jevbratt and 0100101110101101.ORG amongst many others. Fully illustrated throughout, *Network Art* represents one of the first substantial attempts to place major artists' writings on network art alongside those of critics, curators and historians. In doing so it develops a unique approach as it offers the first comprehensive attempt at understanding network art practice rooted in concrete descriptions of the systems and process of making it.

Contributors: 0100101110101101.ORG, Mark Amerika, Tilman Baumgärtel, Natalie Bookchin, Josephine Bosma, Kris Cohen, Sarah Cook, Tom Corby, Corby & Baily, Charlie Gere, Lisa Jevbratt, Lucy Kimbell, Thomson and Craighead, Maciej Wisniewski, The Yes Men.

Tom Corby is Senior Lecturer in Media Art at the University of Westminster and is an artist who specializes in media technologies. Recent exhibitions include *Art Meets Media: Adventures in Perception* at the NTT Inter-Communication Center (ICC), Tokyo and *File* media art festival, Sao Paulo, Brazil. His work has won a number of international awards, including prizes at *The Post-Cagian Interactive,* The Machida City Museum of Arts, Tokyo in 2001, *Ars Electronica* in 2001, and *Cynet Art,* Dresden, in 1999.

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